802.11g

Wireless PCI Adapter

User's Manual

REGULATORY STATEMENTS

FCC Certification

The United States Federal Communication Commission (FCC) and the Canadian Department of Communications have established certain rules governing the use of electronic equipment.

Part15, Class B

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

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

1) This device may not cause harmful interface, and

2) This device must accept any interface received, including interface that may cause undesired operation. 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 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 distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

CAUTION:

1) To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

2) This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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INTRODUCTION

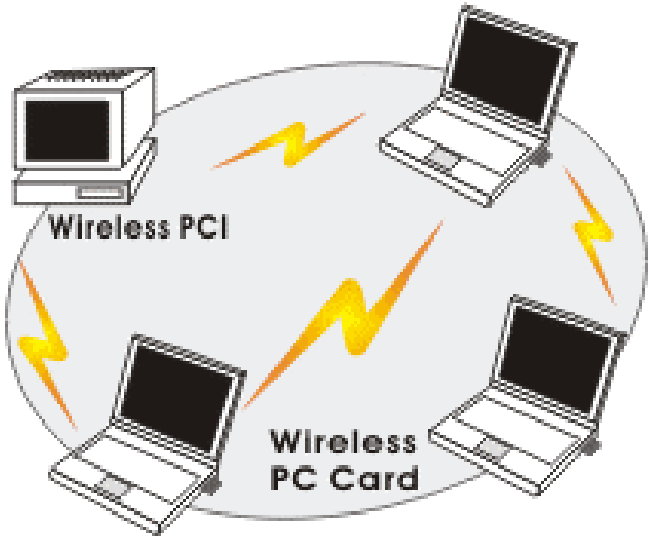
The **802.11g Wireless LAN Card** is a device that allows you connect your computer to a wireless local area network (LAN). A wireless LAN allows your system to use wireless Radio Frequency (RF) technology to transmit and receive data without physically attaching to the network. The Wireless protocols that come with this product ensure data security and isolation from interference generated by other radio frequencies.

This card also allows you to take full advantage of your computer's mobility with access to real-time information and online services anytime and anywhere. In addition, this device eliminates the bother of pulling cable through walls and under furniture. It even allows you to place your system in locations where cabling is impossible. Modifying and augmenting networks has never been so easy.

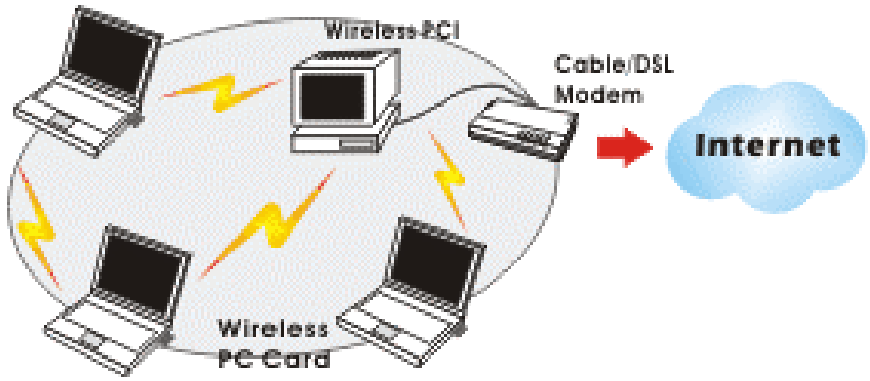
Wireless Network Options

The Peer-to-Peer Network

This network installation lets you set a small wireless workgroup easily and quickly. Equipped with wireless PC Cards or wireless PCI, you can share files and printers between each PC and laptop.

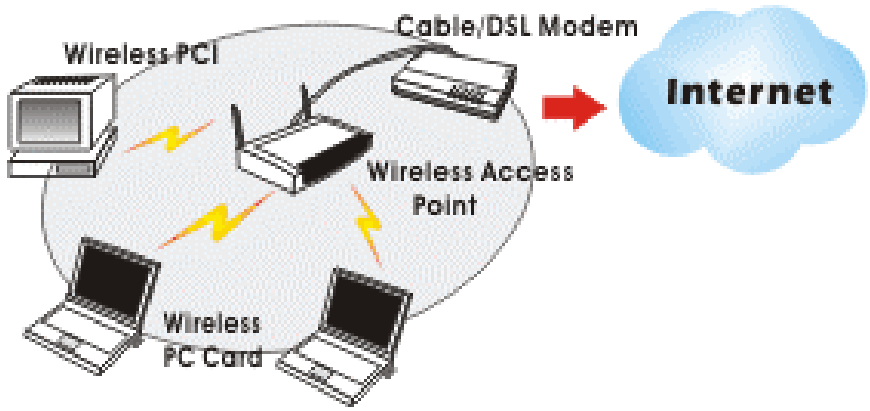


You can also use one computer as an Internet Server to connect to a wired global network and share files and information with other computers via a wireless LAN.



The Access Point Network

The network installation allows you to share files, printers, and Internet access much more conveniently. With Wireless LAN Cards, you can connect wireless LAN to a wired global network via an **Access Point**.



INSTALLATION

Caution: Do not insert the **Wireless LAN Card** into your computer until the procedures in "**Install the Driver & Utility**" has been performed.

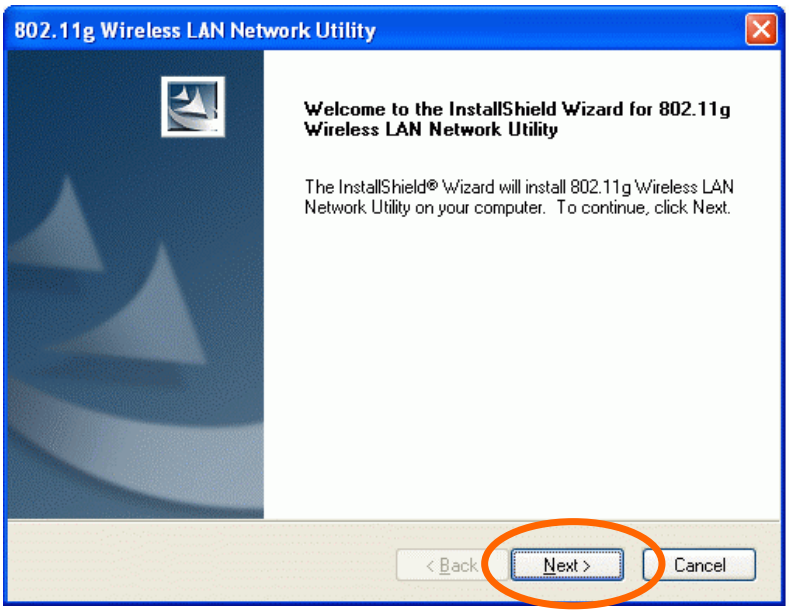
Install the Driver & Utility

1. Exit all Windows programs. Insert the CD-ROM into the CD-ROM drive of your computer.

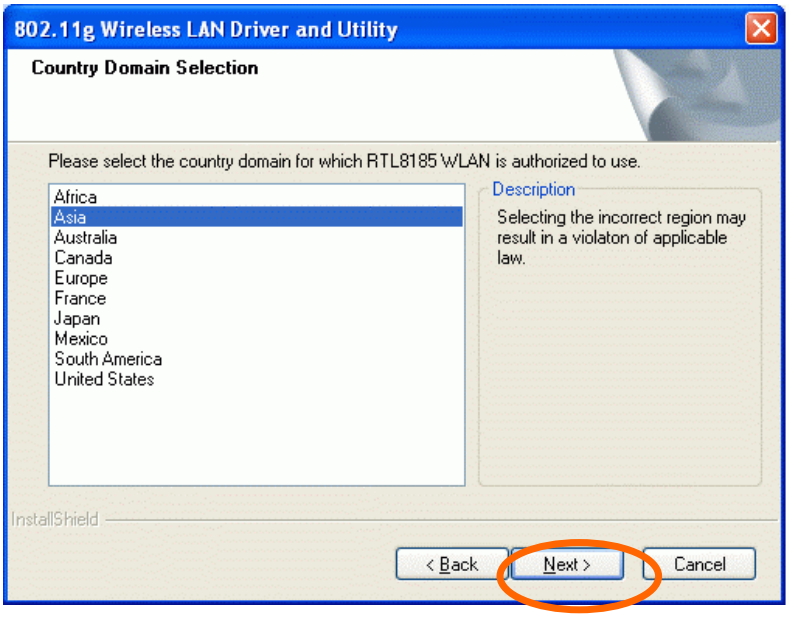
   If the CD-ROM is not launched automatically, go to your CD-ROM drive (e.g. drive D) and double-click on **Setup.exe.**

2. The main screen of the CD-ROM opens. Click **Install Driver & Utility** to start the installation.

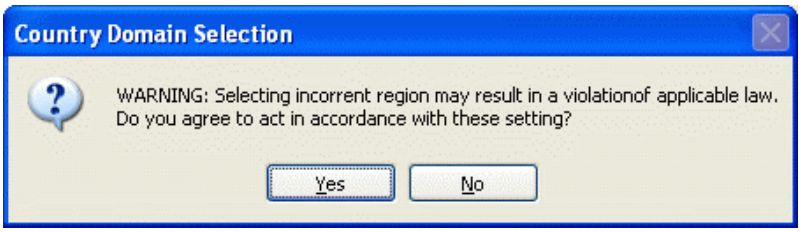
3. When the Welcome screen appears, click **Next** to continue.



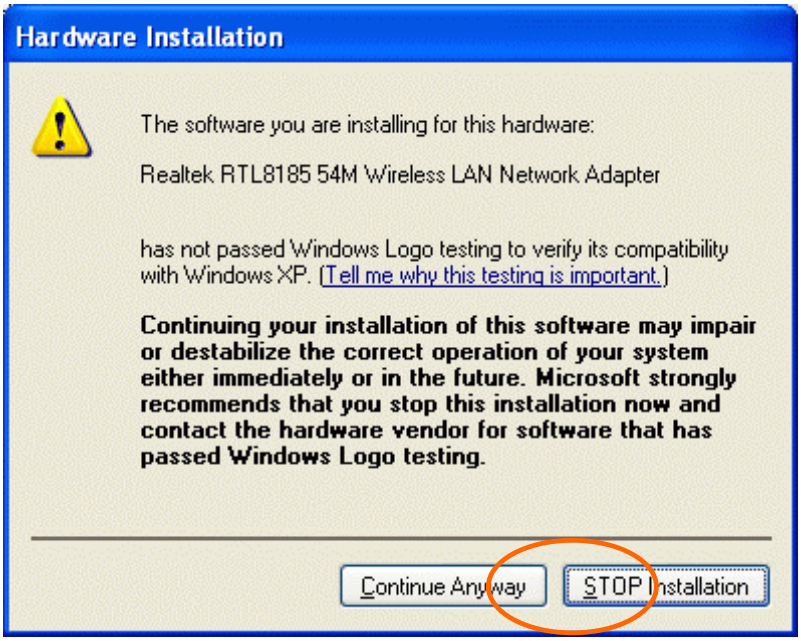
4. Select a country domain in the list and then click **Next** to continue.



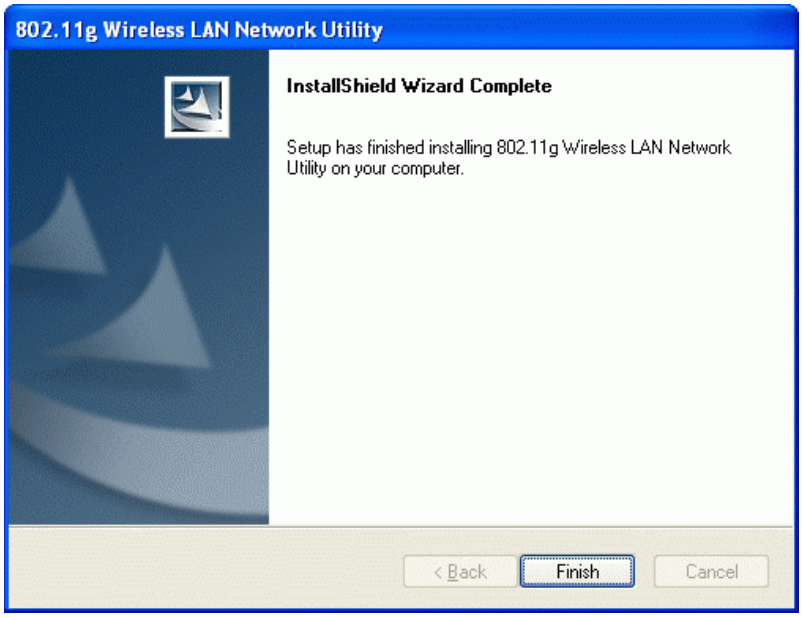
5. The following message will prompt to warn you to confirm the country domain, click **Yes** if you are selecting the correct country domain, if not, click **No** to fix it.



6. When the following screen prompts, please ignore and click **Continue Anyway** to go on the installation.



7. Select **Yes, I want to restart my computer now** and click Finish to complete the software installation.



Install the device

Note: Make sure the procedures in "**Install the Driver & Utility**" has been performed.

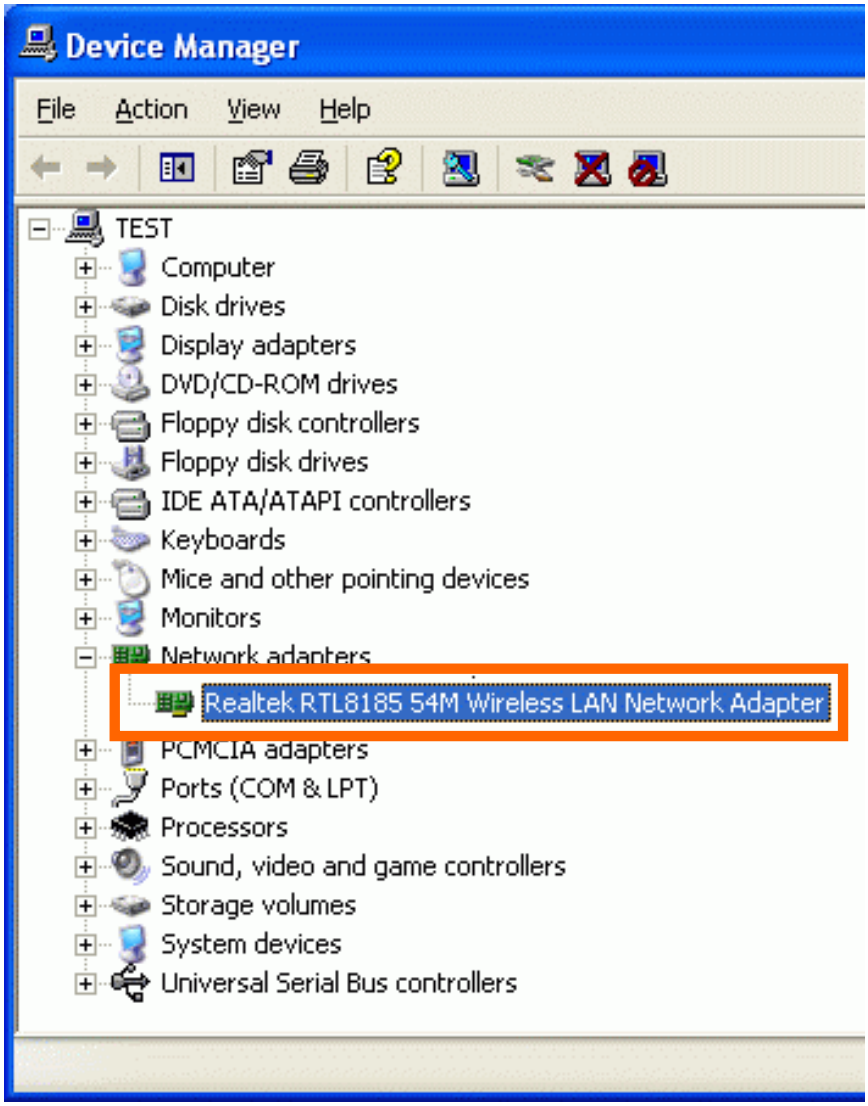
1. Make sure the computer is turned off. Remove the expansion slot cover from the computer.
2. Carefully slide the Wireless PCI Card into the PCI slot. Push evenly and slowly and ensure it is properly seated, you may have to use the mounting screw to have the card screwed securely in place.
3. After the device has been connected to your computer, turn on your computer. Windows will detect the new hardware and then automatically copy all of the files needed for networking.

Note for Windows 98 users:

Before installation of the device, make sure you have your operating system CD-ROM at hand. You may be asked to insert the OS CD-ROM in order to download specific drivers.

Verify Device Installation

To verify that the device has been properly installed in your computer and is enabled, go to **Start → Settings → Control Panel → System (→ Hardware) → Device Manager**. Expand the **Network adapters** item. If the **Realktek RTL8151 54M Wireless LAN Network Adapter** is listed, it means that your device is properly installed and enabled.

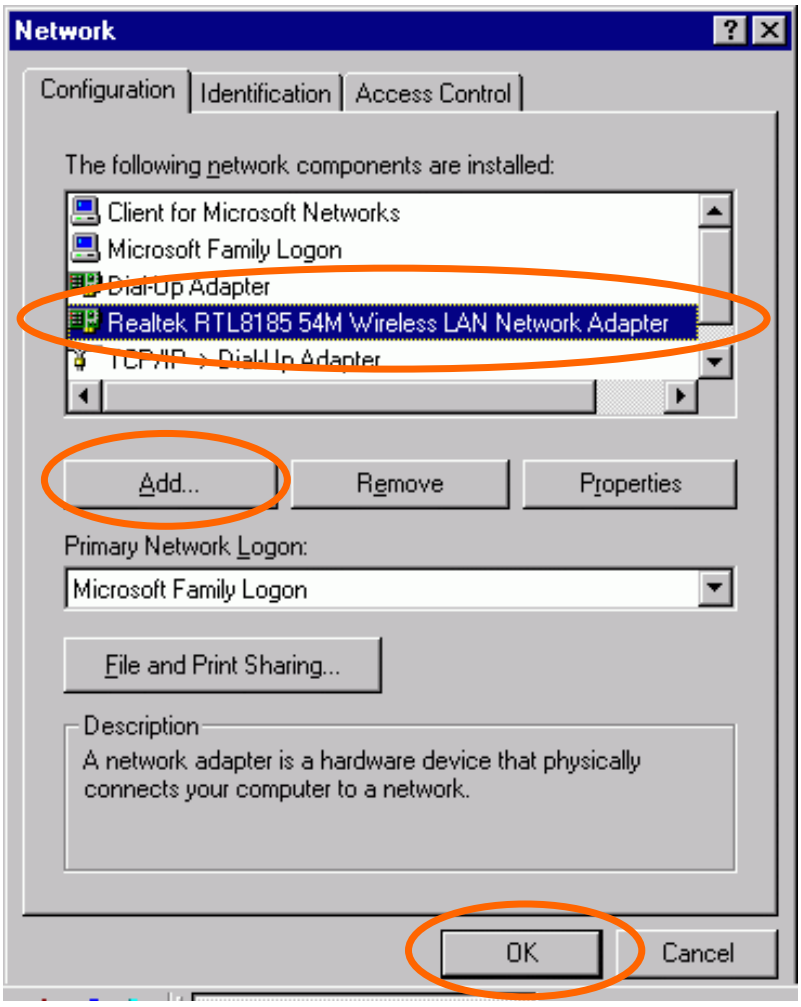

Device Manager
File
Action
View
Help
TEST
Computer
Disk drives
Display adapters
DVD/CD-ROM drives
Floppy disk controllers
Floppy disk drives
IDE ATA/ATAPI controllers
Keyboards
Mice and other pointing devices
Monitors
Network adapters
Realtek RTL8185 54M Wireless LAN Network Adapter
PCMCIA adapters
Ports (COM & LPT)
Processors
Sound, video and game controllers
Storage volumes
System devices
Universal Serial Bus controllers

NETWORK CONNECTION

Once the driver has been installed, you will need to make adjustments to your network settings.

In Windows 98/ME

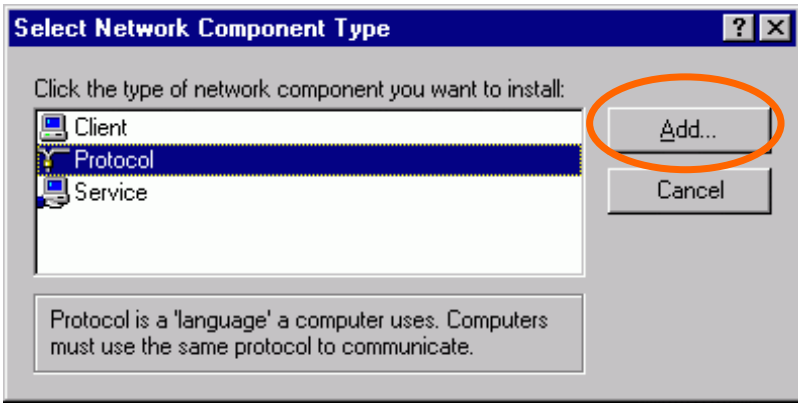
1. Go to **Start → Settings → Control Panel → Network**.
2. Make sure that you have all the following components installed.



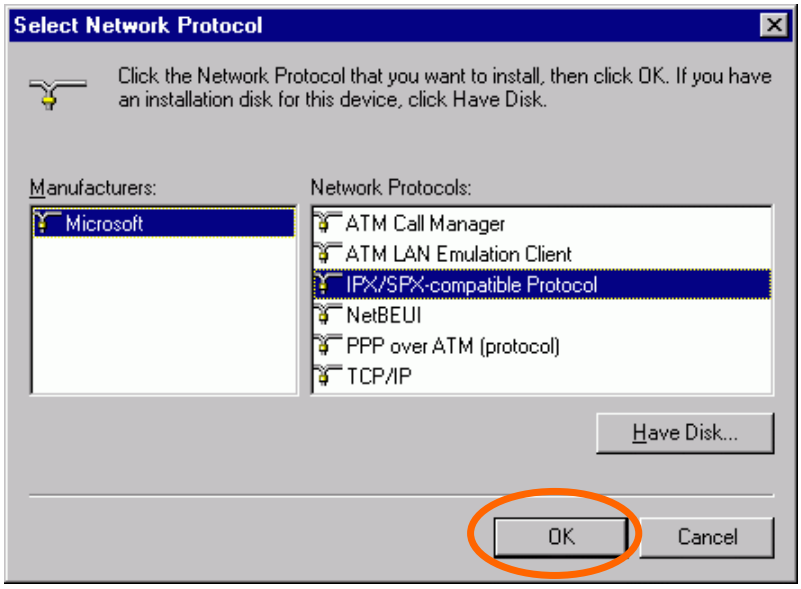
- **RealTek RTL8185 54M Wireless LAN Network Adapter**
- **IPX/SPX-compatible Protocol**
- **NetBEUI**
- **TCP/IP**

If any components are missing, click on the **Add** button to install them. All of the protocols and clients required (listed above) are provided by Microsoft.

3. Next, highlight the specific network component you need, click **Add**.

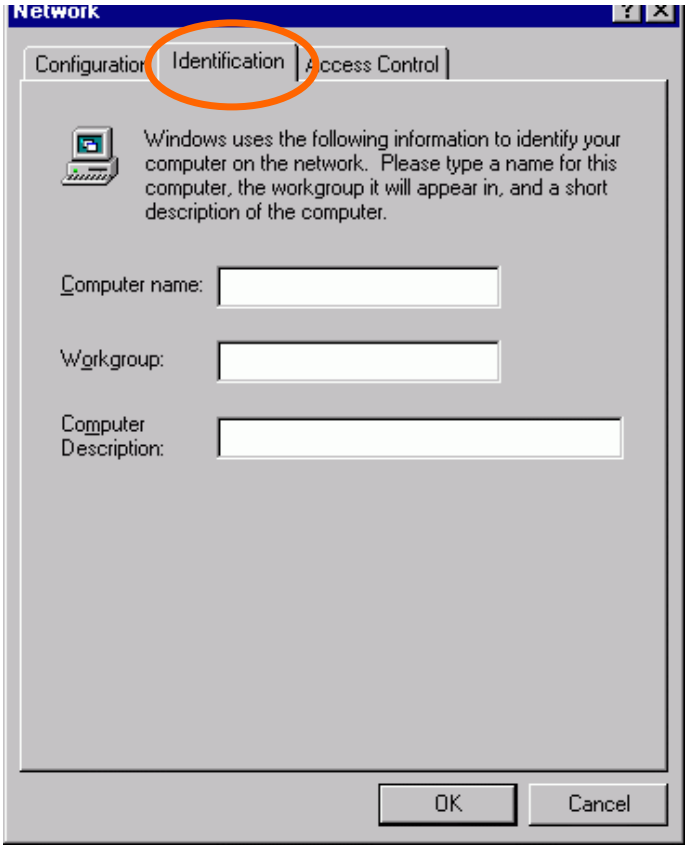


4. Highlight **Microsoft**, and then double click on the item you want to add. Click **OK**.

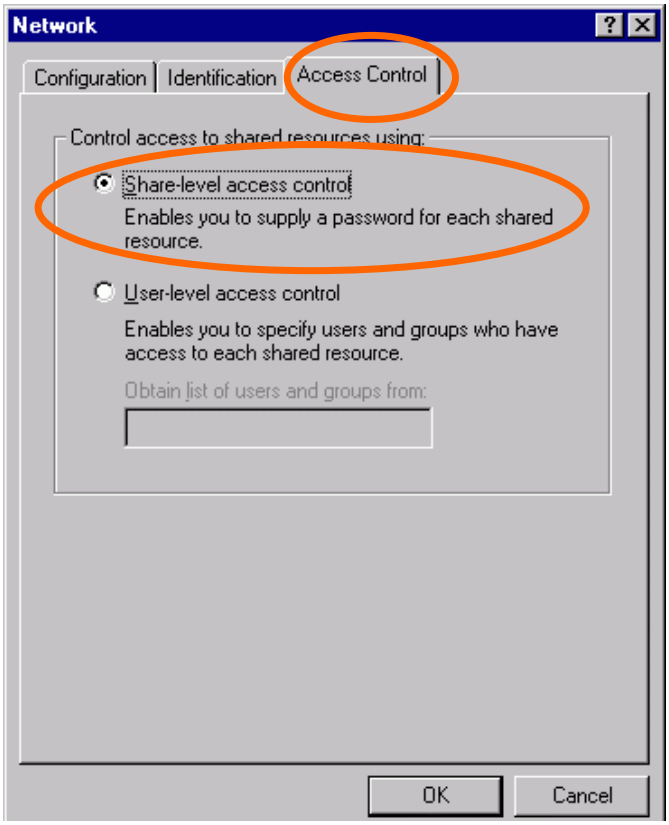


After returning to the Network screen, you can make your computer is visible on the network by enabling the **File and Print Sharing**.

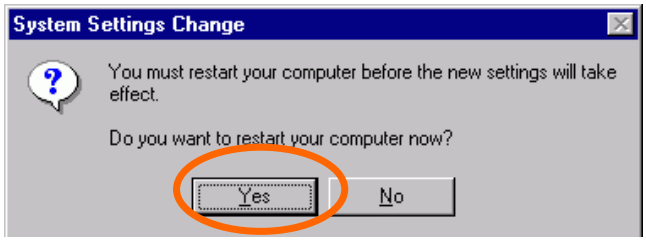
5. Click the **Identification** tab. Enter a name that is unique on the network. Type the name of your workgroup, which should be the same name used by all of the other PCs on the network.



6. Click the **Access Control** tab. Make sure that "**Share-level access control**" is selected. If connecting to a Netware server, share level can be set to "**User-level access control**."



7. When finished, restart your computer to activate the new device.



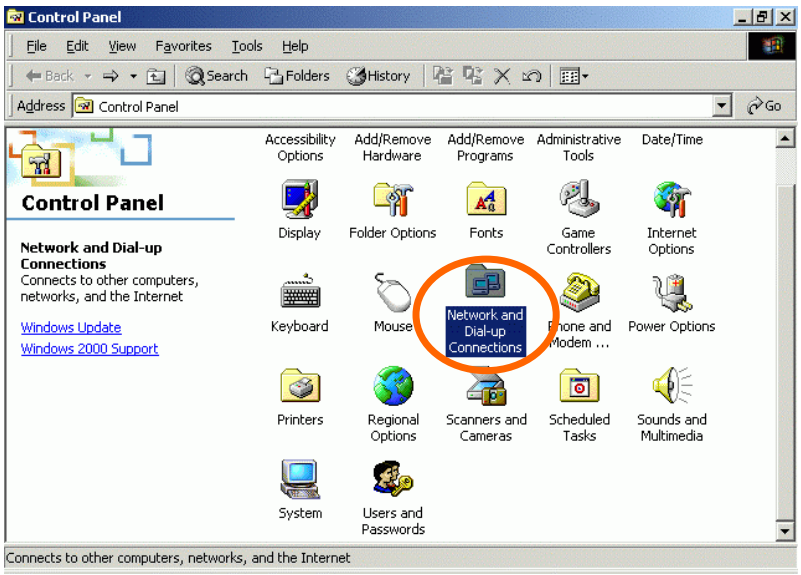
8. Once the computer has been rebooted, a **Logon** window will appear and will require you to enter a username and password. Enter a username and password and click **OK**. Do not click the **Cancel** button, or you won't be able to log onto the network.
9. Double-click the **Network Neighborhood** icon on the windows desktop, and you should see the names of the other PCs on the network.

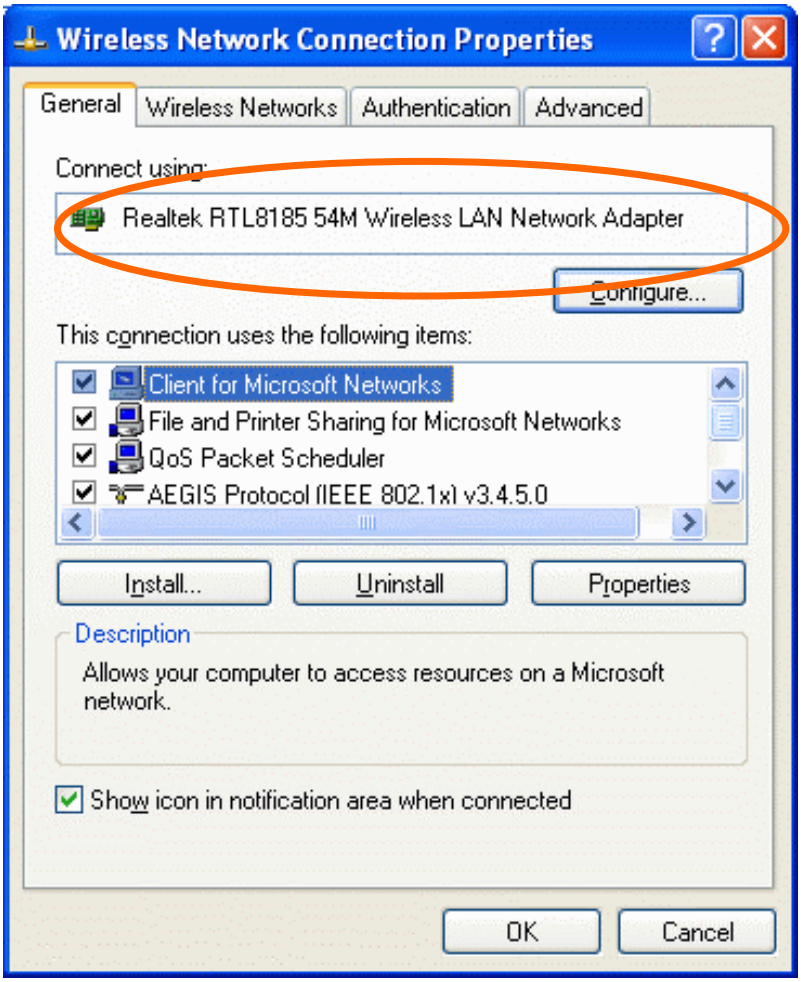
In Windows 2000/XP

1. (In **Windows 2000**)

   Go to **Start→ Settings → Control Panel → Network and Dial-up Connections → Local Area Connection → Properties**.

   (In **Windows XP**)
   Go to **Start → Control Panel → Network Connections → Wireless Network Connection Enabled RealTek RTL8185 54 M Wireles…..→ Properties**.



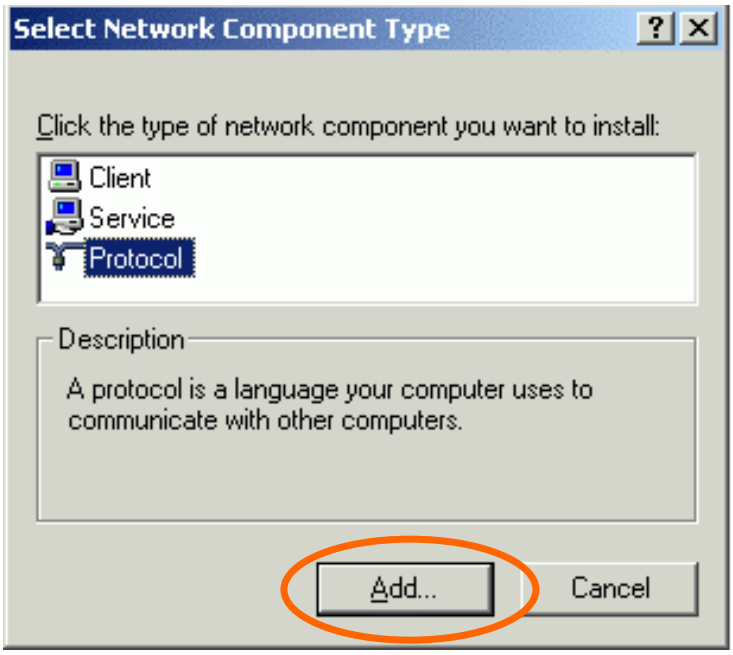


2. Make sure that you have all the following components installed.

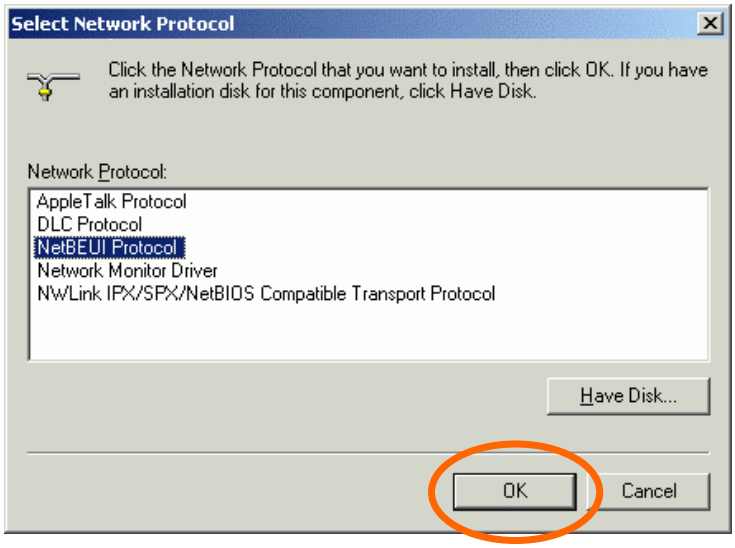
- **Client for Microsoft Networks**
- **NWLink NetBIOS**
- **NWLink IPX/SPX/NetBIOS Compatible Transport Protocol**
- **Internet Protocol (TCP/IP)**

If any components are missing, click on the **Install…** button to select the **Client/Service/Protocol** required.

After selecting the component you need, click **Add…** to install.



Select the network protocol you wish to add and click **OK**. This will return you to the **Local Area Connections Properties** window.



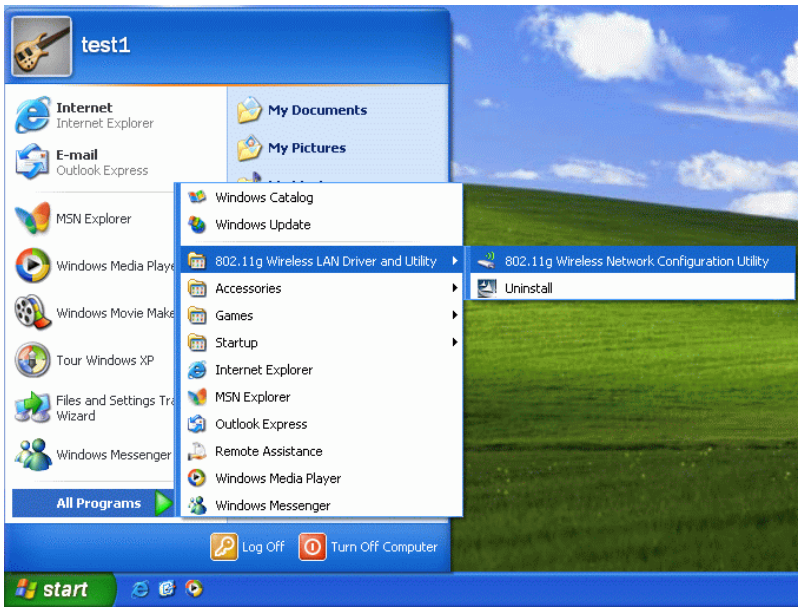
To allow your computer to be visible on the network, make sure you have checked off the **File and Printer Sharing for Microsoft Networks**.

When finished, you must restart your computer to complete the installation.

CONFIGURATION

After successful installation of the Wireless LAN Card's driver, the utility icon will display in the task bar. You will be able to access the Configuration Utility through the Network Status icon.

If the icon doesn't appear automatically, go to **Start → Programs → 802.11g Wireless LAN Driver and Utility → Wireless Network Configuration Utility**, it will appear in the task bar.



Accessing the Configuration Utility

All settings are categorized into 4 Tabs:

Main Tab

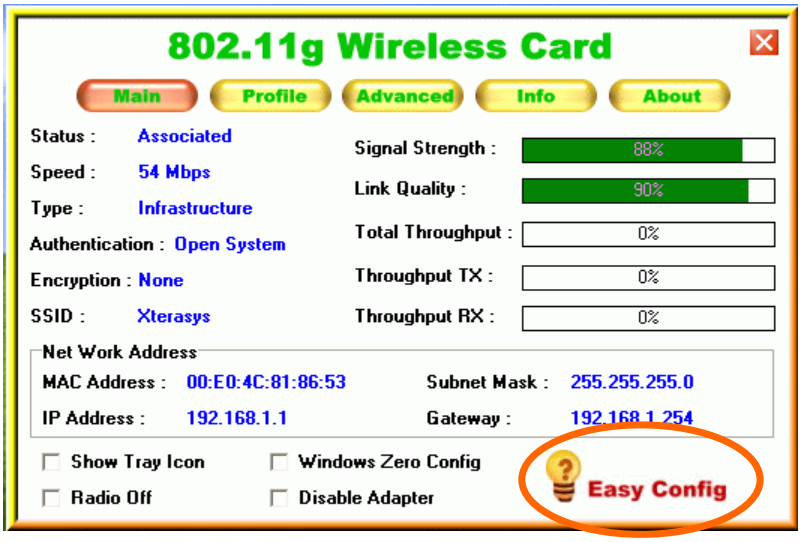
Profile Manager Tab

Information Tab

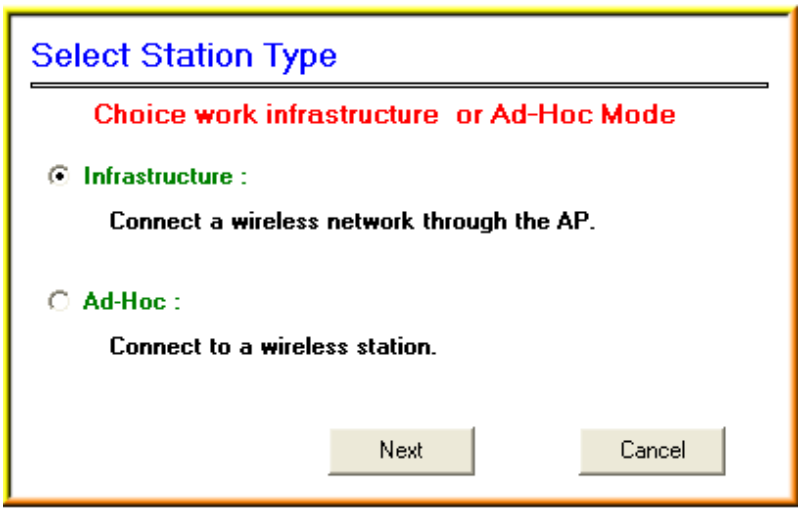
About Tab

Easy Config

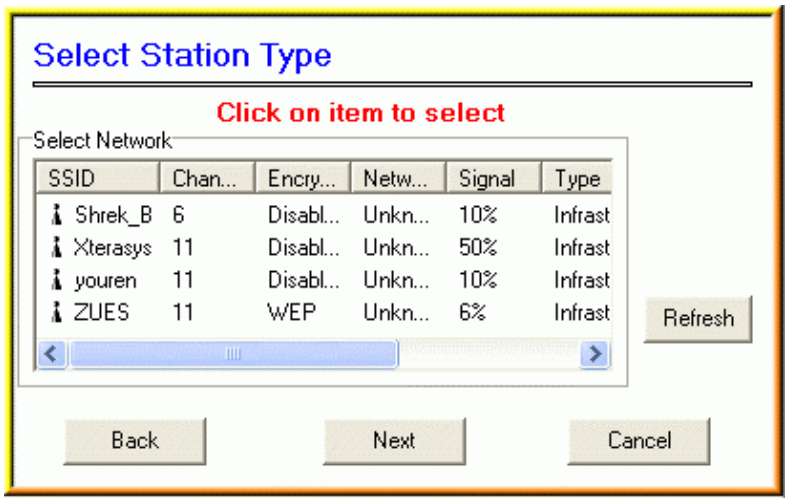
1. In the **Main** tab, click **Easy Config** on the right down corner to start quick configuration.



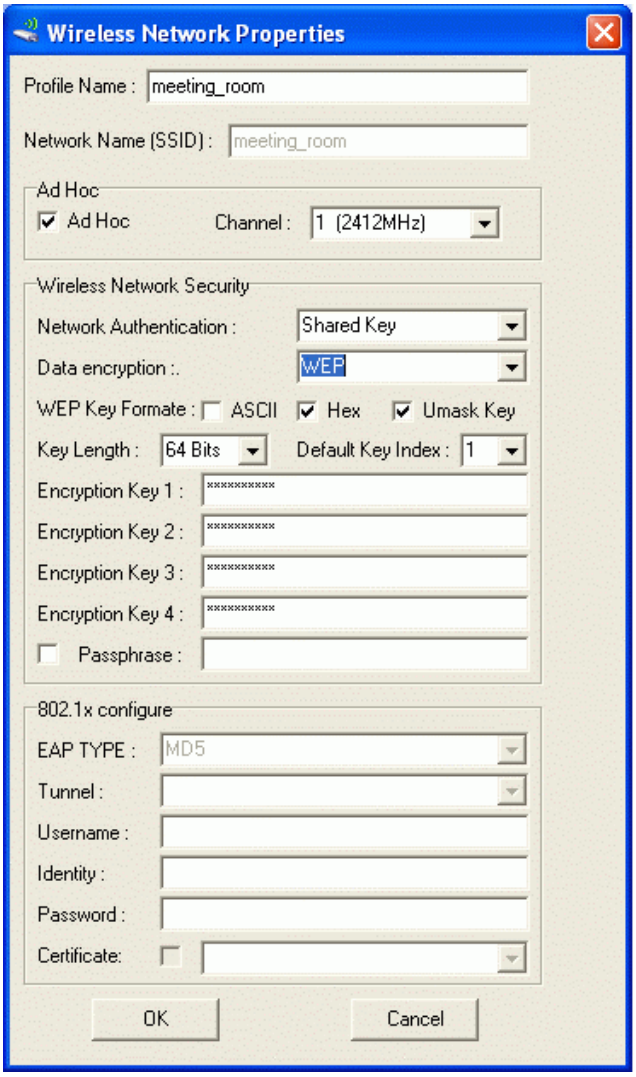
2. Select the wireless connection type, either **Infrastructure** or **Ad-Hoc**. Click **Next** to continue.



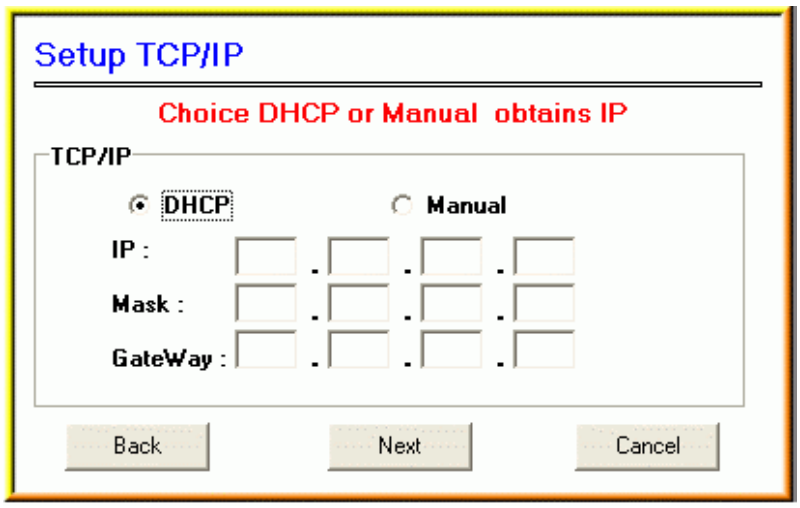
3. Select a wireless station on the list, and click **Next** to configure its settings.



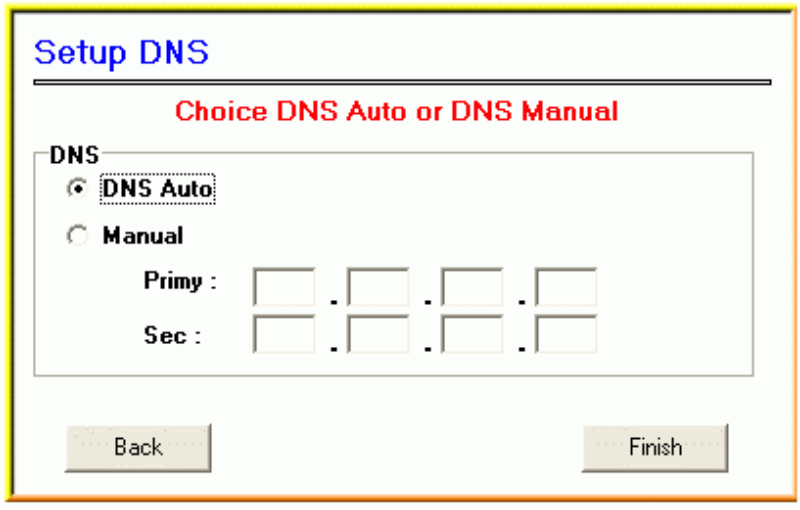
The following screen will appear for you to configure, for detailed configuration, please refer to **Profile Manager** tab in the later selection.



4. Configure the network TCP/IP, you may select **DHCP** to obtain an IP address automatically or select **Manual** to set an IP address. Click **Next** to continue.

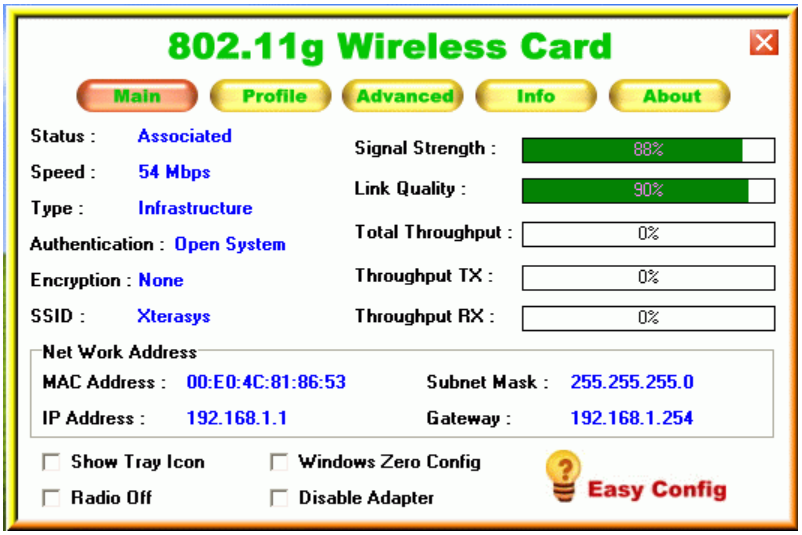


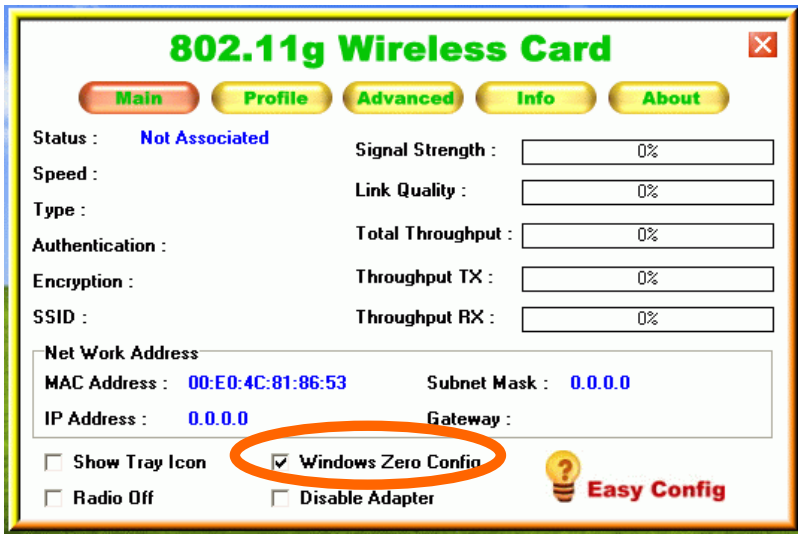
5. Select **DNS Auto** to obtain DNS automatically or select **Manual** to set the primary and secondary DNS. Click Finish to complete the **Easy Config** procedure.



Main Tab

The main tab enables you to scan for available networks, select a network to which to connect, modify the settings for the current connection, or set up your station for Ad Hoc connection.





Status	Shows the current connection status.
Speed	Shows the connection speed.
Type	Shows the wireless connection type.
Authentication	Shows the authentication type.
Encryption	Shows the encryption type.

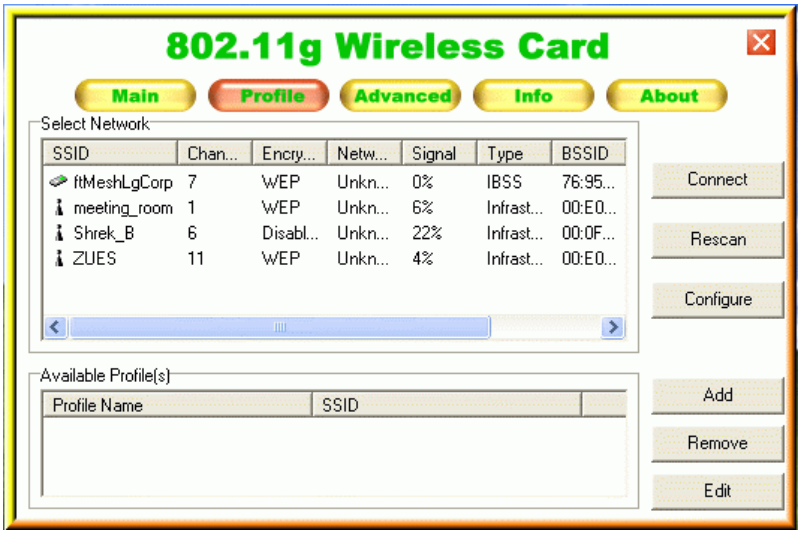
SSID	The SSID is the unique name shared among all points in your wireless network. The name must be identical for all devices and points attempting to connect to the same network.
Signal Strength	The signal strength from the network Access Point or station. The strength is displayed in three formats: a signal quality level (one of five levels, from Bad to Best), a numerical value in dBm, and a signal quality bar graph with a scale of –82 to –10.
Link Quality	Shows the link quality percentage.
Total Throughput	Shows the total throughput percentage.
Throughput TX	The actual instantaneous transmitting rates.
Throughput RX	The actual instantaneous receiving rates.
Network Address	
MAC Address	The MAC address of this wireless adapter.
IP Address	The IP address of this wireless adapter.
Subnet Mask	The subnet mask of this wireless adapter.
Gateway	The default gateway address of the adapter.
□ Show Tray icon	Place a check in the check box to show the utility icon in the tray.
□ Radio Off	Place a check in the check box to disable the radio function.
□ Windows Zero Config	External Configuration Checkbox (Windows XP only): A checkbox that enables you to disable the WLAN Station Configuration Utility and indicates that the station driver is to be configured with Windows XP's built-in Zero Configuration Utility (ZCU).

	On Windows XP systems, the ZCU service is automatically stopped when the WLAN utility is installed. The ZCU is started when you check the Configure using Windows Zero Configuration checkbox. The checkbox is only displayed on Windows XP systems.
☐ **Disable Adapter**	Place a check in the check box to disable this wireless adapter.

OK	Click OK to save your settings.
Cancel	Click Cancel to discard changes.
Apply	Click **Apply** to save any changes to profiles and connection settings.

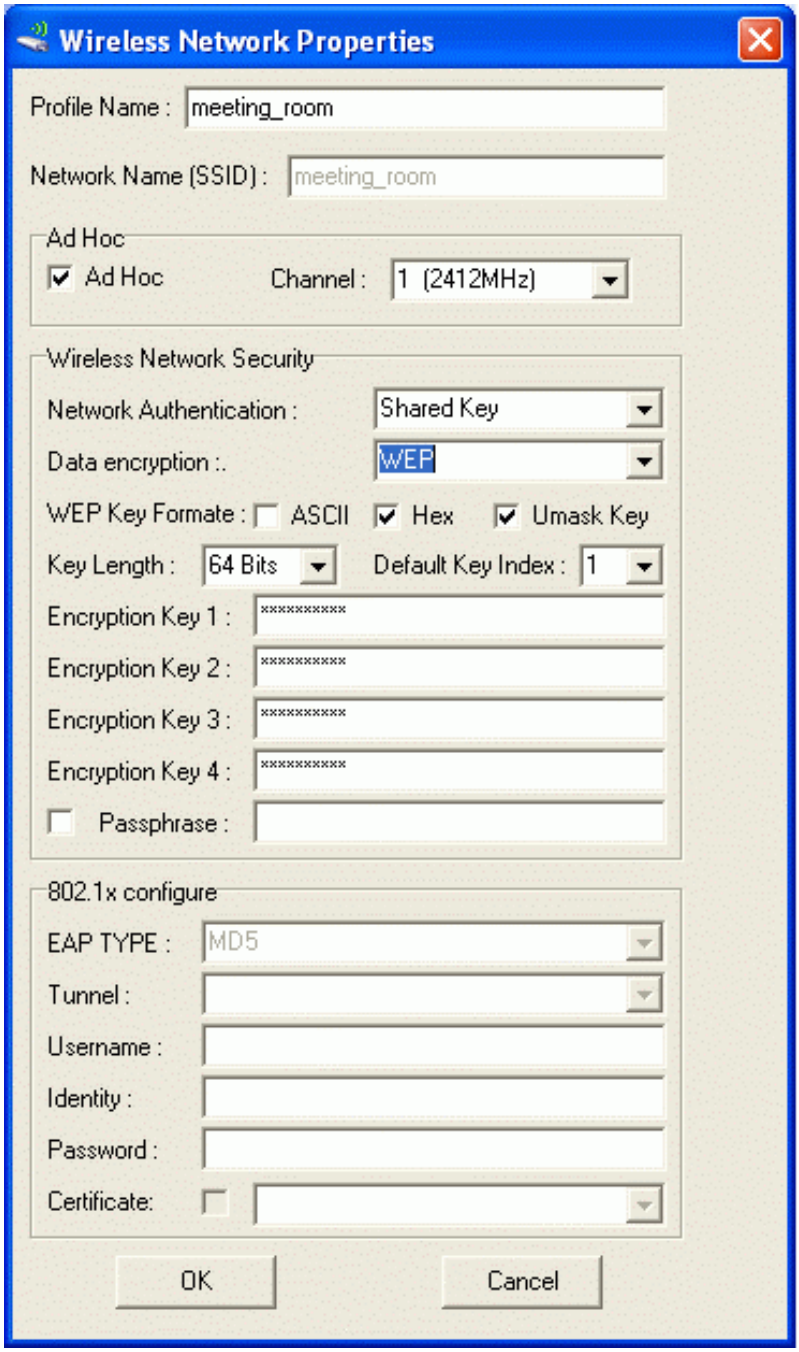
Profile Manager Tab

The Profile Manager enables you to create, modify and delete the profiles that the station uses to connect to WLAN networks, to activate and de-activate profiles, and to raise and lower a profiles' priority.



Connect	Select a wireless device that you want to connect with and click **Connect** to make a connection. The wireless device you have connected will be added into the **Available Profile(s)** field below.
Rescan	Click **Rescan** to refresh the wireless device list.
Configure	Click Configure to set up the detailed configuration.
Add	Click **Add** to add a wireless device into the Available Profile(s) field below.
Remove	Select a wireless device that listed in the **Available Profile(s)** field and then click Remove to delete it.
Edit	Select a wireless device in the **Available Profile(s)** field and then click **Edit** to change its configuration.

The following configuration screen will appear if you just click Connect, Configure or Add buttons.



Profile Name	You may enter the preferred profile name in this column.
Network Name (SSID)	The SSID for the current profile.
Ad Hoc	
□ Ad Hoc	Place a check in the check box to enable the Ad Hoc function. This mode allows wireless-equipped

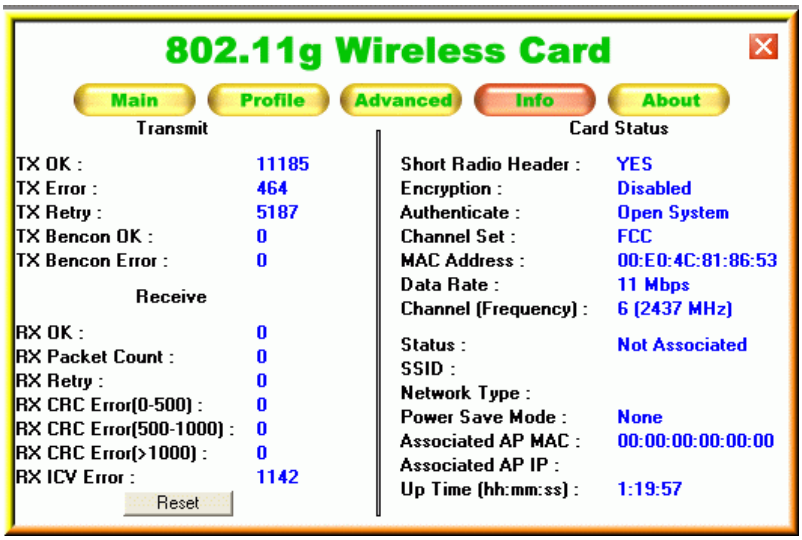
	computers to communicate directly with each other. No access point is used. **Note**: **Infrastructure**: The infrastructure allows wireless and wired networks to communicate through an access point.
Channel	Select the channel (Channel 1-11) from the pull-down list.
Wireless Network Security	
Network Authentication	The authentication type defines configuration options for the sharing of wireless networks to verify identity and access privileges of roaming wireless network cards. Select the Network Authentication from the pull-down list. **Open system**: If the Access Point is using "**Open System**" authentication, then the wireless adapter will need to be set to the same authentication type. **Shared Key**: **Shared Key** is when both the sender and the recipient share a secret key. **WPA-PSK**: **WPA2-PSK**: **WPA 802.1x**: **WPA2802.1x**:
Data encryption	
WEP Key Format	□ **ASCII:** □ **HEX**: □ **Unmask Key**: Place a check in the check box to enable the Unmask Key function, this function is for concealing the WEP key.
□ **Passphrass**	Instead of manually entering WEP keys, you can enter a Passphrase, so that a WEP key is automatically generated. It is case-sensitive and should not be longer than 16 alphanumeric characters. This Passphrase must match the

	Passphrase of your wireless network.
Key Length	Select the key length from the pull-down menu, either 64Bit or 128 Bit. If you are using 64-bit WEP encryption, then the key must consist of exactly ten hexadecimal characters. If you are using 128-bit WEP encryption, then the key must consist of exactly 26 he xadecimal characters. Valid hexadecimal characters are "0" to "9" and "A" to "F".
Default Key Index	Select the default key index from the pull-down menu.
Encryption1~4	To configure your WEP settings. **WEP (Wired Equivalent Privacy)** encryption can be used to ensure the security of your wireless network. Select one **Key** and **Key Size** then fill in the appropriate value/phrase in **Encryption** field. ***Note****: You must use the same* ***Key*** *and* ***Encryption*** *settings for the both sides of the wireless network to connect* **KEY1 ~ KEY 4**：You can specify up to 4 different keys to *decrypt* wireless data. Select the Default key setting from the radio button. **Encryption**：This setting is the configuration key used in accessing the wireless network via WEP encryption. A key of **10** hexadecimal characters (0-9, A-F) is required if a **64-bit Key Length** was selected. A key of **26** hexadecimal characters (0-9, A-F) is required if a **128-bit Key Length** was selected. A key of **58** hexadecimal characters (0-9, A-F) is required if a **256-bit Key Length** was selected.
802.11x configure	
EAP TYPE	Select the EAP TYPE from the pull-down list. Including MD5, GTC, TLS, LEAP, TTSL and PEAP.
Tunnel	Select the tunnel from the pull-down menu, including CHAP, MSCHAP, MSCHAP-V2, PAP and EAP-MD5.

Username	Enter the username in this column.
Identity	Enter the identity in this column.
Password	Enter the password in this column.
Certificate	Place a check in the check box and then select the certificate from the pull-down menu.
OK	Click **OK** to save the configuration.
Cancel	Click **Cancel** to exit the configuration screen.

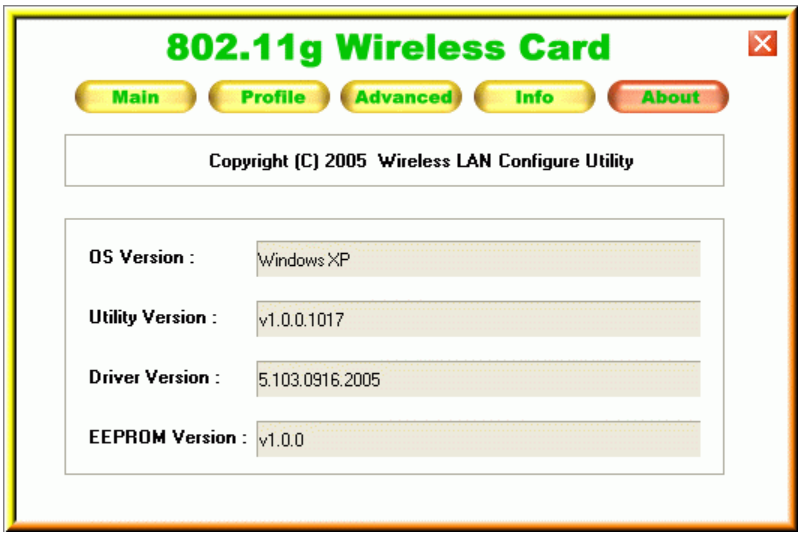
Information Tab

The **Information** tab displays information maintained by the driver, such as the number of packet errors and the total number of bytes received or transmitted. The tab also displays information about the current connection, as well as network information about the station. The statistics are for the period starting when you last connected to a network. The statistics are refreshed at least twice a second.



About Tab

Click on the **About** tab to view basic version information about the **OS Version, Utility Version, Driver Version, Firmware Version** and **EEPROM Version**.

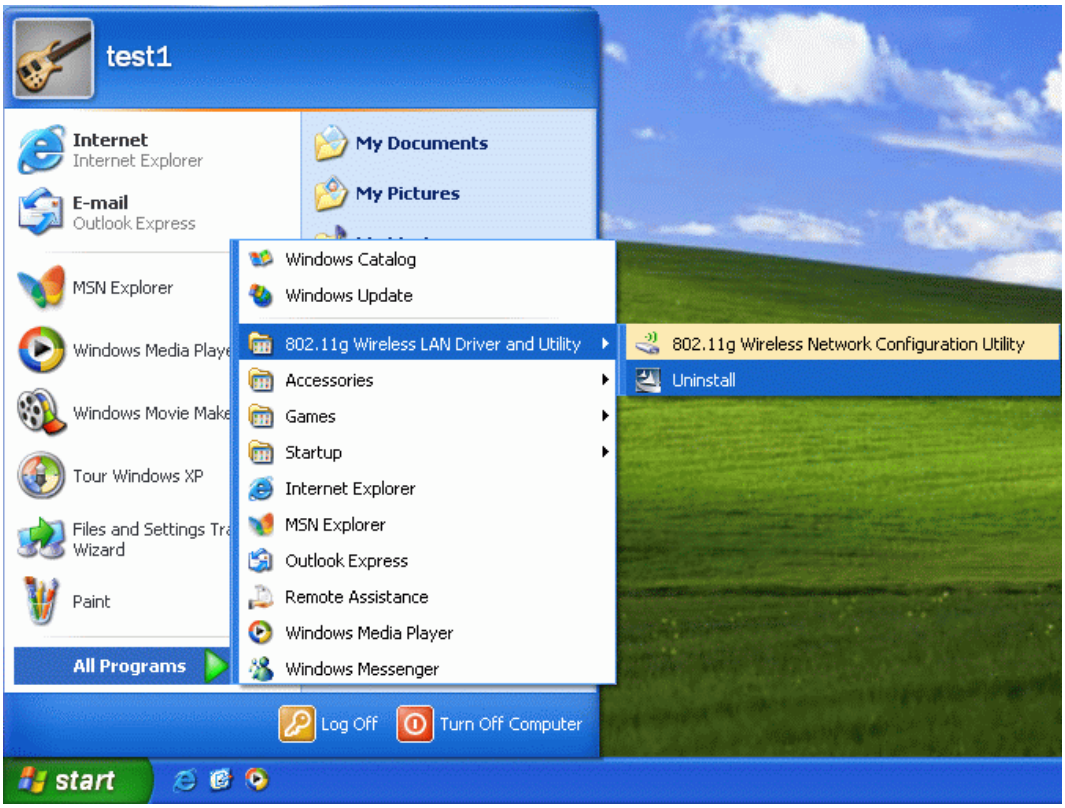


UNINSTALLATION

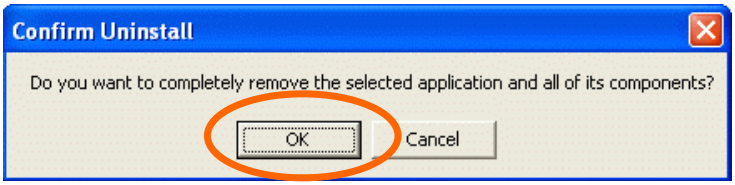
In case you need to uninstall the Utility and driver, please refer to below steps.

(As you uninstall the utility, the driver will be uninstalled as well.)

1. Go to **Start → (All) Programs →802.11g Wireless LAN Driver and Utility → Uninstall.**



2. Click **OK** to continue.



3. Click **Finish** to complete the uninstalled procedure.