

***MSI MN54G (MS-6877)***  
***Wireless 11g Mini-Card***

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***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.

**NOTE:** *This device is approved for OEM installation with specified antennas as listed in this Manual. It is the responsibility of the Installer to comply with the separation distance for satisfying RF exposure compliance.*

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## **FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE 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 or more 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.

## ***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 70°C OR BELOW -20°C, IT MAY DAMAGE THE EQUIPMENT.**

## ***Technical Support***

- ❑ Visit the MSI website for FAQ, technical guide, driver and software updates, and other information: <http://www.msi.com.tw/>.
  - ❑ Contact our technical staff at: <http://support.msi.com.tw/>
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# 1

## Introduction

### >>> 1.1 MSI MN54G (MS-6877) - Wireless 11g Mini-Card

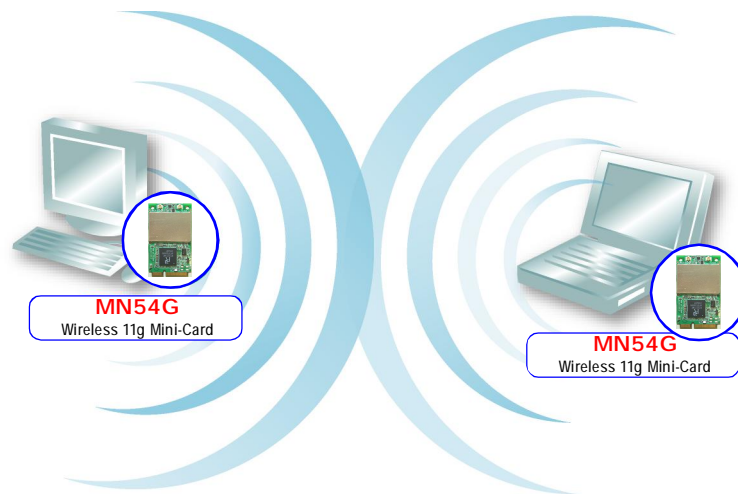
**MSI MN54G (MS-6877) Wireless 11g Mini-Card** (hereafter called MN54G), compliant with IEEE802.11g, is a high-efficiency wireless adapter for wireless networking at home, in office or in public places. The data rate can be up to 54 Mbps and auto-negotiated to 48, 36, 24, 18, 12, 9, 6Mbps (IEEE 802.11g), or 11, 5.5, 2, 1Mbps (IEEE802.11b).

With MN54G, 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 MN54G 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 MN54G Works

- **Ad-hoc Mode** : An Ad-hoc network is a local area network or other small network, especially one with wireless or temporary plug-in connections, in which 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 modem. In this kind of network, new devices can be quickly added; however, users can only communicate with other wireless LAN computers 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 an Infrastructure network, the Access Point can manage the bandwidth to maximize bandwidth utilization. Additionally, 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 network are larger and wider than that of the Ad-hoc networking.



## >>> 1.3 Specifications

### ● Hardware Specifications

#### **Compliant Standards**

- IEEE 802.11b/g

#### **Bus and Connector Types**

- 32-bit 3.3 Volt Mini-Card
- 52-pin Golden Finger

#### **Security Mechanism**

- 64/128-bit WEP, WPA, WPA2, TKIP, AES, 802.1X

#### **Operational Environment**

- Operational Temperature: 0 ~ 80°C
- Humidity: 10 ~ 90% (Non-Condensing)

#### **Weight and Dimension**

- Weight: 6.5g
- Dimension: 50.95 x 30 x 3.3mm

### ● Radio Frequency Specifications

#### **Raw Data Rates and Modulation Types**

- IEEE 802.11b (Auto-Fallback)
  - CCK: 11 and 5.5 Mbps
  - DQPSK: 2 Mbps
  - DBPSK: 1 Mbps
- IEEE 802.11 g (Auto-Fallback)
  - OFDM: 54, 48, 36, 24, 18, 12, 9, 6Mbps

#### **Communication Protocol**

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

#### **Access Method**

- Infrastructure Mode: Station-To-LAN Architecture
- Ad-Hoc Mode: Station-To-Station Architecture



**Frequency, Bandwidth, and Channels**

- 2.4 ~ 2.4835 GHz Frequency Band
- 13 Channels
- Maximum 3 Non-Overlapped Channels
- 25 MHz Bandwidth Per Channel

**Transmitter Output Power**

- Output Power: 14 dBm  $\pm$  1 dB

**Wireless Coverage**

- Up to 400m

**Receiving Sensitivity**

- $\leq$  -80 dBm @ 11 Mbps (DSSS/CCK)
- $\leq$  -65 dBm @ 54 Mbps (OFDM)

**Software Specifications****Security Mechanism**

- 64/128 bit WEP Key
- AES-CCM Authentication Mode (driver update)
- WPA/WPA2 Support (driver update)
- LEAP/PEAP Support (firmware upgrade)

**Authentication Mechanism**

- Open Authentication (Default)
- Shared-Key Authentication

**Operating System**

- Microsoft® Windows® 98SE/ME/2000/XP/XP64-bit

## >>> 1.4 System Requirements

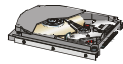
Before installing the MN54G, your PC should meet the following:



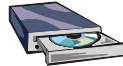
Desktop/notebook PC with an available Mini-Card slot.



Windows® 98SE/ME/2000/XP operating system.



Minimum 5M bytes free disk space for installing the driver and utilities.



CD-ROM drive, double speed or higher.

## >>> 1.5 Package Contents

Unpack the package and check all the items carefully. If any item contained is damaged or missing, please contact your local dealer as soon as possible. Also, keep the box and packing materials in case you need to ship the unit in the future. The package should contain the following items:



One Wireless 11g Mini-Card - **MN54G**.



One Quick Installation Guide.



One Installation CD including drivers, utilities, and the manuals.

>>> 1.6 Product View

**External antenna connectors**  
*Connect to external antennas for enhanced data transmission and reception. The external antennas are well designed on the desktop or notebook computers.*



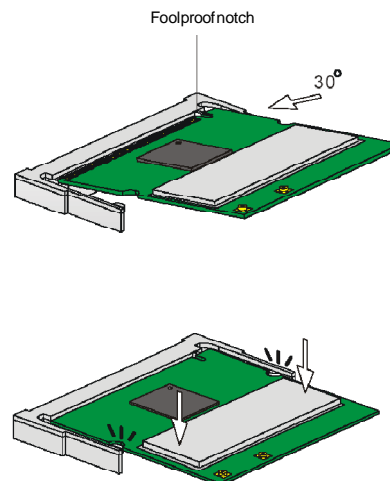
**Golden Finger**

## 2 Hardware Installation

The following diagrams provide you a basic installation for the MN54G, including how to install and remove the Mini-card. The instruction below is suitable for most computers with Mini-Card slot. For more information about the Mini-Card module, please refer to your computer's manual.

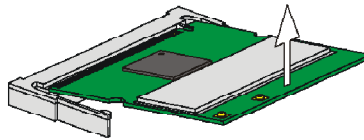
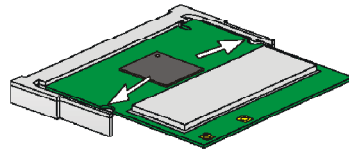
### >>> 2.1 Installing the MN54G

1. Locate the Mini-Card slot on the mainboard.
2. Place the MN54G over the Mini-Card slot (at an angle of 30 degrees). Then, gently insert it into the slot until the golden finger of the card gets fully inserted.
3. Press down the card, and the retaining clips (on two sides of the slot) will lock onto the notches of the card.



## >>> 2.2 Removing the MN54G

1. Locate the Mini-Card slot with MN54G installed.
2. Press the retaining clips outwards, and the card should bound upwards slightly after being released from the slot.
3. Remove the card from the Mini-Card slot carefully.

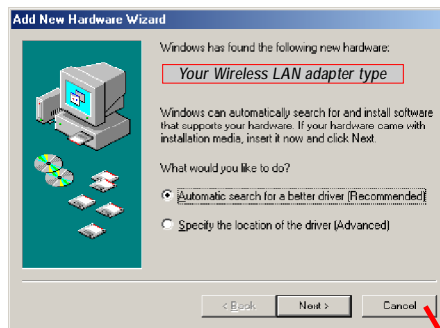


# 3 Software Installation

This chapter describes the procedures of installing the driver and utility. Follow the instruction step by step to finish the installation. If you use Windows® 98SE/ME, please prepare the Windows® Setup CD at hand before installing the driver; because the system will ask you to insert the Setup CD to copy files during the installation.

Please **NOTE** that the MN54G should be installed into your computer before installing the driver and utility. Then, the operating system will detect a new device and start to configure the new device. Click *Cancel* here to start installation from the InstallShield Wizard.

*Tip: The wireless LAN adapter should be installed into your PC before installing the driver and utility.*



Click

**Step 1.** Insert the software CD into your CD-ROM drive, and the Setup program should launch automatically.

If the Autorun program doesn't launch automatically, click **Start** at the taskbar and select **Run....** Type **E:\setup.exe** (where **E** is your CD-drive) in the Open box and click **OK** to launch the Setup program manually.

The main screen of Setup program will appear as below. Click the Install Software button.



**Step 3.** The welcome screen of InstallShield Wizard appears. Click *Next*.

Read and accept the License Agreement; then, click *Next*.

In the following window, enter the user's information (*User Name, Organization*) in the respective fields; then, click *Next*.

**Step 2.** Click *Install* and the program will copy the necessary files to the system. The progress indicator shows the installing status.

If you use Windows 98SE/ME, you may be asked to insert the Windows Setup CD during the installation. Please insert the Setup CD by the on-screen instruction to continue the installation.

**Step 4.** Click *Finish* when the installation is completed. The **MSI Wireless LAN icon\*** will appear in the status area.



*MSI Wireless LAN icon*