Chapter 5
Wireless Security Configuration

This chapter describes how to configure the security features of your NETGEAR Double 108 Mbps Wireless PC Card 32-bit CardBus WG511U.

Note: These instructions refer to the WG511U configuration utility. The Windows XP wireless configuration utility must deselected. Check if this is so by viewing the Properties of the Network Connections for the WG511U. Click the Wireless Networks tab and clear the "Use Windows to configure my wireless network settings" check box.

Understanding the Security Options

For a full discussion of wireless security technologies, please see "Wireless Security Overview" on page B-6. The WG511U configuration utility provides the following security options:

- **WEP**
  Wired Equivalent Privacy is an existing, widely implemented and supported, data encryption protocol for 802.11 wireless networks. All wireless nodes on the network are configured with a static 64-bit or 128-bit Shared Key for data encryption but authentication is optional.
- **WPA-PSK**
  WPA Pre-Shared Key (WPA-PSK) performs authentication and strong data encryption that includes dynamic key generation based on a pre-shared key. WPA-PSK does not need RADIUS or certificate servers.

When you use the WG511U configuration utility to configure these security options, you can save your settings in a profile. For example, if you use WPA-PSK at work but WEP at home, you can have *work* and *home* profiles that make it easy to switch from one environment to the other. For more information on configuring profiles, see "Using Configuration Profiles" on page 4-1.

Using WEP Security

You can strengthen the security of your wireless connection by enabling Wired Equivalent Privacy (WEP) encryption of the wireless data communications. For more information on 802.11 wireless security, see "Wireless Networking Overview" on page B-1.

In addition to the WG511U wireless security features, configure appropriate LAN network security features such as requiring a user name and password to access shared resources in your network.

Fill in the worksheet and use the procedures below to configure the WEP encryption settings of your NETGEAR Double 108 Mbps Wireless PC Card 32-bit CardBus WG511U.

Basic Requirements for WEP

WEP requires these elements:

1. A wireless adapter with WEP enabled.
2. A wireless access point or another PC with WEP enabled.

Fill in the worksheet and use the procedures below to configure the WEP encryption settings of your WG511U.

WEP Security Settings Worksheet

Print this form, fill in the configuration parameters and put it in a safe place for possible future reference. For an existing wireless network, the person who set up the network will be able to provide this information.

- **Wireless Network Name (SSID)**

  The Service Set Identification (SSID) identifies the wireless local area network. For the access point and wireless nodes to communicate with each other, all must be configured with the same SSID.

  Note: Some wireless access points will not broadcast their SSID as a security feature. In such a case, you will need to get the SSID from the wireless network administrator.

  Wireless network name (SSID): _____

- **WEP Security Encryption Key**

  The default WEP encryption key number is 1, and the default key size is 64 bits.

  Note: The key number as well as the key value used by all wireless nodes must be the same. If yours is different, you will not be able to connect.

  WEP Encryption Key Size, circle one: **64** or **128** bits

  WEP Encryption Passphrase (case sensitive), if used: _____

  A Passphrase is used to automatically generate the WEP hexadecimal numbers for the key. If the wireless network Access Point uses a Passphrase, you can also use that here. Otherwise, you will have to manually enter the hexadecimal numbers.

  Note: Not all wireless networks support the Passphrase method of key generation. In such settings, instead of Passphrase, use the Enter Key Manually option.

  WEP Hexadecimal Numbers (not case sensitive): _____

  — 64-bit WEP: enter 10 hexadecimal digits (any combination of 0-9, a-f, or A-F).

  — 128-bit WEP: enter 26 hexadecimal digits (any combination of 0-9, a-f, or A-F).

Use the procedures below to configure WEP security settings in the WG511U.

How to Configure WEP Encryption Security

Follow the steps below to configure WEP Encryption Security.

1. **Run the WG511U Smart Wireless Wizard.**

   a. Make sure the WG511U software is installed and the WG511U is fully inserted 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.

2. **Configure the Network Name (SSID) settings.**

   Enter the SSID. This is also called the Wireless Network Name.

   Tip: Click the Networks tab to view a list of the available wireless networks and their SSIDs.

3. **Configure the WEP settings.**

   a. Select the WEP radio button.

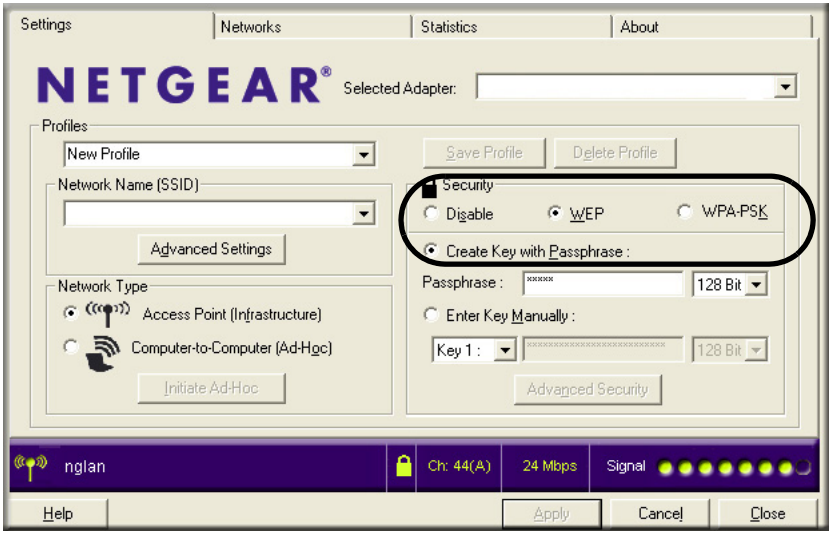

Figure 5-1: WEP settings screen

b. Select how you will enter the Key and the key size. The choices are:

- Create Key with Passphrase. The characters are case sensitive.
- Enter Key Manually

Select the encryption strength choices are:

- 64-bit WEP data encryption
- 128-bit WEP data encryption
  Note: Larger encryption keys require more processing and may slow the communications response times, and consume more notebook PC battery power.

c. Select the Key number: The Key setting must match what is set in wireless network.

d. Click **Apply** for the changes to take effect. In the status area at the bottom of the screen, you will notice the security lock icon change from open and red to closed and yellow.

4. 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** and click **Close** to exit the configuration utility.

Using WPA-PSK Advanced Security

You can have very strong security on your wireless connection by enabling WPA-PSK. For more information on wireless security, see "Wireless Networking Overview" on page B-1.

Basic Requirements for WPA-PSK

WPA-PSK requires these elements:

1. A WPA-PSK enabled wireless adapter with WPA client software such as the WG511U.
2. A WPA-PSK enabled wireless access point or router with built-in WPA enabled access point.

Fill in the worksheet and use the procedure below to configure WPA-PSK settings.

WPA-PSK Security Settings Worksheet

Print this form, fill in the configuration parameters and put it in a safe place for possible future reference. For an existing wireless network, the person who set up the network will be able to provide this information.

- **Wireless Network Name (SSID)**

  The Service Set Identification (SSID) identifies the wireless local area network.

  Note: Some wireless access points will not broadcast their SSID as a security feature. In such a case, you will need to get the SSID from the wireless network administrator.

  Wireless network name (SSID): _____

- **Passphrase (Pre-Shared Key)**: _____

How to Configure WPA-PSK Advanced Security

Follow the steps below to configure WPA-PSK Advanced Security.

1. **Run the WG511U Smart Wireless Wizard.**

   a. Make sure the WG511U software is installed and the WG511U is fully inserted 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.

2. **Configure the Network Name (SSID) settings.**

   Enter the SSID. This is also called the Wireless Network Name.

   Tip: Click the Networks tab to view a list of the available wireless networks and their SSIDs.

3. **Configure the WPA-PSK settings.**

   a. Under Security, select the **WPA-PSK** radio button.

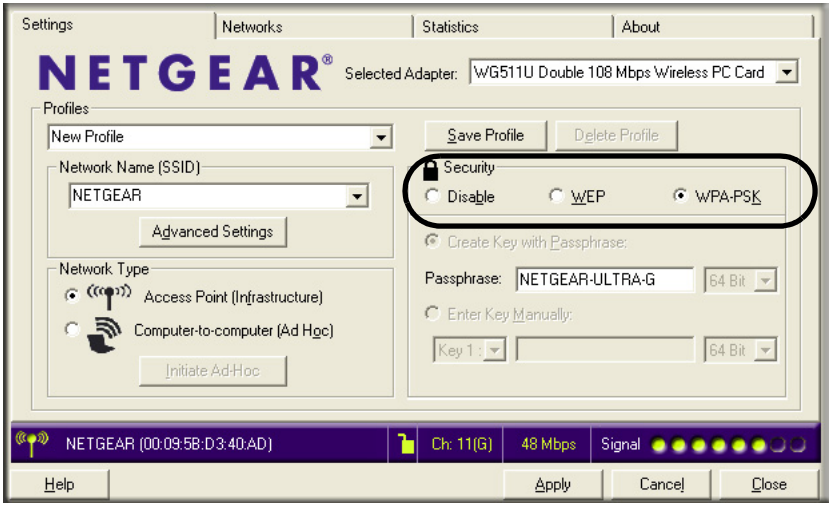

Figure 5-2: WPA-PSK settings screen

   b. Enter the Passphrase (Pre-Shared Key).

   c. Click **OK**, then click **Apply** for the changes to take effect, and **Close** to exit the utility.

4. **Save your settings in a Profile.**