

PC54G, MS-6825

Wireless 11g PCI Card

User's Guide

FCC Caution

1. The 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.
2. FCC RF Radiation Exposure Statement: The equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.
3. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
4. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

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Revision History

Revision	History	Date
V 1.0	First Release	July 2003

Important Safety Precautions

Always read and follow these basic safety precautions carefully when handling any piece of electronic component.

1. Keep this User's Manual for future reference.
 2. Keep this equipment away from humidity.
 3. Lay this equipment on a reliable flat surface before setting it up.
 4. The openings on the enclosure are for air convection hence protects the equipment from overheating.
 5. All cautions and warnings on the equipment should be noted.
 6. Never pour any liquid into the opening that could damage or cause electrical shock.
 7. If any of the following situations arises, get the equipment checked by a service personnel:
 - Liquid has penetrated into the equipment
 - The equipment has been exposed to moisture
 - The equipment has not work well or you can not get it work according to User's Manual
 - The equipment has dropped and damaged
 - If the equipment has obvious sign of breakage
 8. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE ABOVE 60°C OR BELOW -20°C, IT MAY DAMAGE THE EQUIPMENT.
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Introduction

>>> 1.1 PC54G (MS-6825) - Wireless 11g PCI Card

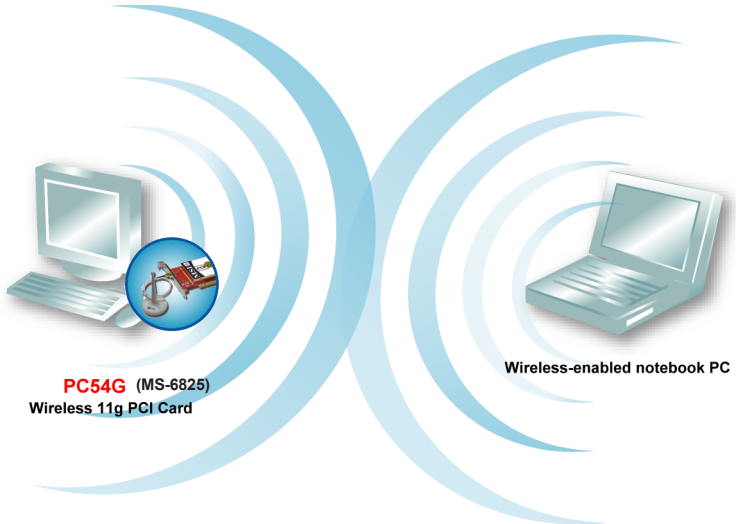
PC54G (MS-6825) Wireless 11g PCI Card, compliant with IEEE802.11g, is a high-efficiency wireless adapter for wireless networking at home, in office or in public places. The data transmission rate can be up to 54 Mbps and auto-negotiated to 48, 36, 24, 18, 12, 9, 6 Mbps (IEEE802.11g), or 11, 5.5, 2, 1 Mbps (IEEE802.11b).

With PC54G (MS-6825), you can roam between conference room and office without being disconnected the LAN cables; in addition, sharing files and printers can be easy tasks.

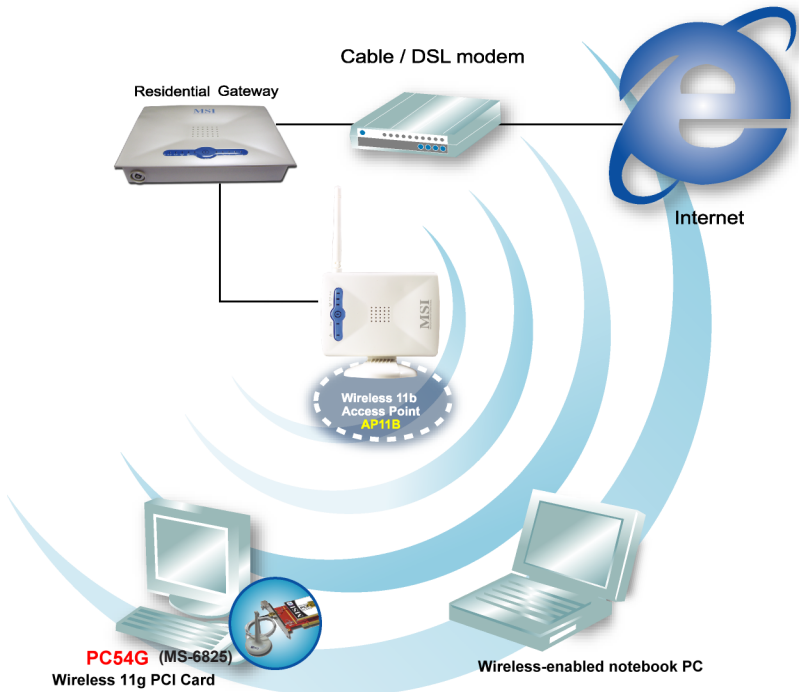
The PC54G (MS-6825) is available to Microsoft Windows operating systems (Windows® XP/2000/ME/98SE) and can be integrated into networking with either **Ad-hoc mode** (computer-to-computer, without an Access Point) or **Infrastructure mode** (computer-to-access point, an Access Point is required).

>>> 1.2 How PC54G (MS-6825) works

Q Ad-hoc Mode : An Ad-hoc network is a local area network, especially one with wireless or temporary plug-in connections. Therefore, some of the network devices are part of the network only for the duration of a communications session. Users in the network can share files, print to a shared printer, and access the Internet with a shared Gateway or Access Point. In this kind of network, new devices can be quickly added; however, users can only communicate with other wireless LAN devices that are in this wireless LAN workgroup, and are within range.



Infrastructure Mode : The difference between Infrastructure network and Ad-hoc network is that the former one includes an Access Point. In network environment, the Access Point can manage the bandwidth to maximize bandwidth utilization. Moreover, the Access Point enables users on a wireless LAN to access an existing wired network, allowing wireless users to take advantage of the wired networks resources, such as Internet, email, file transfer, and printer sharing. The scale and range of the Infrastructure networking are larger and wider than that of the Ad-hoc networking.



>>> 1.3 Specifications

General

Operating system	Microsoft® Windows® 98 SE/ ME/2000/XP
Compliance	- IEEE 802.11g/b - WECA WiFi - WHQL (Windows ME/2000/ XP)
Operating Temperature	0 ~ 55°C
Operating Humidity	0 ~ 95%, non-condensing

Physical

Form Factor	32-bit PCI v2.2
Dimensions (WxDxH)	127.3 X 77.6 X 18.4 mm
Antenna	Dipole
Weight	29 g
Operation Voltage	3.3 V

Radio

Frequency Range	2.4GHz to 2.4835GHz
Operating Channels	11 channels; maximum 3 non-overlapped channels; 25 MHz bandwidth/channel
Data Rate and Modulation Types	IEEE 802.11b(Auto-Fallback): - CCK @ 5.5 and 11 Mbps. - DQPSK @ 2Mbps. - DBPSK @ 1 Mbps. IEEE 802.11g(Auto-Fallback): - OFDM @ 54, 48, 38, 24, 18, 12, 9, 6 Mbps

Wireless Medium

Direct Sequence Spread Spectrum (DSSS) with ACK; Half-Duplex

Media Access Protocol

Carrier Sense Multiple Access with Collision Avoidance (CDMA/CA)

Transmitter Output Power

15dBm

📍 Performance Range

Open Space:

- 170 m @ 11 Mbps.
- 50 m @ 54 Mbps.

Indoor:

- 120 m @ 11 Mbps.
- 20 m @ 54 Mbps.

📍 Security Security Mechanism

- 64-/128-bit WEP
- AES-CCM Authentication Mode
- WPA support
- LEAP/PEAP support