



Wireless LAN Card SL-2011 CD PLUS

User Guide

Before operating the unit, please read this manual thoroughly, and retain it for future reference.



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Chapter 1 Introduction

This chapter describes the package contents, PC Card description, system requirements, features & benefits, applications and network configurations of SL-2011 PLUS wireless LAN products.

1-1 Package Contents

The PC Card package contains the following items as shown in

Figure 1-1

1. One PC Card
2. One Installation CD
3. One Quick Installation Guide



Figure 1-1

1- 2 PC Card Descriptions

The PC Card is a standard PC Card that fits into any PCMCIA Card Type II slot. The PC Card has a LED indicator and a integrated built-in diversity antenna as shown in **Figure 1-2**.



Figure 1-2

1. Integrated, with built-in diversity Antenna
2. Link LED
 - 802.11 AdHoc mode – Blinking, no matter if the wireless LAN is connected or not
 - AdHoc mode – Solid GREEN, no matter the wireless is connected or not
 - Infrastructure – Solid GREEN when the wireless is connected
 - Off – No wireless activity

1- 3 System Requirements

Installation of the PC Card requires:

1. PC/AT compatible computer with PCMCIA Type II slot.
2. Windows 95/98/ME/2000 or Windows NT4.0 operating system environment.
3. Minimum 1.3M bytes free disk space for installing the PC Card driver and utility program.

1- 4 Features and Benefits

11Mbps data rate	High-speed data transmission
IEEE802.11b compliant	Fully interoperable with IEEE802.11b compliant products
Automatic data rate scaling at 11, 5.5, 2 and 1 Mbps	Optimized throughput, range and connectivity
64/128-bit WEP data encryption/ decryption	Powerful data security
Wide coverage range up to 400 meters in open space	Wireless connectivity for all your computers
Advanced Power Management	Extended battery life
Plug and Play PC Card interface	Easy installation

1- 5 Applications

The SL-2011 PLUS LAN products are easy to install and highly efficient. The following list describes some of the many applications made possible through the power and flexibility of wireless LANs:

1. Difficult-to-wire environments

There are many situations where wires can not or can not easily be laid. Historic buildings, older buildings, open areas and across busy streets make the installation of LANs either impossible or very expensive.

2. Temporary workgroups

Consider situations in parks, athletic arenas, exhibitions, disaster-recovery, temporary office and construction sites where one wants a temporary WLAN established and removed.

3. The ability to access real-time information

Doctors/nurses, point-of-sale employees, and warehouse workers can access real-time information while dealing with patients, serving customers and processing information.

4. Frequently changed environments

Show rooms, meeting rooms, retail stores, and manufacturing sites where the workplace is frequently rearranged.

5. Small Office and Home Office (SOHO) networks

SOHO users need a cost-effective, easy and quick installation of a small network.

6. Wireless extensions to Ethernet networks

Network managers in dynamic environments can minimize the overhead caused by moves, extensions to networks, and other changes with wireless LANs.

7. Wired LAN backup

Network managers implement wireless LANs to provide backup for mission-critical applications running on wired networks.

8. Training/Educational Facilities

Training sites at corporations and students at universities use wireless connectivity to ease access to information, information exchanges, and learning.

1- 6 Network Configurations

To better understand how the SL-2011 PLUS wireless LAN products work together to create a wireless network, it might be helpful to depict a few of the possible SL-2011 PLUS network configurations. The SL-2011 PLUS wireless LAN products can be configured as:

1. Ad-hoc (or peer-to-peer) for departmental or SOHO LANs.
2. Infrastructure for enterprise LANs.
3. IP Sharing for 56K/ISDN TA/Cable/DSL Modem – Connect Internet and your SOHO network.

Ad-hoc (peer-to-peer) Mode

This is the simplest network configuration that several computers equipped with the PC cards that form a wireless network whenever they are within range of one another (**Figure 1-3**). In ad-hoc mode, each client, is peer-to-peer, would only have access to the resources of the other client and requires no the access point. This is the easiest and least expensive way for the SOHO to set up a wireless network.

Peer to Peer

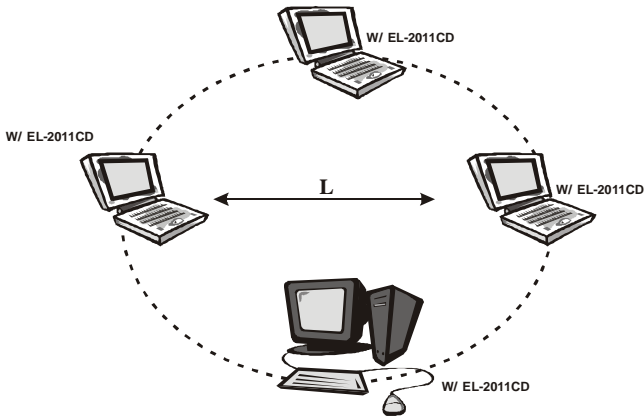


Figure 1-3 A wireless Ad-hoc network

Infrastructure Mode

The infrastructure mode requires the use of an access point (AP). In this mode, all wireless communications between two computers have to be via the AP no matter the AP is wired to Ethernet network or stand-alone. If used in stand-alone, the AP can extend the range of independent wireless LANs by acting a repeater, which effectively doubling the distance between wireless stations as shown in **Figure 1-4**.

Infrastructure

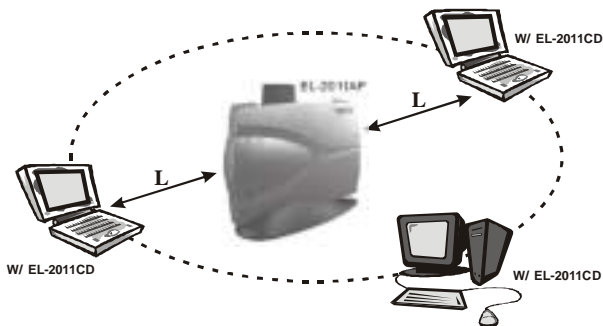
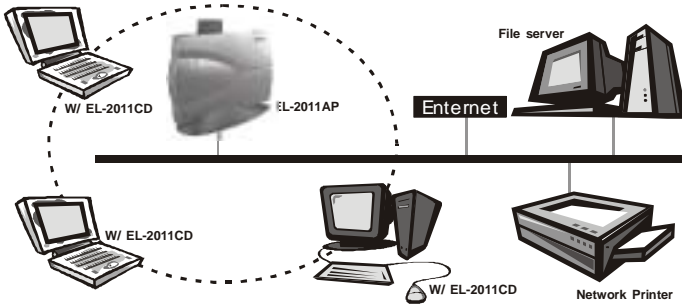


Figure 1-4

Extended-range independent WLAN using AP as repeater

If wired to an Ethernet network as shown in **Figure 1-5**, the AP serves as a bridge and provides the link between the server and the wireless clients. The wireless clients can move freely throughout the coverage area of the AP while remaining connected to the server. Since the AP is connected to the wired network, each client would have access to server resources as well as to other clients.

Figure 1-5 Single AP bridge



Access points have a finite range, on the order of 50 meters indoor and 100 meters outdoors. In a very large facility such as an enterprise, a warehouse, or on a college campus, it will probably be necessary to install more than one access point to cover an entire building or campus, as shown in Figure 1-6. In this scenario, access points hand the client off from one to another in a way that is invisible to the client, ensuring unbroken connectivity. Wireless clients can roam seamlessly between different coverage areas and remain connected to the network

Enterprise

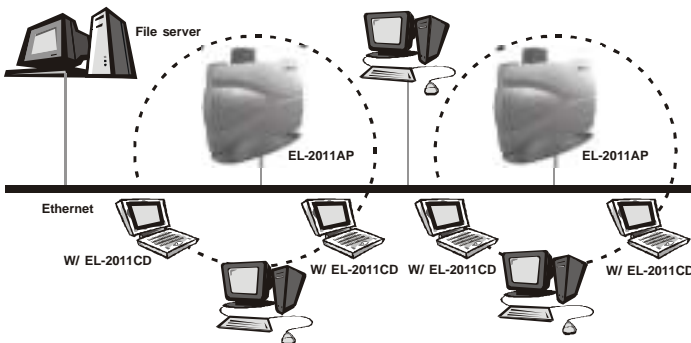


Figure 1-6 Multiple-AP and roaming

Wireless Router and IP Sharing

In infrastructure mode, in addition to acting as a bridge between an Ethernet and wireless network, the AP can be configured as a wireless router and IP sharing device for Internet access as shown in **Figure 1-7**. You don't have to buy an expensive router. Nor you have to buy several modems and setup phone lines. Just share one AP, one Modem, single dial-up account, and one phone line, dozens of network users can go surfing the Internet concurrently.

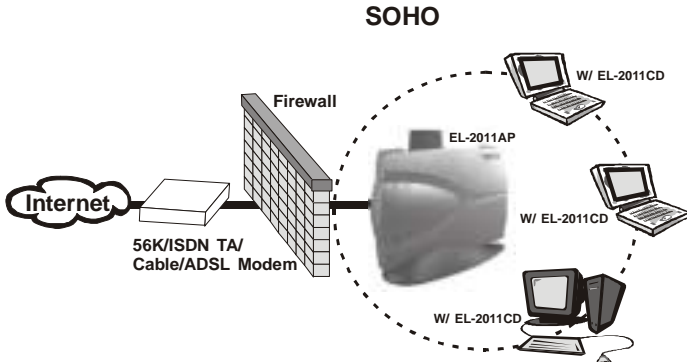


Figure 1-7 Wireless router and IP Sharing

Chapter 2 Installing Drivers & Client Utility

This chapter describes how to install the PC Card drivers and client utility under Windows 95/98/ME/2000 and Windows NT4.0 environment.

2-1 Installation for Windows 95/98/ME/2000

During the installation, Windows 95/98/ME/2000 may need to copy Windows systems files from the Windows 95/98/ME/2000 installation diskette or CD-ROM. Therefore you will need a copy of the Windows 95/98/ME/2000 installation diskette or CD-ROM on hand before installing the driver. On many systems, instead of a CD, the necessary installation files are archived on the hard disk in C:\WINDOWS\OPTIONS\CABS directory.

Installation Procedure:

1. Turn on your computer.
2. Be sure that there is no PCMCIA adapter inserted yet.
3. Insert the **SL-2011 PLUS Wireless LAN Installation** CD into your CD-ROM drive. The setup program should start automatically as shown in **Figure 2-1**. If it does not start, you can run it manually by selecting RUN from the Start menu and running SETUP.EXE from CD-ROM drive.



Figure 2-1

4. From SENA Wireless LAN Installer, select **Install SL-2011 PLUS PC Card**. Follow the instructions as they appear.
5. Enter the System ID (or SSID) of the Wireless LAN (default Network ID is **IEEE802.11**) as shown in **Figure 2-2**. The SSID is the name of the Wireless LAN Service Area of the wireless network to which your computer will connect. The name you enter here must match exactly the name assigned to the Access Point. Characters, capitalization, and spacing must be identical.



Figure 2-2

6. Select the Network Mode in which your wireless client will operate as shown in **Figure 2-3**. If you are unfamiliar with Network Mode, refer to Chapter 1-6 Network Configurations for details. Follow the instructions as they appear.
7. Restart your computer.
8. Insert the PC Card into the PCMCIA slot of your computer.
9. Make sure that the network protocol parameters are set correctly for your computer. These include the IP address, subnet mask, gateway and DNS. If you are unfamiliar with how to set network protocol parameters, refer to Chapter 3 Connection to Network for details.
10. Restart your computer for changes to take effect

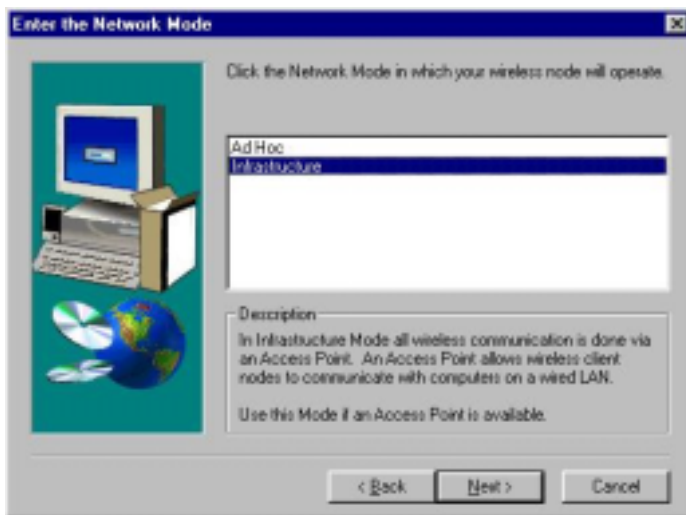


Figure 2-3

2- 2 Checking after Installation

After installing the driver and utility, follow the steps below to check that the PC Card is operating correctly.

1. Click the **Start** button, select **Settings**, and then click **Control Panel**.
2. In the **Control Panel** window, double-click the **System** icon, then select the **Device Manager** tab.
3. Double-click **Network adapters**, then select **SL-2011 PLUS Wireless LAN PC CARD** as shown in **Figure 2-4**.

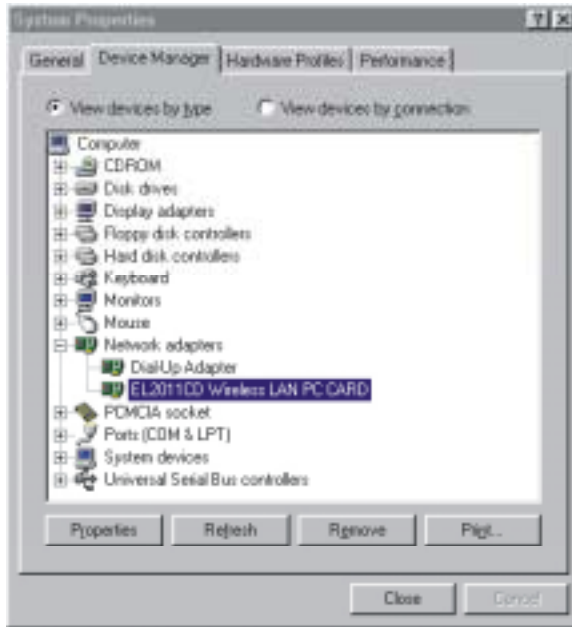


Figure 2-4

4. Click the **Properties** button, then check the message. **This device is working properly** is displayed for Device status as shown in **Figure 2-5**.
5. If you find the Yellow (?) sign on the adapter or the above message is not displayed, it shows the installation is not successful or SL-2011 PLUS is not operating properly. Uninstall and re-install the driver, referring to Chapter 2-6 Uninstalling Driver and Utility.



Figure 2-5

2-3 Wireless LAN Client Utility

Wireless LAN Client Utility is used to display or change the PC card information about link, configuration, encryption, and utility/driver/firmware version information. The client utility will also help you with site selection. The client utility will be installed automatically after installing the driver and utility. A new icon should appear in your Icon tray. If the icon changes to red icon, it means the wireless LAN is disconnected.

After finishing installing the driver and utility, the client utility will automatically be executed and show a small green **radio** icon at the right corner of **Taskbar** whenever the PC Card is inserted into the PC Card slot of your computer. Double-click the **radio** icon to open the **Wireless LAN Client Utility** window as shown in **Figure 2-6**. You can click the tabs on the top of the windows to select various screen messages. Below we explain the use and meanings of the various screen messages.

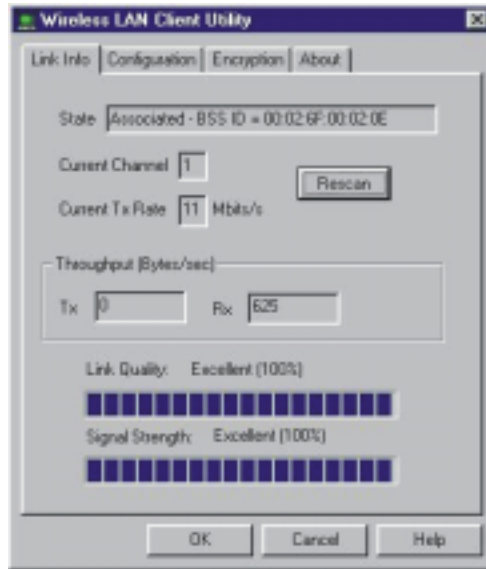


Figure 2-6

1. Link Info

State

Shows status information about the radio link, as shown in **Figure 2-6**

- Associated BSSID – means the wireless client is connected to an access point. BSSID is shown in the form of six hex digits which is the MAC address of the access point.
- Scanning – means the wireless client is searching for an available access point in infrastructure mode.
- Disconnected – means there are no access points or other wireless clients (if communicating in Ad-hoc mode), or the PC Card is unplugged in your computer.

Current Channel

Shows the operation radio frequency channel that the wireless client is using in infrastructure mode. In infrastructure mode, wireless client will always go the same channel as their Access Point.

Current Tx Rate (Mbits/s)

The data speed that the wireless client is transmitting.

Throughput (Bytes/sec)

- Tx: shows the outgoing (sent) data speed.
- Rx: shows the incoming (received) data speed.

Link Quality

The bar shows the measured signal level and connection status. The higher blue bar is, the better the radio signal is being received by the PC card.

Signal Strength

The bar shows signal strength level. The higher blue bar is, the more powerful radio signal is received by the PC Card.

2. Configuration

Mode

Selects one of the following network mode, as shown in **Figure 2-7**.

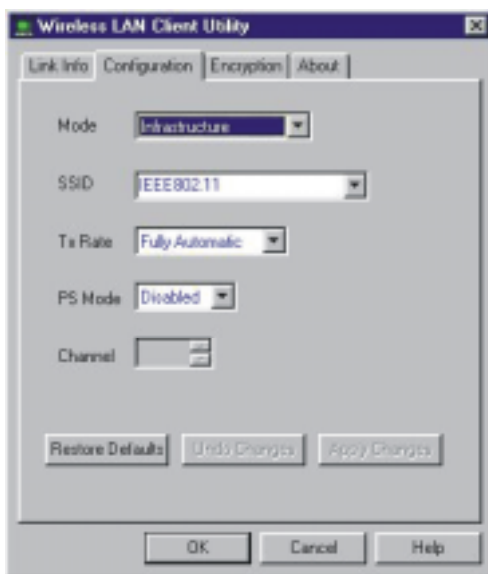


Figure 2-7

- 802.11 AdHoc: this is the IEEE802.11 peer-to-peer mode of operation and requires no Access Point. When wireless clients are operating in this mode, all wireless clients require the same SSID and the channel number is not important.
- AdHoc: this is non-standard peer-to-peer mode of operation and requires no Access Point. When wireless clients are operating in this mode, all wireless clients require the same channel number, and the SSID is not

important

- Infrastructure: this mode of operation requires the use of an Access Point. In this mode, all wireless communications between computers have to be via the Access Point. (Default setting is **Infrastructure**)

SSID

SSID is an identification code required for communication in a wireless LAN. You will only be able to connect with a wireless client (802.11 AdHoc) or an Access Point (Infrastructure) which has the same SSID. If the SSID of a PC Card is set as **any**, then the PC Card can connect to all available Access Points. (Default setting is **IEEE802.11**)

Tx Rate

Select the transmission rate at which the data packets are transmitted by the client. You can set this to Fully Automatic, 1Mbps, 2Mbps, Auto 1 or 2Mbps, 5.5Mbps, or 11Mbps. (Default setting is **Fully Automatic**)

PS Mode

Power saving management, disabled or enabled. (Default setting is **Disabled**)

Channel

Select the operating radio frequency channel in 802.11 AdHoc or AdHoc mode.

3. Encryption

If you require high security in transmission, you can select the 64 or 128-bit WEP (Wired Equivalent Privacy) key to encrypt data (Default setting is **Disable**) as shown in **Figure 2-8**. WEP encrypts each frame transmitted from the radio using one of the Keys from this panel. When you use WEP to communicate with the other wireless clients, all the wireless devices in this network must have the same encryption key or passphrase.

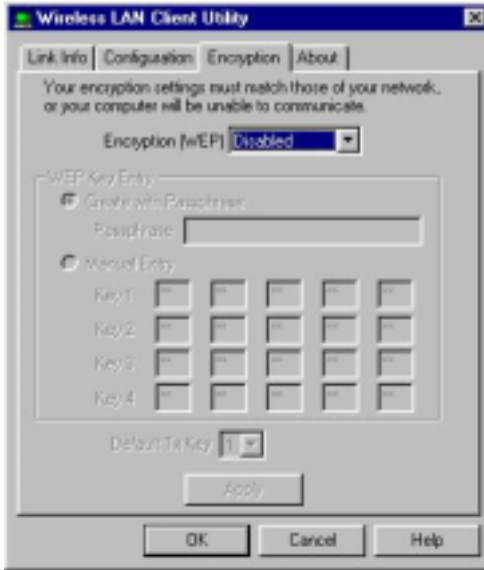


Figure 2-8

This panel allows the entry of keys or passphrases, which can then be written to the driver and registry. Note that each key must consist of hex digits, it means that only digit 0-9 and letters A-F are valid entries. If entered incorrectly, program will not write the keys to a driver.

4. About

The About tab shows the product/driver/utility/PC Card firmware version as shown in **Figure 2-9**. Users have to use this version number when reporting their problems to technical support.

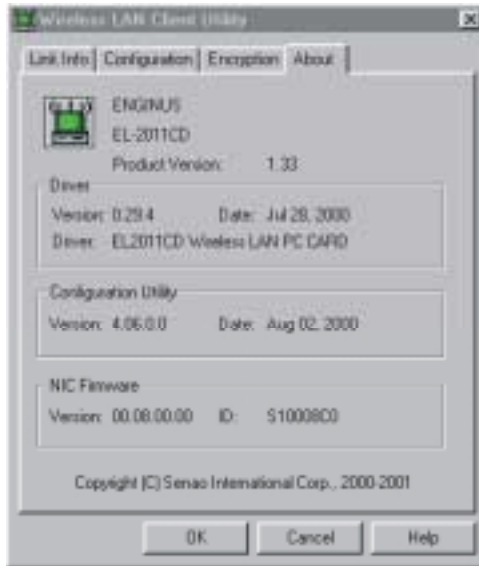


Figure 2-9

2- 4 Uninstalling Driver and Utility

If the PC Card installation is unsuccessful for any reason, the best way to solve the problem may be to completely uninstall the PC Card and its software and repeat the installation procedure again.

1. Click the **Start** button, select **Program/SL-2011 PLUS**, and then click **Uninstaller** to uninstall the driver and utility. Uninstaller will automatically uninstall and clear all drivers, utility, related settings installed previously.

Chapter 3 Connecting to a Network

This chapter describes how to prepare for connection to a network after installing the PC Card drivers and utility.

The following is required for all computers if you want to connect to a network.

1. Check **Client for Microsoft Networks** is installed
2. Check **NetBEUI -> SL-2011 PLUS Wireless LAN PC Card** installed.
3. Check **TCP/IP -> SL-2011 PLUS Wireless LAN PC Card** is installed.
4. Check file and printer sharing for Microsoft Networks.
5. Check computer name and workgroup name.

3-1 Checking and Adding Client for Microsoft Networks

The Client for Microsoft Networks enables you to connect to other Microsoft Windows computers and servers and use the files and printers shared on them. If you works on Microsoft network environment, you need to set up **Client for Microsoft Networks**.

1. After finishing installing the driver & utility and rebooting the computer as described in Chapter 2. The computer will show a dialog box titled **Enter Network Password** dialog box. Enter your password if it has been set or just click **Cancel**.
2. Click the **Start** button, select **Settings** and then click **Control Panel** to open the **Control Panel** window.
3. In the **Control Panel** window, double-click the **Network** icon to open the **Network** dialog box.
4. Select the **Configuration** tab to check that **Client for Microsoft Networks** is installed as shown in **Figure 3-1**. If not, click the **Add** button. Select **Client** and click the **Add** button.

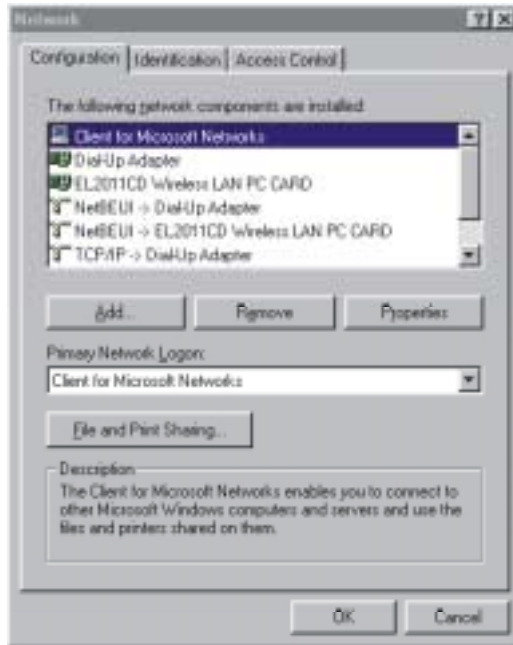


Figure 3-1

5. Select **Microsoft** for Manufacturer and **Client for Microsoft Networks** for Network Client, and then click **OK**.

3-2 Checking and Adding NetBEUI

NetBEUI is a protocol you can use to connect to Windows NT, Windows for Workgroups, or LAN Manager servers. If you work on Microsoft network environment, you need to set up NetBEUI protocol.

1. Repeat the step 2 and 3 of Chapter 3-1 Checking and Adding Client for Microsoft Networks.
2. Select the **Configuration** tab to check **NetBEUI -> SL-2011 PLUS Wireless LAN PC Card** is installed. If no, click the **Add** button. Select **Protocol** and click the **Add** button.
3. Select **Microsoft** for Manufacturer and **NetBEUI** for Network Protocol, and then click **OK**.

3-3 Checking and Adding TCP/IP

TCP/IP is the protocol you use to connect to the Internet and wide-area networks. If you want to connect to the Internet, you need to set up the TCP/IP protocol.

1. Repeat the step 2 and 3 of Chapter 3-1 Checking and Adding Client for Microsoft Networks.
2. Select the **Configuration** tab to check **TCP/IP -> SL-2011 PLUS Wireless LAN PC Card** is installed. If not, click the **Add** button. Select **Protocol** and click the **Add** button.
3. Select **Microsoft** for Manufacturer and **TCP/IP** for Network Protocol, and then click **OK**.
4. Double-click **TCP/IP -> SL-2011 PLUS Wireless LAN PC Card** to open **TCP/IP properties** as shown in **Figure 3-2**. Due to different network applications there are many different settings here. You can select either **Obtain an IP address automatically** or **Specify an IP address**. If you use the **Specify an IP address**, then you need to enter an **IP address**, **Subnet Mask**, **Gateway** IP address, and **DNS Server** IP address for connecting to Internet.



Figure 3-2

3-4 Checking and Adding File and Printer Sharing for Microsoft Networks

File and printer sharing for Microsoft networks gives you the ability to share your files or printers with Windows NT and Windows for Workgroups computers. If you want to share your files or printers with Microsoft networks, you need to set up this service.

1. Repeat the step 2 and 3 of Chapter 3-1 Checking and Adding Client for Microsoft Networks.
2. Select the **Configuration** tab to check **File and printer sharing for Microsoft Networks** is installed. If not, click the **File and Printer Sharing** button.
3. In the File and Print Sharing window, select File and printer sharing for Microsoft Networks, and then click OK.
- 4.

3-5 Checking and Adding Computer Name & Workgroup Name

Windows uses the computer name and workgroup name to identify your computer on the network. Please enter an unique name for your computer, the workgroup it will appear in, and a short description of the computer.

1. Repeat the step 2 and 3 of Chapter 3-1 Checking and Adding Client for Microsoft Networks.
2. Select the **Identification** tab (Windows 98) or User Information tab (Windows 95) to check the computer name, workgroup and computer description are entered. If not, enter a computer name, a workgroup name and then click **OK**. The description field may be left blank. If you want to share data with other persons, make sure you have the same workgroup name.

Chapter 4 Troubleshooting

This chapter describes the problems and corresponding solutions that may occur when installing a PC Card.

Symptom	Solution
Windows does not detect the PC Card when installed.	<p>Verify that the PC Card is properly inserted into the PC Card slot.</p> <p>Check whether the computer has a Plug and Play BIOS.</p> <p>Windows 95/98/ME/2000 might not detect the PC Card if a previous installation of the PC Card was cancelled before it was finished. Remove the previous driver, and redo the installation again.</p>
Driver fails to load	<p>A resource conflict could exist.</p> <p>For Windows 95/98/ME/2000, use the Device Manager to resolve resource conflicts. Select System from the Control Panel, then click on the Device Manager tab.</p> <p>For Windows NT4.0, use the Service Monitor entries in the System Log to look for the conflicts. Use the NT diagnostics program to locate free resources.</p>

<p>Device conflict on a Windows system</p>	<p>A device conflict under Windows 95/98/ME/2000/NT may be related to the PC Card.</p> <p>For Windows 95/98/ME/2000, use the Computer properties to identify the used I/O port addresses and IRQ values.</p> <p>For Windows NT4.0, use the Windows NT diagnostics program to detect the cause of the card conflict and to determine unused I/O port addresses and IRQ values.</p> <p>If there is a device conflict, select alternative settings for I/O Base Address or IRQ values. If you know which device is conflicting with the PC Card, you have the option of changing that device's I/O address or IRQ instead of changing the PC Card.</p>
<p>No resource conflicts were detected, but the wireless station does not attach to the network</p>	<p>Verify that the SSID of the PC Card matches that of the access point. Use the Network Configuration Properties Application in the Control Panel to modify the SSID.</p> <p>Verify that the Network Mode of the PC Card is configured correctly.</p>

<p>Nonfunctioning card LED</p>	<p>The PC Card is not powered on. The cause may be:</p> <ul style="list-style-type: none"> • No Driver loaded or installed. • Card – Driver mismatch which prevented the driver from loading. • Device conflict which prevented the driver from loading. <p>Actions:</p> <ul style="list-style-type: none"> • Verify that a driver has been installed. • Determine if there is a conflict with another device.
<p>Weak signal or intermittent connection.</p>	<p>Try reorienting the antenna. The PC Card antenna is attached to the end of the PC Card. For best use of the antenna:</p> <p>Keep the area around the antenna clear from materials that could block radio transmission, such as metal objects, electronic devices, and cordless telephones.</p> <p>If your signal is weak, change the direction of the antenna slightly.</p> <p>If necessary, move your notebook computer a few inches to find a better signal.</p> <p>Use the Link Quality and Signal Strength display in the Client Utility to determine the best location and orientation for a network connection.</p>

Appendix A Product Specifications

General

Radio Data Rate	11, 5.5, 2 and 1 Mbps, Auto Fall-Back
Range (open environment)	11 Mbps – 150m 5.5 Mbps – 200m 2 Mbps – 250m 1 Mbps – 400m
Operating Voltage	3.3V
EMC Certifications	FCC Part 15, ETSI 300/328
Compatibility	Fully interoperable with IEEE802.11b compliant products
LED Indicator	RF Link activity

Network Information

Network Architecture	Support ad-hoc, peer-to-peer networks and infrastructure communications to wired Ethernet networks via Access Point
Drivers	Windows 95/98/ME/2000/NT 4.0
Access Protocol	CSMA/CA
Roaming	IEEE802.11b compliant
Security	64/128-bit WEP data encryption

Radio

Frequency Band	2.4 – 2.4835 GHz
Radio Type	Direct Sequence Spread Spectrum (DSSS)
Modulation	CCK (11, 5.5Mbps) DQPSK (2Mbps) DBPSK (1Mbps)
Operation Channels	11 for North America, 14 for Japan, 13 for Europe, 2 for Spain, 4 for France
RF Output Power	20dBm
Antenna	Integrated, with built-in diversity
Sensitivity @FER=0.08	11 Mbps < -83dBm 5.5 Mbps < -86dBm 2 Mbps < -89dBm 1 Mbps < -91dBm

Environmental

Temperature Range	0 to 50 C (operating) -20 to 80 C (storage)
Humidity (non-condensing)	5% to 95% typical

Physical Specifications

Form Factor	PCMCIA Type II PC Card
Dimensions	118(L) mm x 54(W) mm x 7.5(H) mm
Weight	40 g

Appendix B

Regulatory Compliance Information

IMPORTANT NOTE

Radio Frequency Interference Requirements

This device complies with Part 15 of FCC Rules and Canada RSS-210.

Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.
3. To comply with RF safety requirements, you must maintain a distance of 20 cm from the antenna when operating the device.
4. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Interference Statement

- User Manual must provide user information in accordance With §15.21, 15.27 and 15.105(b):

Instruction Manual

Federal Communication 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 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: To assure continued compliance, (example – use only shielded interface cables when connecting to computer or peripheral

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

Appendix C Limited Warranty

HARDWARE

SENAO Technologies Inc. (“SENAO”) warrants its products to be free from defects in workmanship and materials, under normal use and service, for the following length of time from the date of purchase from SENAO or its authorized reseller:

- One (1) years for the PC Cards.
- One (1) year for the Access Points

If a product does not operate as warranted during the applicable warranty period, SENAO will, at its option and expense, repair the defective product or part, or deliver to Customer an equivalent product or part to replace the defective item. All products that are replaced will become the property of SENAO. Replacement products or parts may be new or reconditioned. SENAO warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

SOFTWARE

Software and documentation materials are supplied **as is** without warranty as to their performance, merchantability, or fitness for any particular purpose. However, SENAO warrants the media containing software against failure for a period of ninety (90) days from the date of purchase from SENAO or its authorized reseller.

OBTAINING WARRANTY SERVICE

Customer must contact a SENAO Corporate Service Center or an Authorized SENAO Service Center within the applicable warranty period to obtain warranty service authorization. Dated proof of purchase from SENAO or its authorized reseller may be required. Products returned to SENAO's Corporate Service Center must be pre-authorized by SENAO with a Return Material Authorization (RMA) number marked on the outside of the package, and sent prepaid, and packaged appropriately for safe shipment, and it is recommended that they be insured or sent by a method that provides for tracking of the package. Responsibility for loss or damage does not transfer to SENAO until the returned item is received by SENAO. The repaired or replaced item will be shipped to the Customer, at SENAO' expense, not later than thirty (30) days after SENAO receives the defective

product, and SENAO will retain risk of loss or damage until the item is delivered to the Customer. SENAO shall not be responsible for any software, firmware, information, or memory data of Customer contained in, stored on, or integrated with any products returned to EnGneius for repair, whether under warranty or not.

WARRANTIES EXCLUSIVE

If an SENAO product does not operate as warranted above, Customer's sole remedy for breach of that warranty shall be repair, replacement, or refund of the purchase price paid, at SENAO's option. To the full extent allowed by law, the foregoing warranties and remedies are exclusive and are in lieu of all other warranties, terms, or conditions, express or implied, either in fact or by operation of law, statutory or otherwise, including warranties, terms, or conditions of merchantability, fitness for a particular purpose. EnGneius neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale, installation, maintenance or use of its products.

SENAO shall not be liable under this warranty if its testing and examination disclose that the alleged defect or malfunction in the product does not exist or was caused by the Customer's or any third party's misuse, neglect, improper installation or testing, unauthorized attempts to open, repair or modify the product, or any other cause beyond the range of the intended use, or by accident, fire, lightning, or other hazards.

LIMITATION OF LIABILITY

To the full extent allowed by law, SENAO also excludes for itself and its suppliers any liability, whether based in contract or tort (including negligence), for incidental, consequential, indirect, special, or punitive damages of any kind, or for loss of revenue or profits, loss of business, loss of information or data, or other financial loss arising out of or in connection with the sale, installation, maintenance, use, performance, failure, or interruption of its products, even if SENAO or its authorized reseller has been advised of the possibility of such damages, and limits its liability to repair, replacement, or refund of the purchase price paid, at SENAO's option. This disclaimer of liability for damages will not be affected if any remedy provided herein shall fail of its essential purpose.