

Chapter 4

Netgear Smart Wireless Wizard

This chapter describes how to use the Netgear Smart Wireless Wizard configuration, profiles, and monitoring features with your NETGEAR Double 108 Mbps Wireless PC Card 32-bit CardBus WG511U.



Note: The instructions in this section refer to the NETGEAR WG511U configuration utility. For Windows XP users to use the NETGEAR configuration utility, the Windows XP wireless configuration utility must be deselected. To deselect the Windows XP wireless configuration utility, open the network connections from the system tray icon, click the Properties button, click the Wireless Networks tab and then clear the “Use Windows to configure my wireless network settings” check box.

Understanding the Configuration Options

The WG511U configuration utility provides a complete and easy to use set of tools to:

- Configure wireless settings.
- Monitor wireless network connections.
- Save your settings in configuration profiles.

The section below introduces these capabilities of the configuration utility.

Using Configuration Profiles

The WG511U configuration utility uses profiles to store all the configuration settings for a particular wireless network. You can store multiple profiles and recall the one which matches the network you want to join.

For example, if you use your notebook PC to connect to a wireless network in an office and a wireless network in your home, you can create a profile for each wireless network. Then, you can easily load the profile that has all the configuration settings you need to join the network you are using at the time.

There are two types of wireless network connections you can configure:

- **Infrastructure Mode** — uses the 802.11 infrastructure mode.
- **Ad-hoc Mode** — uses the 802.11 ad-hoc mode

For more information on 802.11 wireless network modes, see [“Wireless Networking Overview” on page B-1](#) of this manual.

Connecting to an Access Point in Infrastructure Mode

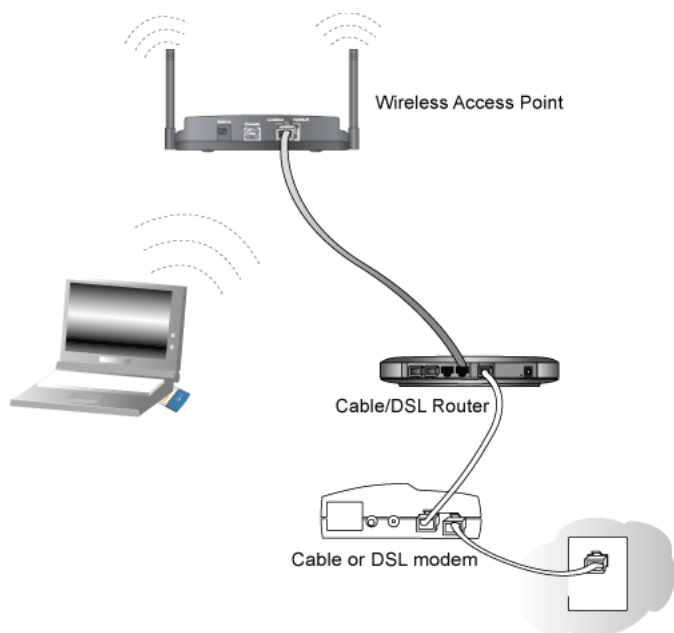



Figure 4-1: WG511U Wireless PC Card connecting to a wireless access point.

This section provides instructions for configuring the NETGEAR Double 108 Mbps Wireless PC Card 32-bit CardBus WG511U to connect to a wireless access point.

How to Configure an Infrastructure Mode Profile

Use these instructions to configure infrastructure mode profiles for connecting to access points.

1. Run the WG511U Smart Wireless Wizard.

- a. Make sure the WG511U software is installed and the WG511U is fully inserted in an available CardBus slot in your PC.
- b. Open the configuration utility by clicking on the WG511U icon  on the Windows desktop or in the system tray. The Settings tab page opens.

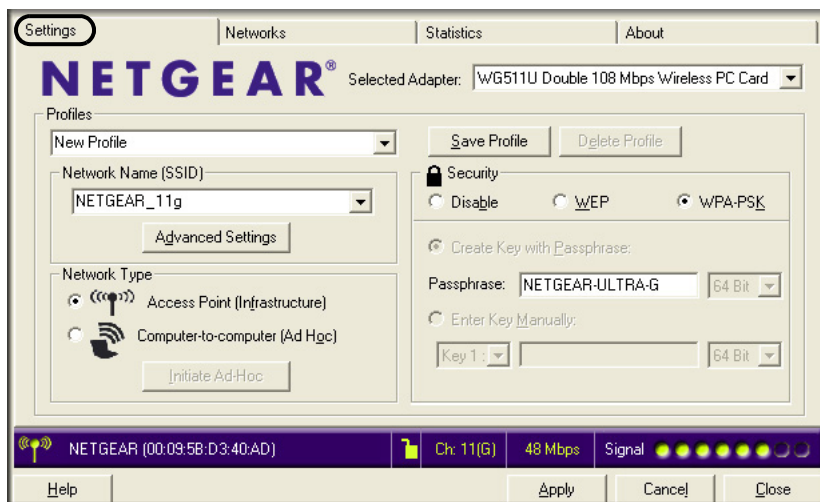


Figure 4-2: Settings page

2. Configure the wireless network settings.

- a. In the Network Type section, be sure that Infrastructure is selected.
- b. Enter the SSID. This is also called the Wireless Network Name.

Note: You will not get a wireless network connection unless the network SSID matches exactly what is configured in the access point.

Tip: You can click the Network tab or use the Network Name drop-down list to view a list of the available wireless networks and their SSIDs at the location where you are.

3. Save your settings in a Profile.

- a. Type a descriptive name for the Profile in the Profiles field.

- b. Click **Save Profile**. All the configuration settings are saved in this profile.
- c. Click **Apply**.
- d. Click **Close** to exit the configuration utility or **Cancel** to return to the previous settings

4. Verify wireless connectivity to your network.

Verify connectivity by using a browser such as Netscape or Internet Explorer to connect to the Internet, or check for file and printer access on your network.

You can check the status bar in the configuration utility for the current connection status.

Note: If you cannot connect, see the [“Troubleshooting” on page 3-14](#). Also, for problems with accessing network resources, the Windows Client and File and Print Sharing software might not be installed and configured properly on your computers. Please refer to [“Preparing Your Computers for TCP/IP Networking” on page C-1](#).

Connecting to Another PC in Ad-hoc Mode

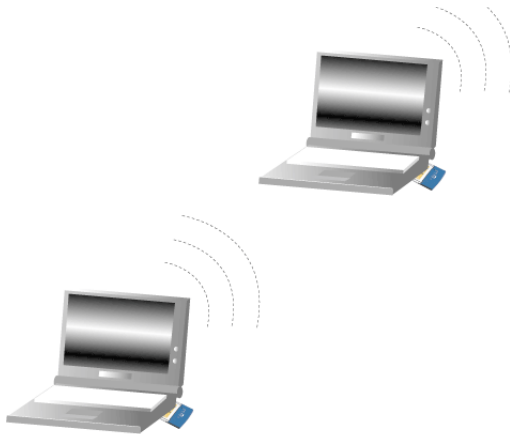


Figure 4-3: NETGEAR WG511U Wireless PC Card in Computer-to-Computer Mode

The Ad-Hoc mode is an 802.11 networking framework in which devices or computers communicate directly with each other, without the use of an access point. For example, this mode is used when two Windows computers are configured with file and print sharing enabled and you want to exchange files directly between them.

How to Configure an Ad-hoc Mode Network

Note: Ad-hoc mode will not work using DHCP settings. Ad-hoc mode requires static IP addresses (such as 192.168.0.1). For instructions on setting up static IP addresses on a Windows PC, refer to the PC Networking Tutorial included on the *NETGEAR Double 108 Mbps Wireless PC Card 32-bit CardBus WG511U Resource CD*.

Follow the instructions below to configure an Ad-hoc mode network.


1. Configure the PC network settings.

- a. Configure each PC with a static IP address.

Note: For instructions on configuring static IP addresses, refer to the networking tutorial on your *NETGEAR Double 108 Mbps Wireless PC Card 32-bit CardBus WG511U Resource CD*.

- b. Restart the PCs.

2. Run the WG511U Smart Wireless Wizard.

- a. Make sure the WG511U software is installed and the WG511U is fully inserted in an available CardBus slot in your PC.
- b. Open the configuration utility by clicking on the WG511U icon  on the Windows desktop or in the system tray. The Settings tab page opens.

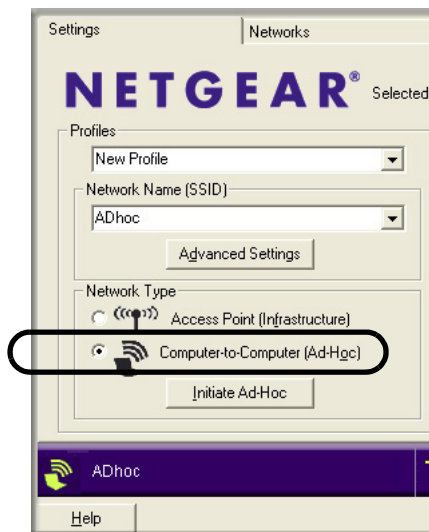


Figure 4-4: Settings page

- c. Select **Computer-to-Computer (Ad-Hoc)** for the Network Type. Enter the SSID for the Ad-Hoc network.
- d. Click **Initiate Ad-Hoc**. The Ad-Hoc Setting dialog box appears.

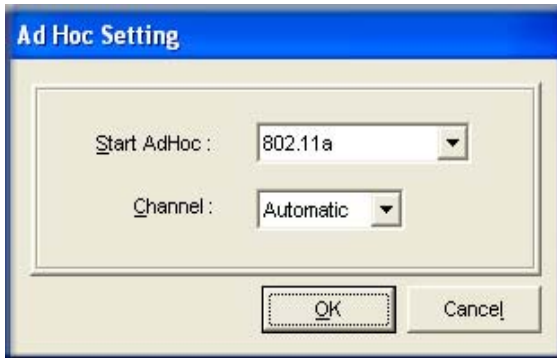


Figure 4-5: Ad-Hoc Setting page

- In the Start Ad-Hoc field, choose the wireless standard (802.11a, 802.11b, or 802.11g) for your Ad-Hoc computer-to-computer network.
- In the Channel field, Automatic should work. If you notice interference problems with another nearby wireless device, select a channel that is not being used by any other wireless networks near your wireless adapter. Use the Networks tab page to identify the channels in use in your area.

Note: The channel number differs depending on the country. The connection speed automatically defaults to the highest speed.

- e. Click **OK**. The WG511U will scan the area to determine which channel to use.
- f. Click **Apply**.

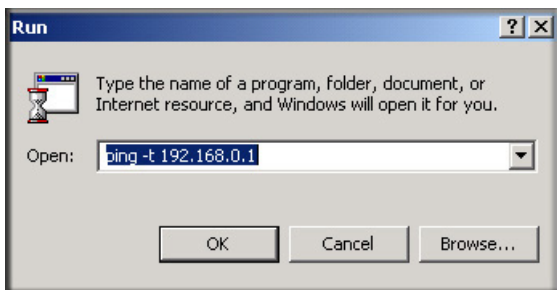
3. Save your settings in a Profile.

- a. Type a descriptive name in the “Profiles” field.
- b. Click Save Profile. All the configuration settings are saved in this profile.
- c. Click Apply.
- d. Click Close to exit the configuration utility.

4. Verify wireless connectivity between your peer devices.

Verify connectivity by using the Ping program:

- a. On the Windows taskbar click the Start button, and then click Run.



- b. Assuming the target PC is configured with 192.168.0.1 as its IP address, type `ping -t 192.168.0.1` and then click OK.
- c. This will cause a continuous ping to be sent to the device with the 192.168.0.1 static IP address. The ping response should change to “reply.”

```
Request timed out.
Request timed out.
Reply from 192.168.0.1: bytes=32 time=40ms TTL=127
Reply from 192.168.0.1: bytes=32 time=41ms TTL=127
Reply from 192.168.0.1: bytes=32 time=30ms TTL=127
```

At this point the connection is established.

Note: If you cannot connect, see the [“Troubleshooting” on page 3-14](#). Also, for problems with accessing network resources, the Windows Client and File and Print Sharing software might not be installed and configured properly on your computers. Please refer to [“Preparing Your Computers for TCP/IP Networking” on page C-1](#).

What's on the Statistics Page?

The Statistics page provides real time and historical trend information on the data traffic and performance of your wireless adapter.

- **Transmit/Receive Performance (%):** A real time graph identifying the total, receive, and transmit utilization as a percentage the total possible.
- **Total/Receive/Transmit Graph:** Identifies the trend of transmit/receive data communications over time.
- **Transmit Statistics:** Identifies transmit megabits per second (Mbps), transmit packets per second (Tx Packets/s), total transmitted packets, and transmit errors.
- **Receive Statistics:** Identifies receive megabits per second (Mbps), receive packets per second (Rx Packets/s), total received packets, and received errors.

Understanding the Advanced Settings Page

The Advanced settings should not require adjustment. Except for the power saving setting, changing any of the settings incorrectly on this page could cause your wireless connection to fail.

- **Power Saving:** Select Normal or Max if you are running on battery power.
- **Preamble:** A long preamble may provide a more reliable connection or slightly longer range.
- **Transmit Power:** Lowering the output power level lets you reduce the chance of interference with other nearby access points, but reduces the range of your adapter.
- **Wireless Mode:** Select the wireless protocols you will use. You can choose from the available 802.11 wireless protocols. Note that if the wireless network you are communicating with uses the Ultra-G mode, you must include that in your selection (for example, if you are using the WG511U with the NETGEAR WG624U Wireless Firewall Router).
- **Fragmentation Threshold:** This is the maximum packet size used for fragmentation. Packets larger than the size programmed in this field will be fragmented. The Fragmentation Threshold value must be larger than the RTS/CTS Threshold value.
- **RTS/CTS Threshold:** The packet size that is used to determine whether to use the CSMA/CD (Carrier Sense Multiple Access with Collision Detection) mechanism or the CSMA/CA (Carrier Sense Multiple Access with Collision Avoidance) mechanism for packet transmission. CSMA/CD is slightly more efficient.