Wireless LAN PC Card WP320

User Manual

Version 1.0

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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 Certifications

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

FCC Caution:

To assure continued compliance,(example – use only shielded interface cables when connecting to computer or peripheral devices).Any changes or modifications not expressly approved by the part responsible for compliance could void your authority to operate the equipment.

FCC RF Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. SAR compliance has been established in the laptop computer(s) configurations with PCMCIA slot on the side near the center, as tested in the application for Certification, and can be used in laptop computer(s) with substantially similar physical dimensions, construction, and electrical and RF characteristics. This transmitter is restricted for use with the specific antenna(s) tested in the application for Certification. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter."

Contents

1. Introduction: 5

1.1 Features 5

1.2 Specifications 5

1.3 General Application 6

1.4 Minimum System Requirements 7

2. Installation Procedure 8

2.1 Install the Driver 8

2.2 Configuration Utility Installation 9

2.3 Using the Wireless Lan Utility 11

1. Introduction:

Thank you for purchasing WP320 Cardbus Wireless LAN PC Card. This wireless adapter is fully compatible with IEEE 802.11b standard and operates in 2.4GHz unlicensed ISM band in the home or office environment. This card features the latest innovation wireless technology, such as TKIP (Temporal Key Integrity Protocol) and AES (Advanced Encryption Standard) which are advanced WLAN security technology included in the IEEE 802.11i standard, and supports 32-bit cardbus interface which enables higher transmittion performance. The WP320 is compatible with Windows 98, Me, 2000 and XP. It supports 64/128-bit WEP (Wired Equivalent Privacy) Encryption for securing wireless network connection. It's data rate support 11, 5.5, 2 and 1 Mbps. The data rate can be move to lower speed if signal quality is not good enough. So, it is the best solution for you to builde your wirless network.

1.1 Features

- ✧ Complies with the IEEE 802.11b (DSSS) 2.4GHz standard.
- ✧ Supports peer-to-peer communication among any wireless users, no Access Point required.
- ✧ Supports power save mode.
- ✧ Supports 32-bit cardbus interface.
- ✧ Supports the most popular operating systems: Windows 98SE/Me/2000/XP and Linux.
- ✧ Plug and Play installation.
- ✧ High-speed data transfer rate–up to 11Mbps.
- ✧ Supports 64/128-bit WEP Data Encryption function for high level of security.
- ✧ Automatic rate fallback enables data security and reliability.
- ✧ Support TKIP and AES advanced WLAN Security.

1.2 Specifications

- ✧ Standard: IEEE 802.11b
- ✧ Interface: 32-bit Cardbus
- ✧ Frequency Band: 2.400 ~ 2.4835GHz (Industrial Scientific Medical Band)
- ✧ Modulation: CCK@11/5.5Mbps, DQPSK@2Mbps, DBPSK@1Mbps
- ✧ Radio Technology: Direct Sequence Spread Spectrum (DSSS)

- Data Rate: 11/5.5/2/1Mbps auto fallback
- Security:
  - 64/128-bit WEP Encryption
  - 64/128-bit TKIP Data Encryption
  - 64/128-bit AES Data Encryption
- Antenna: Diversity Patch Antenna
- LEDs: TX/RX, Link
- Power Voltage: 3.3V
- Drivers: Windows 98SE/Me/2000/XP and Linux
- Transmit Power: 18.23dBm (Typical)
- Receive Sensitivity: -83dBm (Typical)

1.3 General Application

WP320 offers a reliable solution for wireless client access to the network in applications like these:

- Remote access to corporate network information E-mail, file transfer and terminal emulation.
- Difficult-to-wire environments Historical or old buildings, asbestos installations, and open area where wiring is difficult to employ.
- Frequently changing environments Retailers, manufacturers and banks who frequently rearrange the workplace and change location.
- Temporary LANs for special projects or peak time Trade shows, exhibitions and construction sites need temporary setup for a short time period. Retailers, airline and shipping companies need additional workstations for a peak period. Auditors require workgroups at customer sites.
- Access to database for mobile workers Doctors, nurses, retailers, white-collar workers need access to database while being mobile in the hospital, retail store or office campus.
- SOHO (Small Office and Home Office) users SOHO users need easy and quick installation of a small computer network.
- High security connection The wireless security network installs quickly and provides the flexibility to reconfigure easily.

1.4 Minimum System Requirements

Before installation, please check the following requirements with your equipment.

- ✧ Operating System: Windows 98/Me/2000/XP
- ✧ PC with CD-ROM drive
- ✧ One PCMCIA slot

2. Installation Procedure

Before you proceed with the installation, it is necessary that you have enough information about the *Wireless Cardbus Card.* Use the Procedure described in below in this chapter to install under Windows 98/Me/2000/XP.

Note1: If you ever install the other Wireless Card before, please uninstall the existed driver and utility first. If this is the first time to install this device, please refer to the following steps to complete the installation.

Note2: The following installation was operated under Windows 2000. (Procedures will be the same for Windows 98SE/Me.)

2.1 Install the Driver

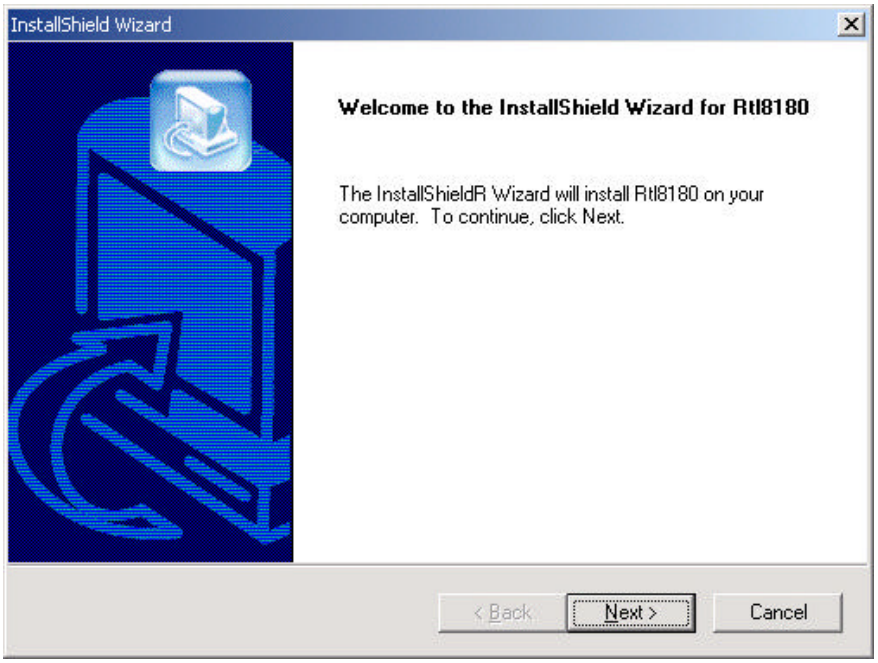
- ✧ Insert the adapter into the Cardbus port of your computer, the system will automatically find the device and search for its driver.
- ✧ Please select the "Driver\Win2000" folder (select the folder based on your computer's OS system) and the system will complete the driver installation automatically.

1. Plug WP320 into your PC's Cardbus slot.
2. Power on the PC and insert Drivers and User's manual CD into CD-ROM drive.
3. Windows will automatically detect this wireless card and ask the user to install driver. Please click "Next".
4. Please select the first option and click "Next" to continue.
5. Select "Specify a location" and click "Next".
6. You can click "Browse" to find the driver location, then please click "OK" to continue.
7. Windows will show this screen to prompt you that it found a driver for the device you are installing, please click "Next" to continue.
8. Windows 2000 may tell you this driver doesn't contain Microsoft digital signature. Please don't worry about this, you can click "Yes" to continue the installation.
9. Please click "Finish" to complete the driver installation.

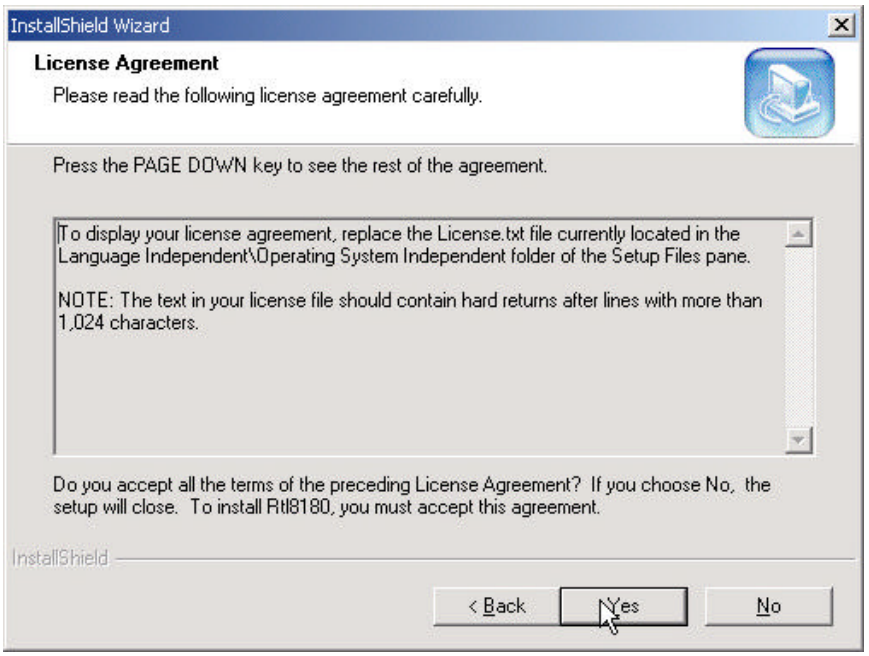
(For Win98/Me, Windows will ask you restart your PC when driver installation finished.)

2.2 Configuration Utility Installation

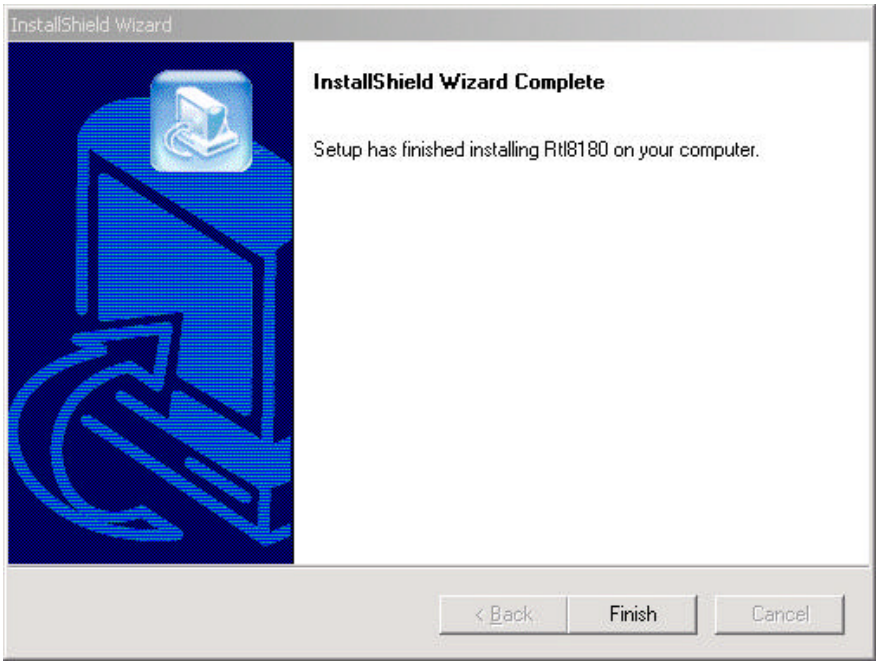
1. Run “s etup.exe” under “E:\Utility\WP320\” directory, or click the “Start” button and choose “Run”. When the dialog box appears, enter “E:\Utility\WP320\setup.exe” (Assume “E” is your CD-ROM drive). You will see the dialog box as the picture. Please click “Next” to continue.



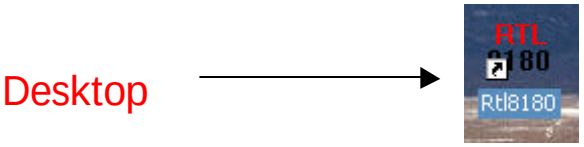
2. Please click “Yes” to agree the license and continue.



3. When the setup is finished ,click "Finish" to complete the installation.

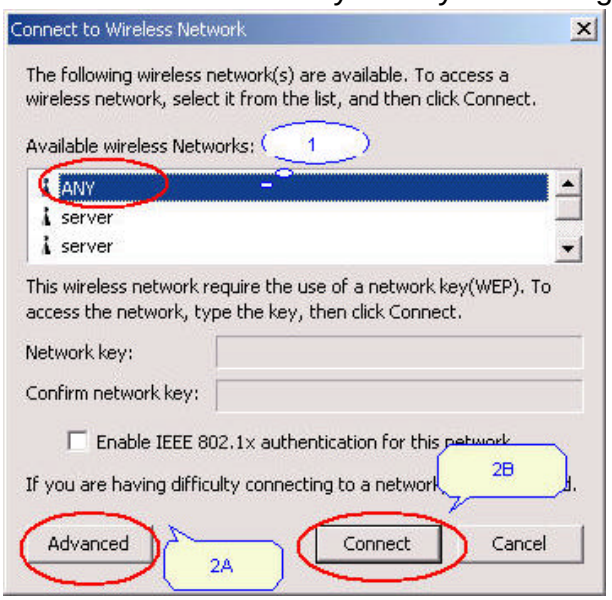


4. When you complete the Utility installation, a shortcut named “Rtl8180“ will appear on the computer’s desktop and a new icon will be displayed on the taskbar at the bottom of the screen. Double click the shortcut or click the icon and start using the WLAN Cardbus Adapter.



2.3 Using the Wireless Lan Utility

Click the icon marked in red in the taskbar and you may start using the wireless utility

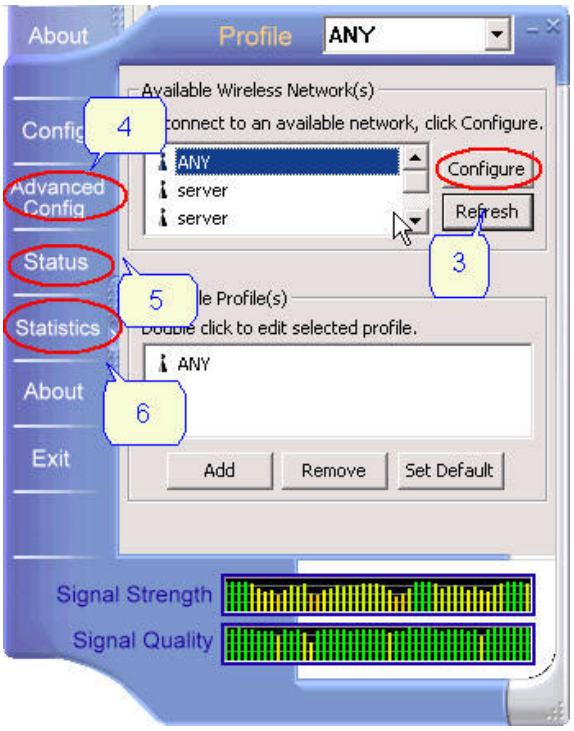


After enter the wireless utility ,then you can:

"1" Select one available wireless network in the sub-window.

"2B" Click the "Connect" to link to wireless network directly which you select in sub-window ,and quit the wireless utility.

"2A" Or you can click "Advanced" and you may start using the configuration utility.



Signal Strength : This bar shows the signal strength level. The higher percentage shown in the bar, the more radio signal been received by the adapter. This indicator helps to find the proper position of the wireless device for quality network operation.
Signal Quality : This bar indicates the quality of the link. The higher the percentage, the better the quality.

The Configuration Utility is a powerful application that helps you configure the Wireless LAN Cardbus Adapter and monitor the link status and the statistics during the communication process.This utility can be used to change the following configuration parameters when the device is active.

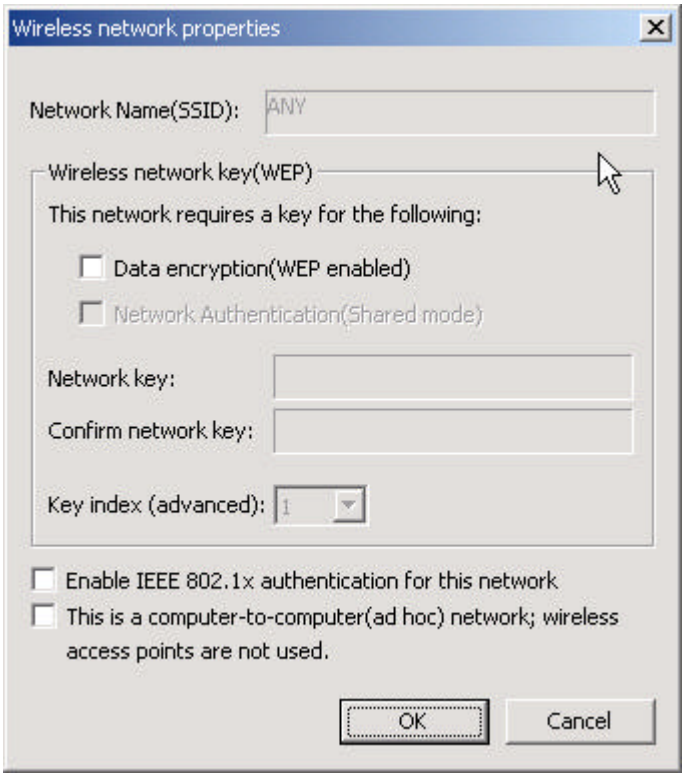
"3" In the ***"Configure"***, you may set up the necessary parameters about the wireless LAN ,like SSID & WEP etc.

"4" In the ***"Advanced Config"*** ,you may set the Ad Hoc channel & power save mode etc.

"5" In the ***"Status"***, this show many information about the wireless Lan hardware

"6" In the ***"Statistics"***, you can get the real time information about the packet transmission and receiving status.

If you click "Configure" ,then a "Wireless network properties" window popup as following.

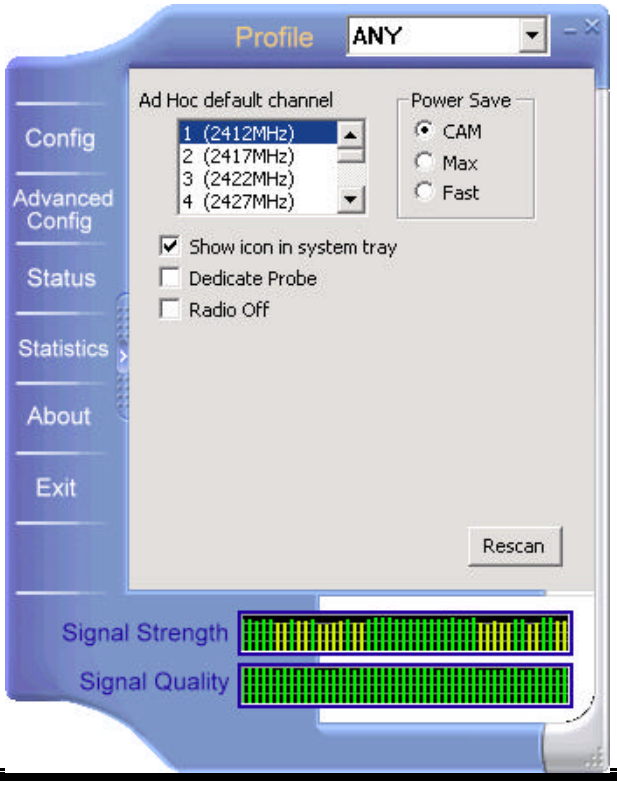


✧ The SSID (up to 32 printable ASCII characters) is the unique name identified in a WLAN. The ID prevents the unintentional merging of two co-located WLANs. You may specify a

SSID for the adapter and then only the device with the same SSID can interconnect to the adapter.

- ✧ WEP is an authentication algorithm, which protects authorized Wireless LAN users against eavesdropping. WEP has been found that it has some security problems.
- ✧ The security setting must be the the same on the wireless devices within the network. This adapter supports 64/128-bit WEP encryption functions.(TKIP and AES in windows XP)
- ✧ No Encryption – Disable the WEP Data Encryption.
- ✧ WEP – Enable the WEP Data Encryption. When the item is selected, you have to continue setting the encryption keys.
- ✧ Shared Mode – Only wirelss devices using a shared key (WEP Key, TKIP Key or AES Key identified) are allowed to connecting each other. Setup the same key as the wireless devices which the adapter intends to connect.
- ✧ Key1 ~ Key4 The keys are used to encrypt data transmitted in the wireless network. Fill the text box by following the rules below.
  - 64-bit – Input 10 digit Hex values (in the “A -F”, “a-f” and “0-9” range) as the encryption keys. For example: “0123456aef“.
  - 128-bit – Input 26 digit Hex values (in the “A-F”, “a-f” and “0- 9” range) as the encryption keys. For example: “0123456789012345678 9abcdef“.

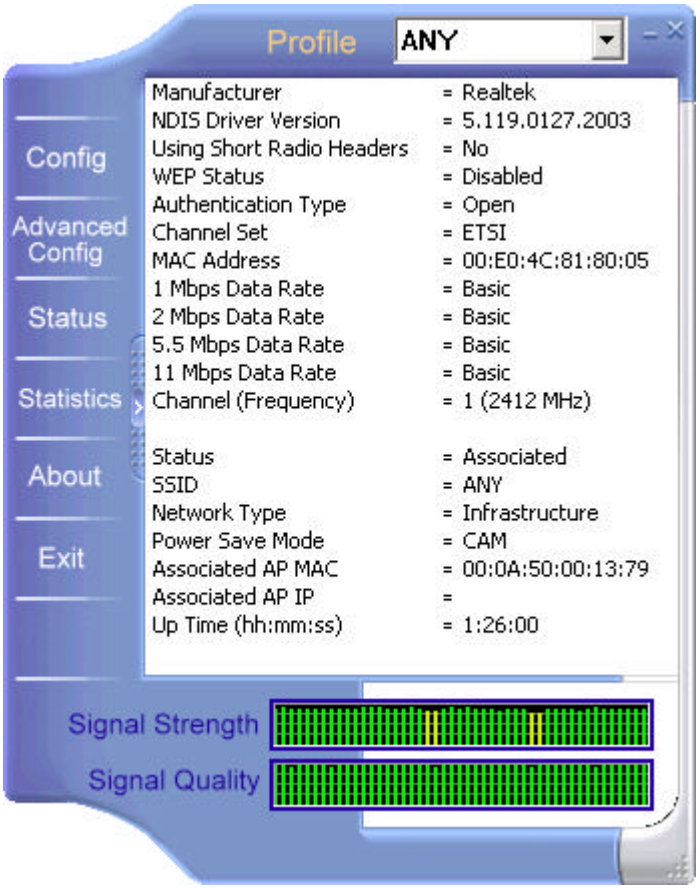
If you click “Advanced Config” ,then a window popup as following



Rescan : Click this button to scan the Access Point or Adapter which the adapter connected before or intends to connect.

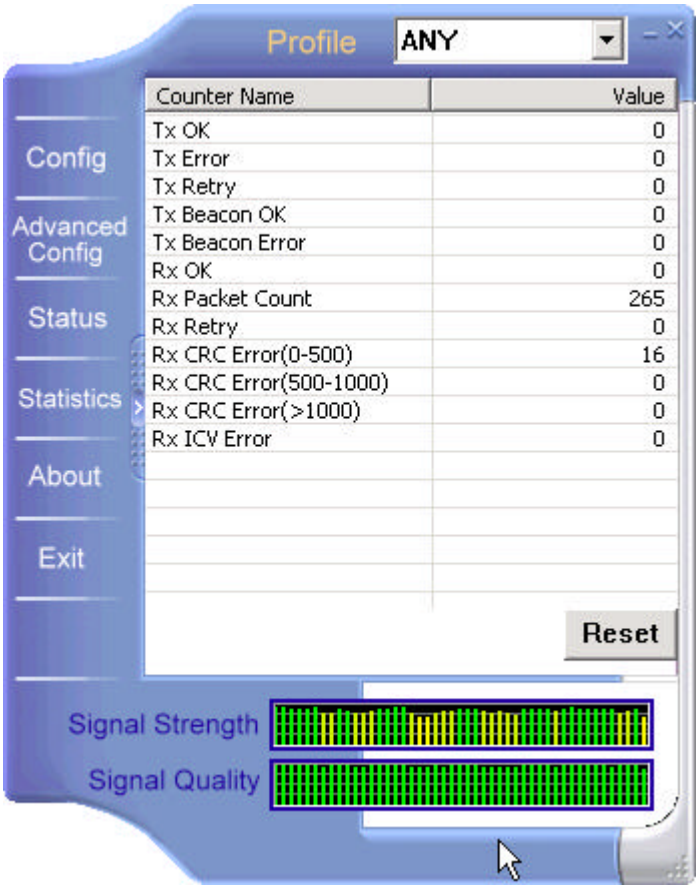
Ad Hoc default channel : Shows the frequency of each channel used in the wireless connection

If you click “Status” ,then a window popup as following



This winodw show informations only for the Wireless Lan

If you click “Status” ,then a window popup as following



In the ***“Statistics”***, you can get the real time information about the packet transmission and receiving status.