



WL-611GS

User's Guide

802.11g Wireless LAN PC Card

FCC Statement

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 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: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This device complies with FCC RF Exposure limits set forth for an uncontrolled environment, under 47 CFR 2.1093 paragraph (d)(2).

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

Gemtek Technology Co., Ltd declares that WL-611GS (FCC ID: MXF-C921217G) is limited in CH1~CH11 by specified firmware controlled in U.S.A.

EC DECLARATION OF CONFORMITY (EUROPE)

Gemtek Technology Co., Ltd. declares that the device conform to the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC, EMC directive 89/336/EEC, and Low Voltage directive 73/23/EEC:

For 2.4 GHz devices with 100 mW radios, the following standards were applied:

ETS 300-826, 301 489-1 General EMC requirements for Radio equipment.

EN 609 50 Safety

ETS 300-328-2 Technical requirements for Radio equipment.

Caution: This equipment is intended to be used in all EU and EFTA countries. Outdoor use may be restricted to certain frequencies and/or may require a license for operation.

Contact local Authority for procedure to follow.

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Introduction

Augmenting the first ever 54Mbps transmission on the 2.4GHz bandwidth, Gemtek is presenting to the WLAN community another high-speed option that is backward compatible to the well accepted 802.11b WLAN technology.

In order to supplement the compatibility between 802.11b and 802.11g, Complementary Code Keying (CCK) is implemented to achieve the common bit transfer rate of 5Mbps. While Orthogonal Frequency Division Multiplexing (OFDM) is adopted by 802.11g for the high-speed transfer rate in a 2.4GHz range. Gemtek's WL-611GS fully utilizes the benefits of 802.11g standard on the proven compatibility between two transfer modes and the high speed bit transfer that is desirable for multimedia application in Wireless environment.

Features

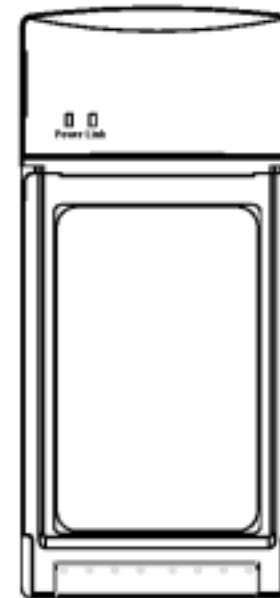
The WL-611GS has the following features:

- Wireless security using WPA with TKIP encryption, 802.1X with EAP-type Authentication
- 32 bit Cardbus Interface

- Backward Compatible in a 802.11b environment
- Plug & Play Installation
- Seamless roaming from cell to cell and between 802.11b to 802.11g

A Look at the Hardware

Gemtek WL-611GS 802.11g Wireless LAN PC Card has two Light Emitting Diodes (LEDs), or link lights. The following table defines the behavior for the LED:



LED	Activity / Status
Power	The Power LED will light up when the device is powered on.
Link	Link LED Indicates the activity of the wireless network traffic.

Hardware Installation

Thank you for purchasing the WL-611GS. The following instructions will walk you through installation of the PC card.

Step 1 Insert the supplied CD-ROM into the CD-ROM drive. The software automatically starts the Installation Wizard program.

Step 2 Follow the prompts to set up your adapter card.

Step 3 Locate an empty CardBus slot on your notebook computer. The power is now turned on. The PWR LED on the front panel will illuminate.

Step 4 With the adapter card product-label and LEDs facing

up, insert the adapter card into the CardBus slot.

Step 5 Complete the installation instructions supplied on the CD-ROM.

Configuration

If using Windows XP, you can use the Windows XP Wireless Zero Configuration (WZC) utility to manage your wireless client adapter. You have the second choice. Gemtek also provides you the wireless configuration utility.

To enable the wireless connection:

Step 1 Click the icon to open the configuration utility window.

Step 2 The Wireless Network Properties window displays. Your computer automatically connects to the network displayed at the top of the Preferred networks list.



Step 3 In the Available networks list, highlight the network you want to connect and click Configure.

Step 4 A Wireless Network Properties window will appear.

Step 5 Enter the Network name (SSID) of no more than 32 alphanumeric characters. This SSID is a network name that identifies the wireless devices in the network. All workstations and access points must use the same SSID to be able to communicate with one another. The SSID is a 32-character field,

and the value is case sensitive.


Step 6 If the network requires Network Authentication, select the type of authentication required. WPA might require further Authentication options found on the Authentication tab. Match the setting used by the network.

Step 7 Enter information for the new wireless network based on the descriptions in the following:


Network Authentication

Select if your access point requires authentication. Match the authentication used by the network.

- Open: No authentication is used. Shared The Pre-Shared Key (PSK) authentication method is used.

 In enterprises, WPA will be used in conjunction with both wireless router and authentication server. In Small Office/ Home Office (SOHO) environment, where there are no authentication servers, user can use pre-shared key (PSK) mode in place of the authentication server.

- WPA: Wi-Fi® Protected Access (WPA) authentication (802.1X) is used with an EAP type.

 WPA consists of three main elements: an Authentication Server (typically a RADIUS server), WPA-enabled router or AP (called "Authenticator"), and a WPA-enabled client (called "Supplicant").

- WPA-PSK: WPA authentication (802.1X) is used with a Pre-Shared Key, which enables you to enter a static Network key.

Data Encryption

Select the type of security encryption algorithm used. The available types of encryption are based on the type of the authentication selected.

- Disabled: No encryption.
- WEP: Deselect Network Key is provided for me automatically and enter the Key provided by the network. Available only with Open and Shared Authentication.
- TKIP: Available with WPA and WPA-PSK Authentication.

 TKIP (Temporal Key Integrity Protocol) includes four algorithms:

MIC (message integrity check), to protect packets from tampering; PPK (Per-Packet Key) hashing, to prevent weak key attacks; extended IV (initialization vector), to reduce IV reuse and the possibility that a hacker will collect sufficient packets to crack the encryption; and a re-keying mechanism, to change the temporal key dynamically. TKIP is the most commonly used encryption method; however, if your wireless clients do not support TKIP, the WX-5803 also supports AES (Advanced Encryption Security) encryption. AES will replace 802.11's RC4-based encryption under 802.11i specification.

Network key

Enter the security key for data encryption, when WEP or WPA-PSK is selected. This can be entered in ASCII or hexadecimal for WEP and in ASCII for WPA-PSK.

Key index

There are four Keys (1, 2, 3, 4) that can be selected for WEP. The key index selected here must match the network key index.

The key is provided for me automatically

Select if the key is automatically provided. Most often, the key is not automatically provided, so you have to un-check this box

and enter the network key. If using a RADIUS server, the key is automatically provided.

This is a computer-to-computer (ad hoc) network

Select if the network you are creating or accessing is a computer-to computer (ad hoc) network. If you are attempting to connect to an infrastructure network, then do not select this setting.

Step 8 After entering the information for this network, click OK. The Wireless Network window is displayed and the new network is listed in the Preferred networks area.

Step 9 Your computer is connected to the selected network when you see a blue bubble on top of the icon for that network. If the blue bubble does not appear, click *Refresh*. If it still does not appear, double-check that the wireless settings match the configuration of the wireless network.

Step 10 Click OK to save your changes.

Congratulation!

You have successfully setup your wireless connection.

Visit our website at
www.gemtek.com.tw

The logo for Gemtek, featuring the word "Gemtek" in a bold, blue, sans-serif font.