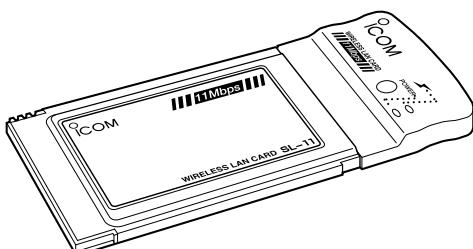




INSTRUCTION MANUAL

2.4GHz SS WIRELESS LAN CARD **SL-11**



SAFETY PRECAUTIONS

1

BEFORE USING THE CARD

2

INSERTING THE CARD

3

INSTALLING THE DRIVER

4

PREPARING FOR CONNECTION TO
A WIRELESS NETWORK

5

SELECTING THE OPERATION MODE

6

USING THE SETTINGS UTILITY

7

FOR YOUR INFORMATION

8

Icom Inc.

INTRODUCTION

SUMMARY OF FEATURES

- The card uses the Direct Sequence Spread Spectrum (DSSS) technology that provides high noise immunity, reliable communications, and superior information concealment.
- A transmission rate of 11 Mbps is supported.
- The card can be inserted into a PCMCIA type II expansion slot of computers, ICOM access points or routers.
- Advanced security functions including WEP encryption provides a safeguard in data transmission.

STANDARD PACKING LIST

The package includes the following items:

- Wireless LAN Card.....1
- Utility Software1
- Instruction Manual (this book)

If any item is missing in the package, contact your local dealer or our service department.

TRADEMARK CREDITS

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Windows is a registered trademark of Microsoft Corporation in the United States and/or other countries.

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INTRODUCTION

SYSTEM REQUIREMENTS

■ APPLICABLE OPERATING SYSTEMS

Windows 98 (including the Second Edition)

Windows Millennium edition

Windows 2000

■ SL-11

Is a PCMCIA type II card that can be inserted into a CardBus-compliant or 5.0V-rated PC card slot.

NOTATIONAL CONVENTIONS

The following notational conventions are used in this manual:

- The names of utilities, menus, windows (screens), tabs, icons, text boxes, and check boxes are enclosed in square brackets ([]).
- The names of command buttons within dialog boxes are enclosed in less-than and greater-than signs (< >).

* Unless otherwise specified, descriptions regarding Windows 98 also apply to Windows 98 Second Edition (herein after called "Windows SE") and Windows Millennium edition (Hereinafter called "Windows Me").

* The contents of windows appearing in this manual may vary depending on the operating system installed in your computer.

INTRODUCTION

OVERALL OUTLINE FLOW FOR USING THE CARD

The overall outlines for using the card to allow wireless connection of your computer to a LAN are as follows.

For description of each step, see the reference page.

For the detailed flow for using the card, see the Table of Contents.

Step 1	Before Using the Card	3
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	Windows 98 (including Windows 98SE)	9
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	Windows 2000.....	19
Step 4	Preparing for Connection to a Wireless Network	21
Step 5	Selecting the Operation Mode	28
Setting tools	Using the Settings Utility	31
Step 6	Removing the Card	39

INTRODUCTION

ABOUT WIRELESS COMMUNICATION CHANNELS

The wireless communication channel for the card is referred to as "the DS Channel" (see page 37).

* The DS channel is factory set to "7".

FCC INFORMATION



CAUTION: Changes or modifications not expressly approved by Icom Inc. could void the user's authority to operate this LAN card.

Class B digital device users;

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 instruction manual, 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 tuning 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 than to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

For CANADA only

Operation is subject to following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

INTRODUCTION

GENERAL PRECAUTIONS

- Observe the instructions provided in the manuals included with the computer and other peripheral devices.
- This device may cause signal interference when used in a domestic setting. When interference occurs, move this device as far as possible away from the affected device.
- The device driver and the setting utility supplied with this device are dedicated to the device. Do not use them for other devices.
- Icom Inc. assumes no responsibility whatsoever for any damages or lost profits resulting from opportunities for voice or signal communications being missed because of the modifications, disassembly, failure, malfunctions, defects or data loss of the LAN card, or because of such external causes as power failure; nor will Icom assume any responsibility for demands made by a third party.
- All copyrights associated with this manual and all intellectual property rights associated with the hardware and software of this product are held by Icom Inc.
- Unauthorized reproduction or transmission of this manual, or any part hereof, is prohibited.
- The content of this manual, the hardware and software associated with this product, and the appearance of this product are all subject to change without notice.

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Be sure to read these precautions in order to use the wireless LAN card safely.

- These precautions are intended to ensure that the LAN card is operated safely and correctly. Follow these instructions to avoid property damage and prevent personal injury to yourself (user) or others in the vicinity.
- Before reading the rest of this manual, read and understand the precautions listed under “△Warning” and “△Caution” below.
- After reading this manual, store it in a convenient place for future review.

WARNING

Failure to observe the precautions listed here could result in death of or serious injury to the user or those near the user.

- **Never disassemble or modify the LAN card. Do not attempt to repair it yourself.**
Otherwise fire, electric shock, or equipment failure may result.
- **Keep the card out of the reach of children when installing, removing, or storing it.**
Otherwise personal injury or electric shock may result.
- **Do not insert wire or other metal parts into the connector portion of the LAN card.**
Otherwise fire, electric shock, or equipment failure may result.
- **Do not allow the card to become wet.**
Otherwise fire, electric shock, or equipment failure may result.
- **Do not touch the card with wet hands while it is in use.**
Otherwise electric shock may result.
- **Discontinue use immediately if the card emits smoke, an abnormal odor, or an abnormal noise.**
Otherwise fire, electric shock, or equipment failure may result.
Turn off the power to the computer and remove the LAN card from the card slot.
Confirm that the smoke, odor, or noise stops as a result of these actions. Then contact your dealer or our service department.

1 SAFETY PRECAUTIONS

CAUTION	Failure to observe the precautions listed here could result in personal injury or property damage.
○ Be sure the correct side of the LAN card is facing upward when inserting the card into the card slot. Otherwise equipment failure may result.	○ Do not stand, sit, or place heavy objects on the card. Do not pinch the card. Otherwise equipment failure may result.
○ Do not remove the LAN card from the card slot while the computer is running. Otherwise equipment failure may result and data may be lost or damaged.	○ Do not use the card near televisions or radios. The card may disrupt the signal reception of such devices and such devices may disrupt the signal reception of the card.
○ Do not remove or install the card while the operating system is booting up. Otherwise equipment failure may result.	○ Do not place the computer to which the card is installed on a slanted or unstable surface. Otherwise the computer may fall or turn over, resulting in personal injury or equipment failure.
○ Remove the card from the computer when it will not be used for a long period of time. Otherwise fire, electric shock, or equipment failure may result.	○ Do not use paint thinner or benzene to clean the card. Otherwise the case material may degrade and the paint may peel. Use a soft cloth to clean the card. If particularly dirty, dampen the cloth slightly with a neutral cleaning agent that has been diluted with water.
○ Do not touch the card with wet hands while it is in use. Otherwise heat emission, fire, or equipment failure may result.	○ Avoid locations exposed to strong magnetic fields or static electricity and locations exposed to temperatures or humidity levels that exceed the specifications listed in the manual for the computer. Also, do not use the card in locations where condensation occurs. Otherwise equipment failure may result.
○ Do not place the card in humid, dusty, or poorly ventilated locations. Otherwise fire, electric shock, or equipment failure may result.	
○ Do not drop, apply severe physical shock to, or twist the card. Otherwise personal injury may result or the card may be damaged.	

2-1 Available Operation Modes

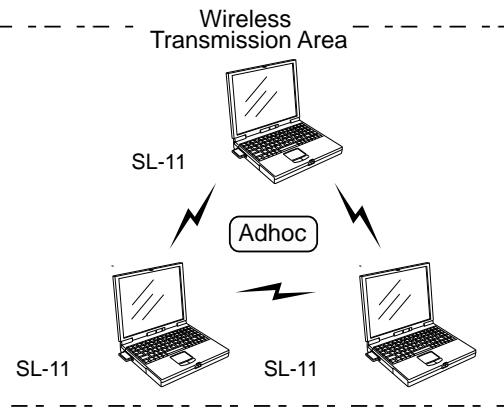
The LAN card can be used in two operation modes: Adhoc mode and Infrastructure mode.

* The default operation mode of the card is factory set to "Infrastructure".

■ Adhoc mode: Select this mode for wireless communications between computers.

Select this mode to build a wireless network consisting of computers in which the card is installed.

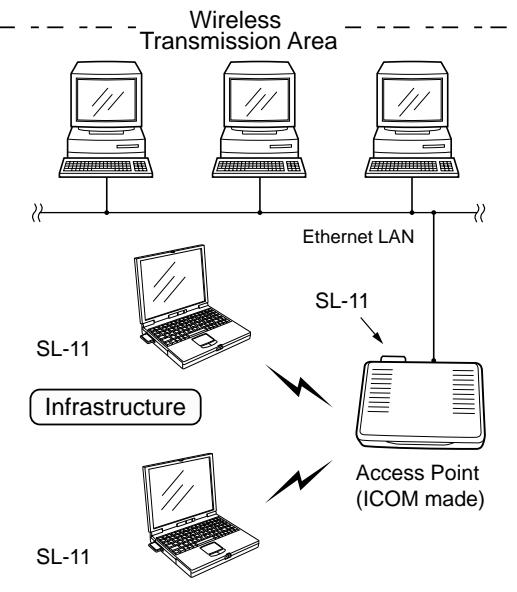
* Although up to 40 or 50 computers can be included in a network group, it is recommended to keep the number of computers connected via the network down to 10 or less when communications will be conducted frequently.



■ Infrastructure mode: This mode allows wireless communications between a computer and an access point.

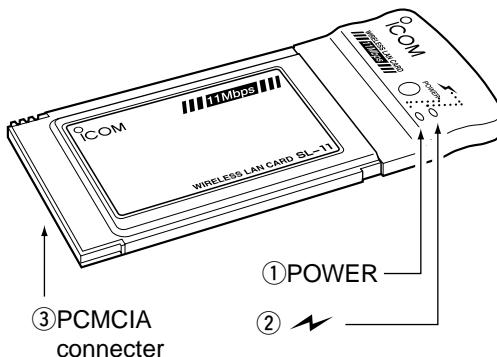
Select this mode to achieve wireless communications between a computer and an Icom access point that is hardwired to a LAN.

* For the max number of computers that can be included in a wireless network group, see the instruction manual for the access point.



2 BEFORE USING THE CARD

2-2 Nomenclature



① **POWER lamp** Turns ON while the power is supplied from a PCMCIA connector.

② **⚡ lamp** Turns ON while an electric wave reaches a communication companion
Flashing of the lamp is outside the radio transmission area.

③ **PCMCIA connector** Inserted into a PC card slot of a computer or an ICOM access points.
* Make sure no metal fragments or dust particles are on the connector before inserting the card into the card slot.

■ Precautions The **SL-11** is designed for use with PCMCIA card slots rated at 5.0V.
It can be used with any commercial computer.

3.1 Before Inserting the Card

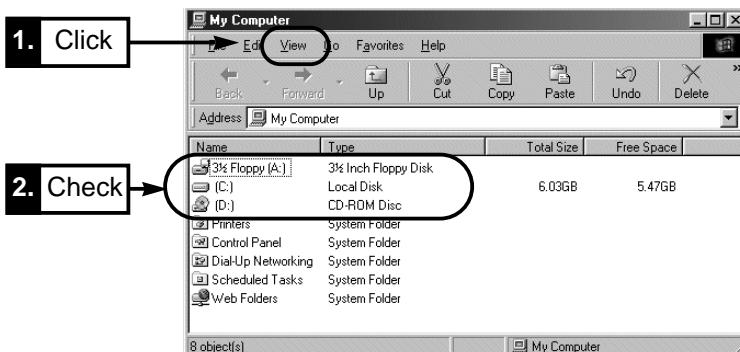
■ Checking the drive configuration

The drive configuration may vary depending on the computer you are using. Check the drive configuration of your computer according to the following procedure. This procedure applies to Windows 98.

This manual assumes that the floppy disk drive is Drive A and the CD-ROM drive is Drive D. During installation of the device driver in your computer, specify a drive name appropriate to the drive configuration of your computer.

[Procedure]

1. Double-click the [My Computer] icon on the desktop.
2. Click [View] on the menu bar and select [Details] in the pull-down menu.
* Make sure the CD-ROM drive is [D]. If the CD-ROM drive is other than [D], note its drive name as it will be required later during driver installation.



3. Proceed to "Checking the PC card driver" on the next page.

3 INSERTING THE CARD

■ Checking the PC card driver

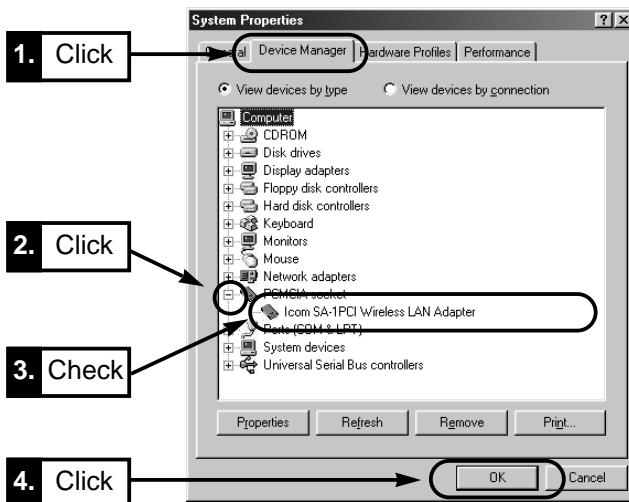
Before installing the driver, check the status of the 32-bit PC card driver according to the following procedure (for Windows 98).

Note that some computers do not come standard with the PCMCIA card adapter.

[Procedure]

1. Click <Start> and select [Control Panel] from the [Settings] menu.
2. Double-click the [System] icon on the [Control Panel] screen.
3. Select the [Device Manager] tab and click [+] for the [PCMCIA sockets] icon.
Make sure the device icons under the [PCMCIA sockets] are not marked with “!” or “×”.
* The device names located under the [PCMCIA sockets] vary depending on the computer used.
4. Click <OK> and close the screen.

Proceed to “3-2 Inserting the Card” on page 7.



If the device name located under [PCMCIA sockets] is marked with “!” or “×”, install the PC card driver according to the instruction manual for the PCMCIA card adapter used.

3-2 Inserting the Card

The position of the PC card slot varies depending on the computer you are using. See the operation manual for your computer for the PC card slot position.

■ NOTE: When using a PC equipped with 2 PC card slots

Insert the card into the PCMCIA slot of the computer with the SL-11 label facing upward.

Note that some computers may require the card to be inserted with the SL-11 label facing downward.

* When the card is supplied power, the Transmission and Reception lamps on the card will flash continuously.

■ NOTE: When your computer is a Windows 98/2000/Me machine, the "Plug and Play" feature is supported so that the card can be inserted while the computer is running.

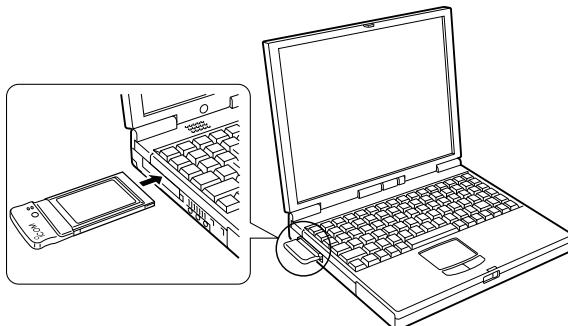
3 INSERTING THE CARD

■ Inserting into a notebook-sized computer

Insert the card into the PCMCIA slot of the computer with the SL-11 label facing upward.

Note that some computers may require the card to be inserted with the SL-11 label facing downward.

* When the card is supplied power, the power lamp is turned on.



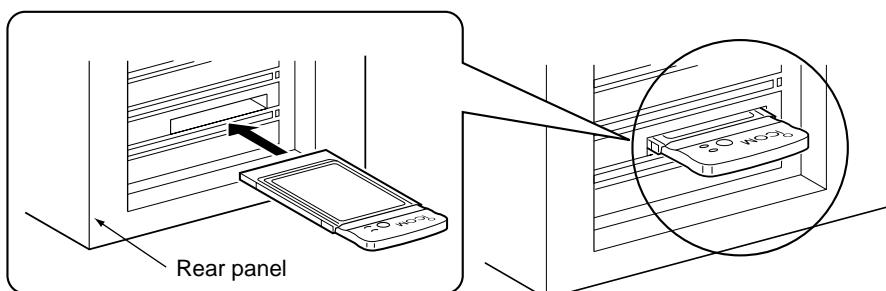
After inserting the card, proceed to 4. "Installing the Driver" on page 9.

■ Inserting into a desktop computer

To insert the card into a desktop computer, the computer must be equipped with a PCMCIA card adapter.

If your computer has no PCMCIA card adapter, add the adapter on your computer.

* When the card is supplied power, the power lamp is turned on.



After inserting the card, proceed to 4. "Installing the Driver" on page 9.

4-1 Installing into a Windows 98 (SE) Machine

This section describes how to install the LAN card driver into the computer.

The driver is a program that is needed for using the card.

The required driver differs depending on the operating system running on your computer.

The LAN card driver for Windows 98 (SE) is contained in the [Driver] folder of Utility Software Disk.

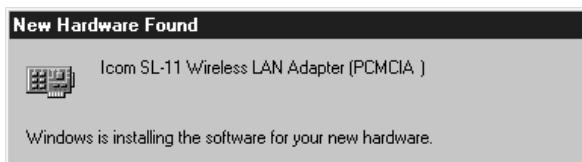
[IMPORTANT]

Before installing the driver, check the drive configuration of your computer according to 3-1 "Before Inserting the Card" on page 5.

[Procedure]

1. Insert the card into the card slot of your computer according to 3-2 "Inserting the Card" on page 7.

The computer will recognize the card and display the following screen automatically.



2. When the following screen appears, insert the Utility Software CD disk into the CD-ROM drive (hereinafter called Drive D).

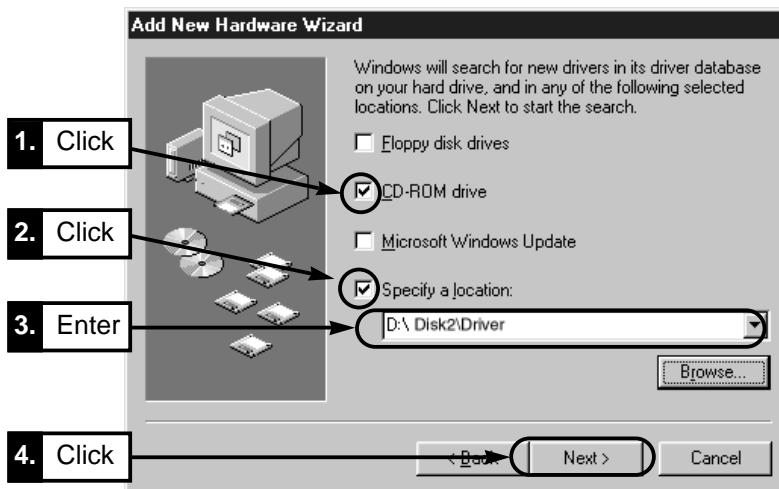


4 INSTALLING THE DRIVER

3. Select [Search for the best driver for your device (Recommended)] and click <Next>.



4. Select [CD-ROM drive] and [Specify a location]. Then enter D:\Disk2\Driver; then click <Next>.

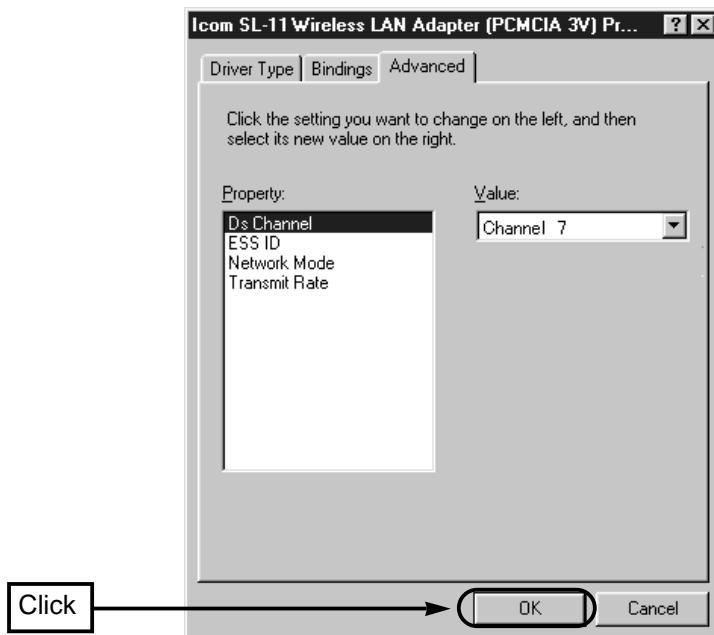


5. When the driver is loaded, the [Properties] screen will be displayed.

Click <OK>. The properties can be set later.

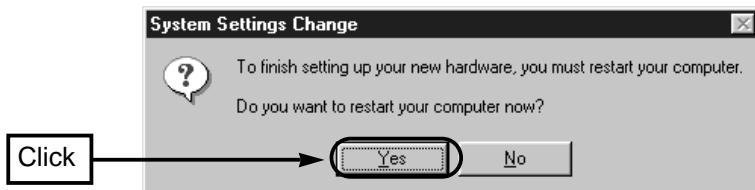
For details of the setting items on the [Properties] screen, see 6 "Selecting the Operation Mode" on page 28 and 7 "Using the Settings Utility" on page 31.

* You can also set the properties by using the settings utility contained in the Utility Software Disk supplied with the card.

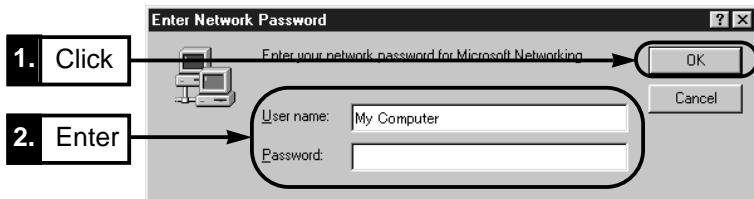


4 INSTALLING THE DRIVER

6. Remove the Utility Software disk from Drive D and click <Yes>. The computer will restart to complete the installation.



7. If the screen shown below is displayed after the computer restarts, enter the user name and password in the text boxes. Then click <OK>.



8. Proceed to 4.3 "Checking for Proper Driver Installation" on page 16.

4-2 Installing into a Windows Me Machine

This section describes how to install the LAN card driver into the computer.

The driver is a program that is needed for using the card.

The required driver differs depending on the operating system running on your computer.

The LAN card driver for Windows Me is contained in the [Driver] folder of Utility Software Disk.

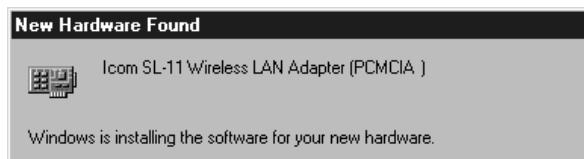
[IMPORTANT]

Before installing the driver, check the drive configuration of your computer according to 3-1 "Before Inserting the Card" on page 5.

[Procedure]

1. Insert the card into the card slot of your computer according to 3-2 "Inserting the Card" on page 7.

The computer will recognize the card and display the following screen automatically.



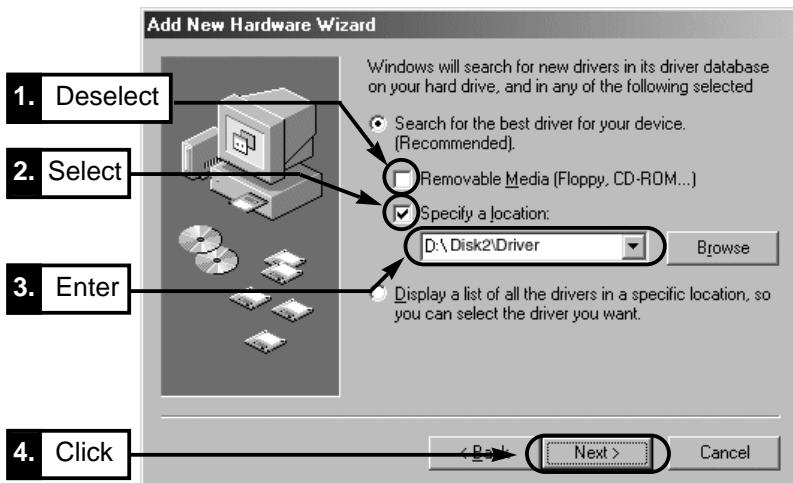
2. When the following screen appears, insert Utility Software Disk into the CD-ROM disk drive (hereinafter called Drive D).

Select [Specify driver location (for advanced user)] and click <Next>.



4 INSTALLING THE DRIVER

3. Make sure the [Removable Media (floppy disk, CD-ROM, etc.)] is not selected. Select [Specify location] and enter D:\Disk2\Driver; then click <Next>.

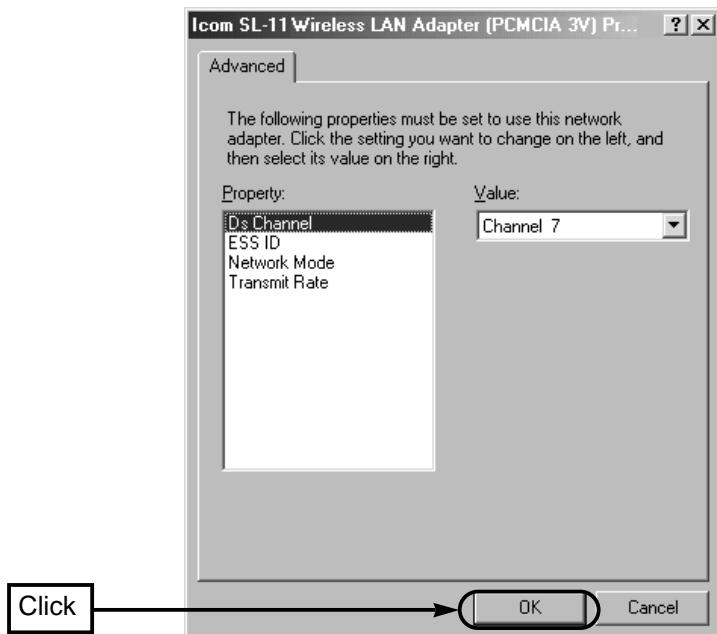


4. When the driver is loaded, the [Properties] screen will be displayed.

Click <OK>. The properties can be set later.

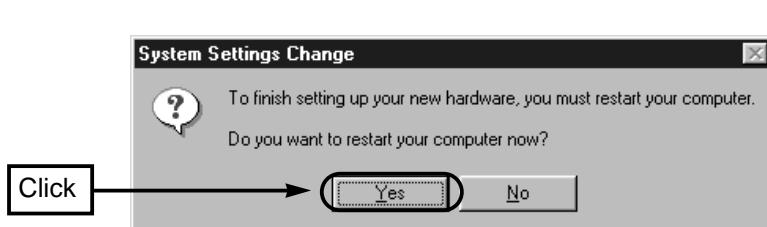
For details of the setting items on the [Properties] screen, see 6 "Selecting the Operation Mode" on page 28 and 7. "Using the Settings Utility" on page 31.

* You can also set the properties by using the settings utility contained in Utility Software Disk supplied with the card.



5. Remove the Utility Software disk from Drive D and click <Yes>.

The computer will restart to complete the installation.



6. If you are prompted to enter the user name and password after the computer restarts, follow the instructions on the screen.

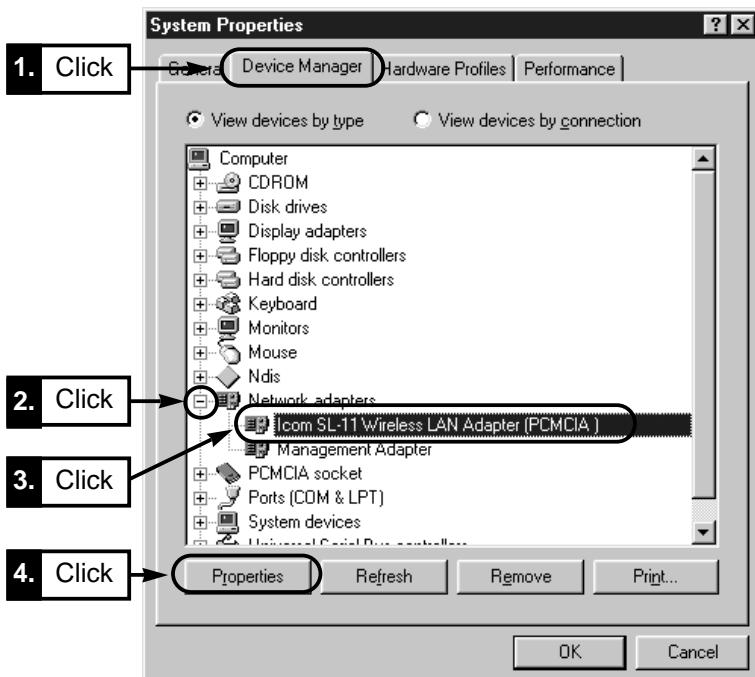
4 INSTALLING THE DRIVER

4-3 Checking for Proper Driver Installation

This section describes how to check for proper driver installation (ex.: Windows 98).

[Procedure]

1. Click <Start> and select [Control Panel] from the [Settings] menu.
2. Double-click the [System] icon on the [Control Panel] screen.
3. Select the [Device Manager] tab and click [+] for the [Network Adapters] icon.
Select [Icom SL-11 Wireless Adapter (PCMCIA)] and click <Properties>.
 - When the driver has been installed properly, [Icom SL-11 Wireless LAN Adapter (PCMCIA)] is displayed under [Network Adapters] as follows.

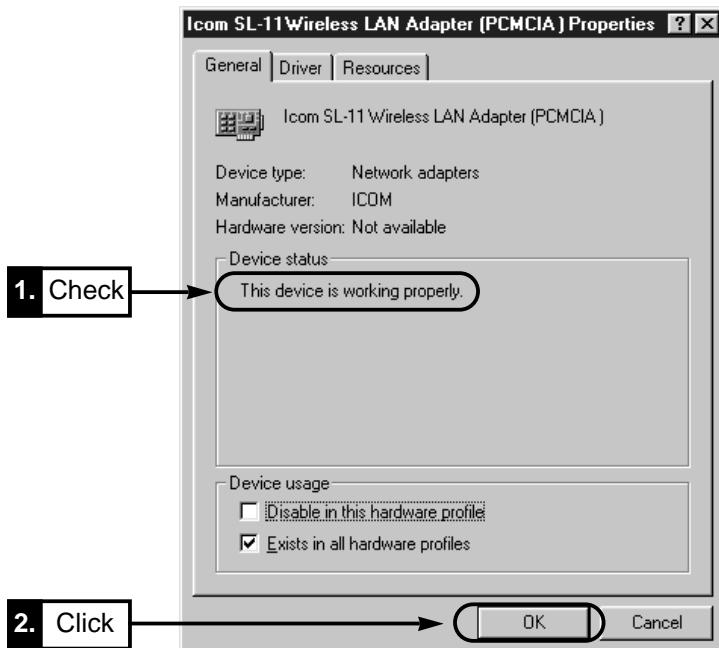


* If [Icom SL-11 Wireless LAN Adapter (PCMCIA)] is marked with "!" or "x" or it is displayed under [Other Devices], see 10-1 "Troubleshooting" on page 70 (in CD ROM) to take appropriate action.

4. Make sure "This device is working properly" appears in the [Device status] field on the [General] tab of the [Properties] screen.

Click <OK>. The display will return to the screen shown in Step 3.

* If the above message does not appear in the [Device status] field, see 10-1 "Troubleshooting" on page 70 (in CD ROM) to take appropriate action.



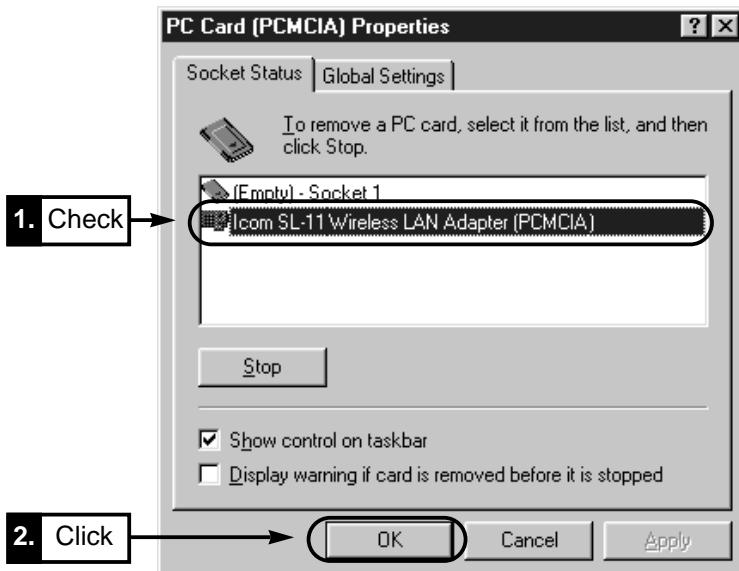
5. Click <OK> on the screen shown in Step 3.

4 INSTALLING THE DRIVER

4-3 Checking for Proper Driver Installation [Procedure] (continued)

6. Click <Start> and select [Control Panel] from the [Settings] menu. Double-click the [Network] icon.

Make sure [Icom SL-11 Wireless Adapter (PCMCIA)] is displayed and click <Properties>.



Proceed to 5 “Preparing for Connection to a Wireless Network” on page 21.

4-4 Installing into a Windows 2000 Machine

This section describes how to install the LAN card driver into the computer.

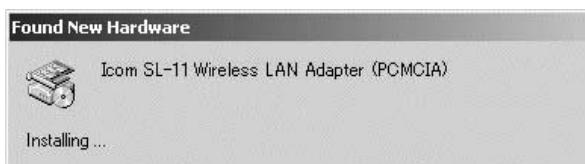
The LAN card driver for Windows 2000 is contained in the [Driver] folder of Utility Software Disk.

[IMPORTANT]

Before installing the driver, check the drive configuration of your computer according to 3-1 "Before Inserting the Card" on page 5.

[Procedure]

1. Turn on your computer.
 - The [Start logon] screen will be displayed.
Logon as an Administrator.
2. Insert the card into the card slot of your computer according to 3-2 "Inserting the Card" on page 7.
The computer will recognize the card and display the following screen automatically.



3. When the following screen appears, insert Utility Software Disk into the floppy disk drive (hereinafter called Drive A). Also, if you have a Windows 2000 CD-ROM, insert it into the CD-ROM drive. Then click <Next>.

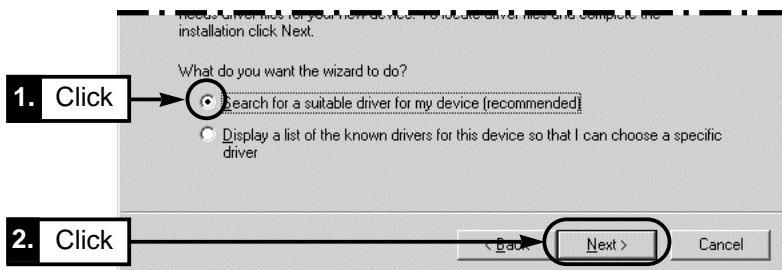


4 INSTALLING THE DRIVER

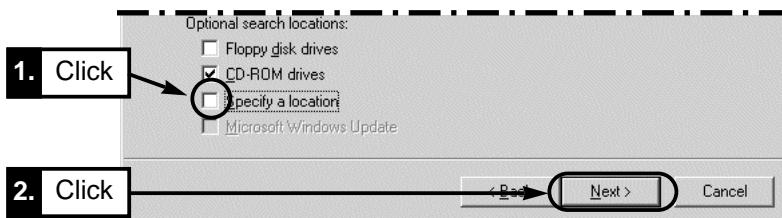
4-4 Installing into a Windows 2000 Machine

[Procedure] (continued)

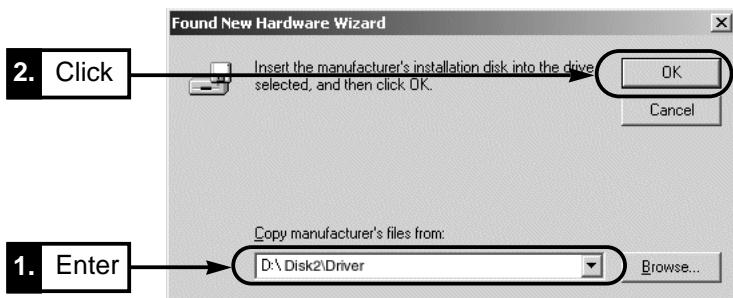
4. Select [Search for a suitable driver for my device (Recommended)] and click <Next>.



5. Select [Specify location] and click <Next>.



6. Insert Utility Software Disk into the CD-ROM drive (hereinafter called Drive D) and enter D:\Disk2\Driver.



7. Installation is completed when the operation is continued in accordance with the direction of the screen.

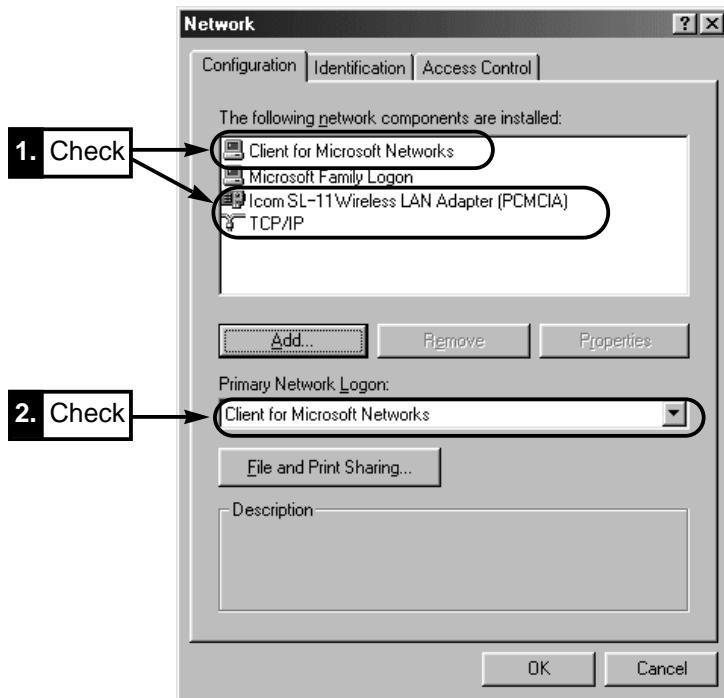
This section takes Windows 98 as an example to describe how to share resources on a wireless network and check if the resources are shared properly.

* When your computer uses an operating system other than Windows 98, see the user's guide for the operating system.

5-1 Checking TCP/IP and Network Client Settings

[Procedure]

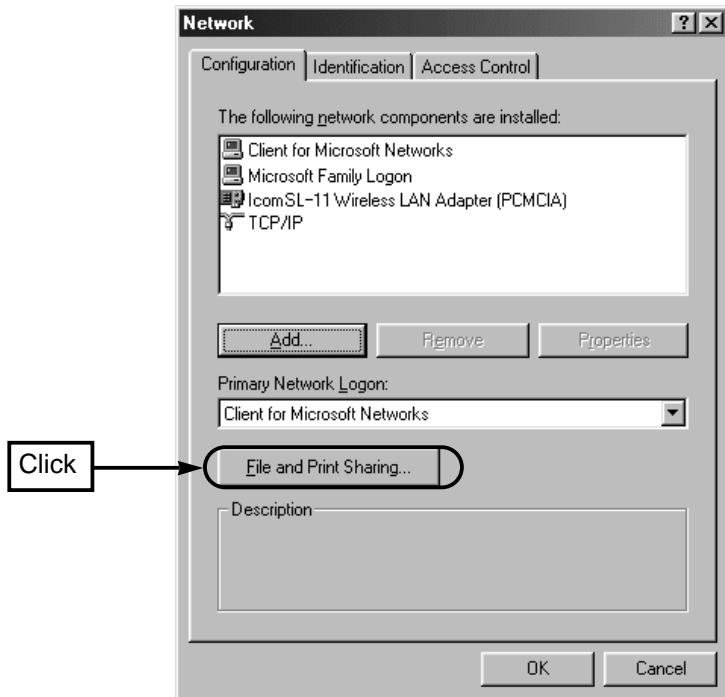
1. Click <Start> and select [Control Panel] from the [Settings] menu. Double-click the [Network] icon.
2. Make sure TCP/IP and [Client for Microsoft Networks] appear on the Network screen. Proceed to 5-2 "Adding Microsoft Networks Sharing Service" on page 22.
 - * When your computer uses Windows 98, make sure "Client for Microsoft Networks" is displayed in the [Primary Network Logon] field.
 - * If network adapters other than that for this LAN card have also been installed, TCP/IP for this card will be displayed as [TCP/IP -> Icom SL-11 Wireless LAN Adapter (PCMCIA)].



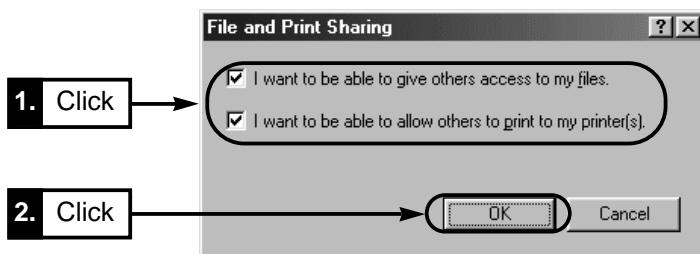
5 PREPARING FOR CONNECTION TO A WIRELESS NETWORK

5-2 Adding Microsoft Networks Sharing Service [Procedure]

1. Click <File and Printer Sharing...> on the screen shown on page 21.



2. Select both check boxes [I want to be able to give others access to my files] and [I want to be able to allow others to print to my printer(s)] and then click <OK>.

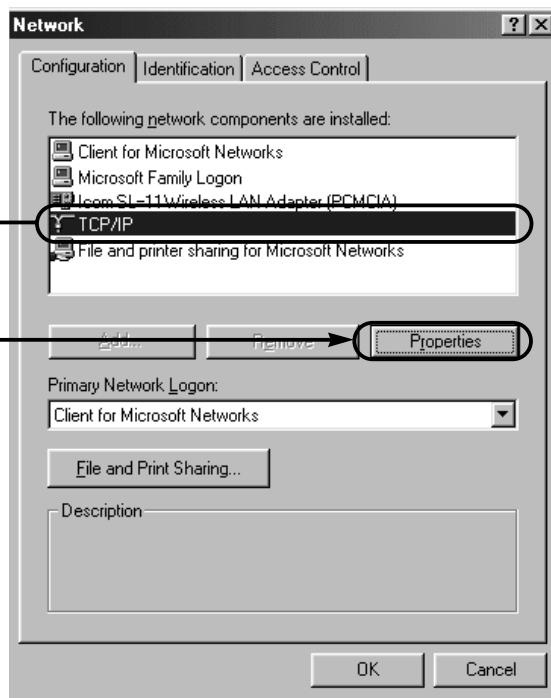


3. Make sure [Microsoft Network Sharing Service] has been added on the Network screen. Proceed to 5-3 "TCP/IP Settings" on page 23.

5-3 TCP/IP Settings

[Procedure]

1. On the screen shown in Step 2 on page 22 for “Adding Microsoft Network Sharing Service”, select <TCP/IP> and then click [Properties].
* If network adapters other than that for this LAN card have also been installed, TCP/IP for this card will be displayed as [TCP/IP -> Icom SL-11 Wireless LAN Adapter (PCMCIA)]. Select this protocol.

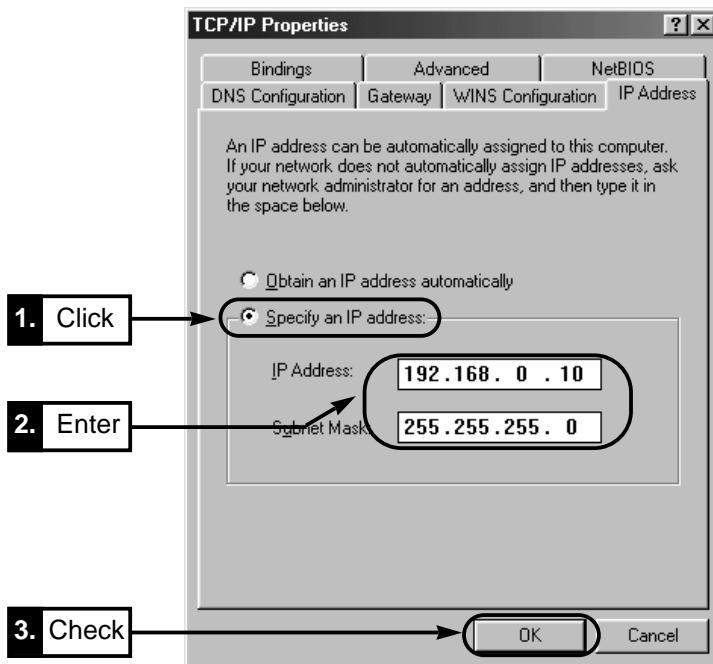


2. When using the card in Adhoc mode (see page 3), proceed to Step 3 and skip Step 4.

When using the card in infrastructure mode (see page 3), skip Step 3 and proceed to Step 4.

5 PREPARING FOR CONNECTION TO A WIRELESS NETWORK

3. The screen shown below is displayed. Select [Specify an IP address] and enter appropriate numerals in the [IP Address] and [Subnet Mask] fields. Then click <OK>.



[About IP addresses]

- The IP address for each computer within a network group must be unique.
- The subnet mask for each computer within a network group must be identical.
- When the wireless LAN network is so small as to be composed of up to 253 computers and has no capability of connecting to the Internet, assign private addresses of 192.168.0.0 – 192.168.0.255 to the computers. Note that 192.168.0.0 and 192.168.0.255 are handled as the network address and the broadcast address respectively. Do not assign these addresses to individual computers.

The following shows addressing examples where the network comprises three computers.

Computer A: 192.168.0.10 (subnet mask: 255.255.255.0)

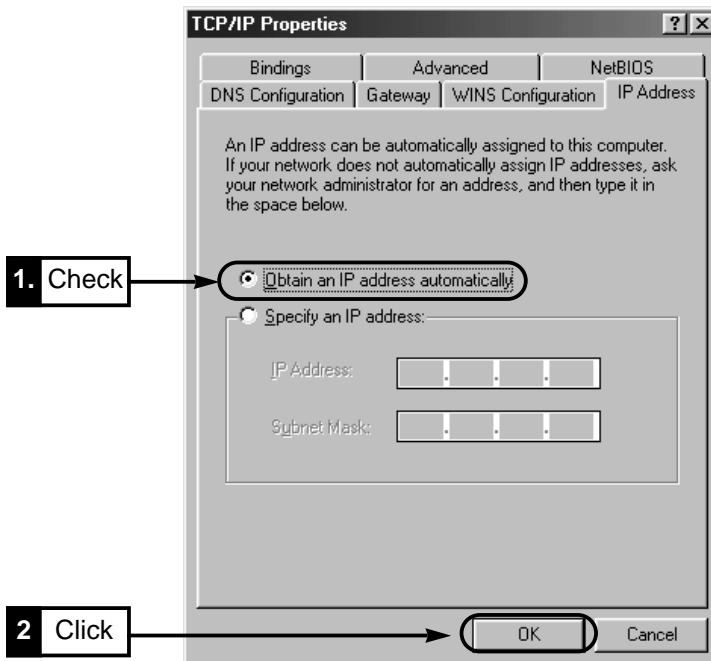
Computer B: 192.168.0.11 (subnet mask: 255.255.255.0)

Computer C: 192.168.0.12 (subnet mask: 255.255.255.0)

5-3 TCP/IP Settings

[Procedure] (continued)

4. Make sure [Obtain an IP address automatically] has been selected and then click <OK>.



5. When the message “Restart computer now?” is displayed, click <Yes>. After the computer restarts, proceed to 5-4 “Specifying the Computer Name and Workgroup Name” on page 26.

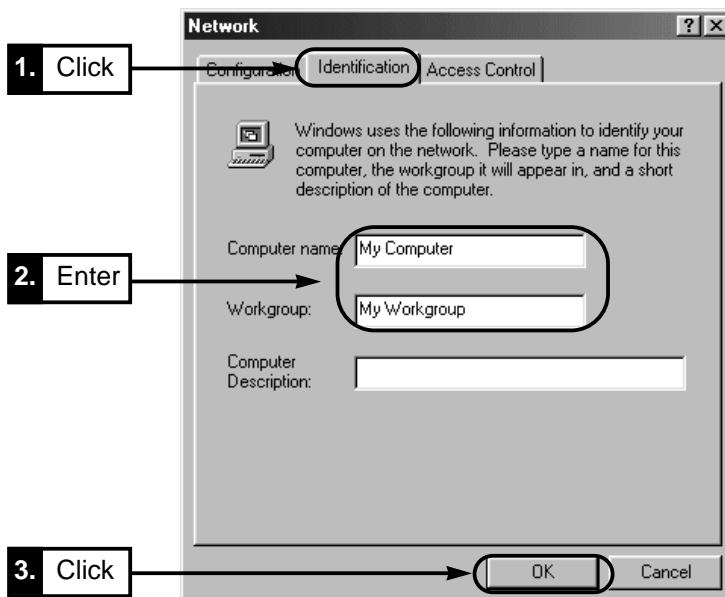
[About automatic assignment of IP addresses]

- A DHCP server has the capability of assigning an IP address to each client within the network. If a DHCP server such as a Windows NT Server machine is included in the network, select the [Obtain an IP address automatically] option on the screen shown above.
- If a device having the DHCP capability are not found at any access point or within the network, e.g., if the network is composed of Windows 98 machines only, the IP addresses must be specified according to Step 3 on the previous page.
- When connecting your computer to an existing network, contact the administrator of the network to check for proper IP addressing.

5 PREPARING FOR CONNECTION TO A WIRELESS NETWORK

5-4 Specifying the Computer Name and Workgroup Name [Procedure]

1. Click <Start> and select [Control Panel] from the [Settings] menu. Double-click the [Network] icon.
2. Select the [Identification] tab and enter appropriate names in the [Computer Name] and [Workgroup] boxes. Then click <OK>.
These names must be up to 15 alphanumeric characters long.



3. When the message "Restart computer now?" is displayed, click <Yes>.
4. After the computer restarts, proceed to 5-5 "Sharing Folders" on page 27.

[Computer Name:] Enter an identification name of your computer in this box. This name must be unique in the network.

[Workgroup:] Enter the name of the network group to which your computer belongs. This name must be the same as other computers in the network group. Specifying a different name disables your computer to communicate with other computers within the group.

[Computer Description:] Optional. Enter a brief description of your computer in this box, if necessary.

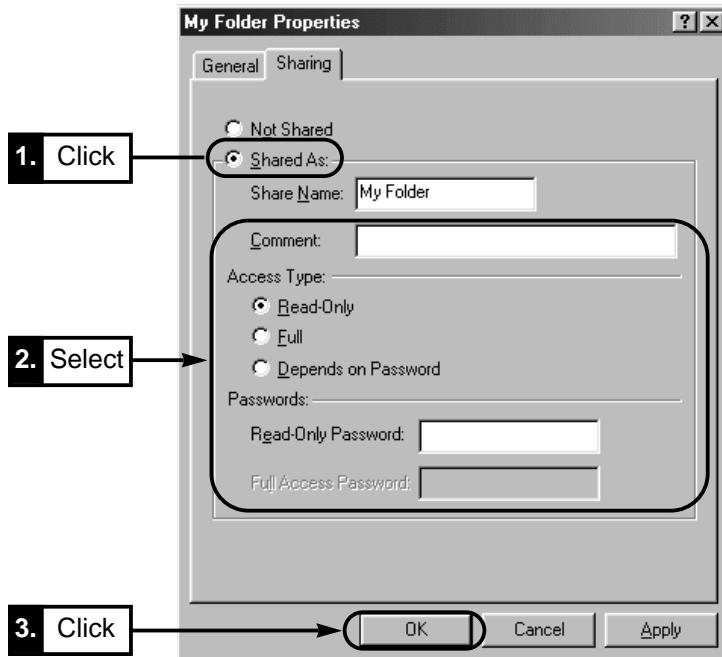
5-5 Sharing Folders

This section describes how to share folders in your computer with other computers in the network group, allowing them to have access to such folders.

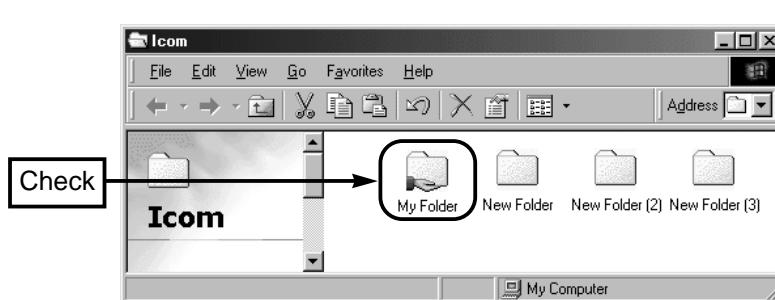
[Procedure]

1. Open the window, such as [My Computer] (whose icon is located on the desktop), containing the folder you wish to share.
2. Right-click the folder.

A menu will appear on the screen. Select [Sharing] from the menu.



4. Make sure the icon of the selected folder is changed as shown below. Then proceed to 6 "Selecting the Operation Mode" on page 28.



6-1 Wireless Communications in Infrastructure Mode

In Infrastructure mode, your computer equipped with the LAN card can share a network environment by accessing a remote ICOM device with wireless access point capability (AP-11, etc.).

This section describes how to change the operation mode from "Adhoc" to "Infrastructure" on a Windows98 machine.

*Wireless Communications in Adhoc Mode ↗ CD-ROM

*Some uncompatibility exists between products made by different manufacture other than Icom. We recommend you to use Icom access point in order to avoid such problems.

Please set all computers to be used for wireless communication as follows.

Make the following setting for each of the computers in the wireless communication network.

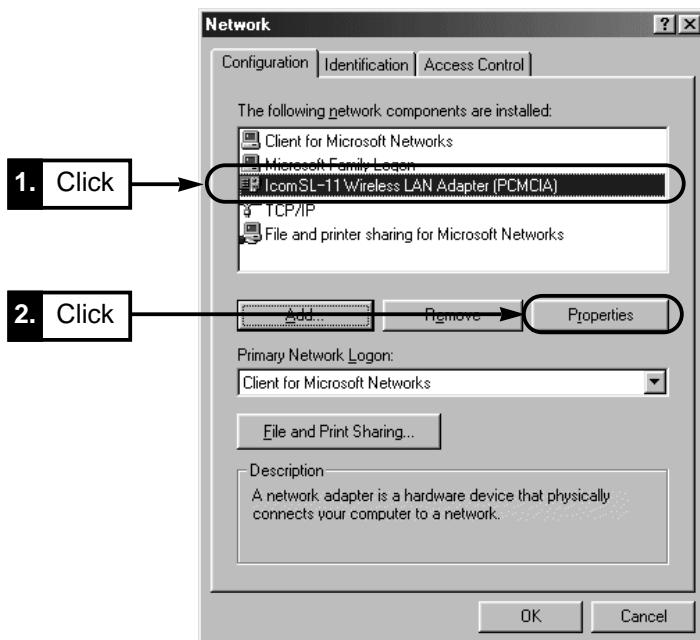
The default operation mode of the card is factory set to "Infrastructure".

[Note]

For the max number of computers that have access to an access point simultaneously, see the instruction manual of the access point.

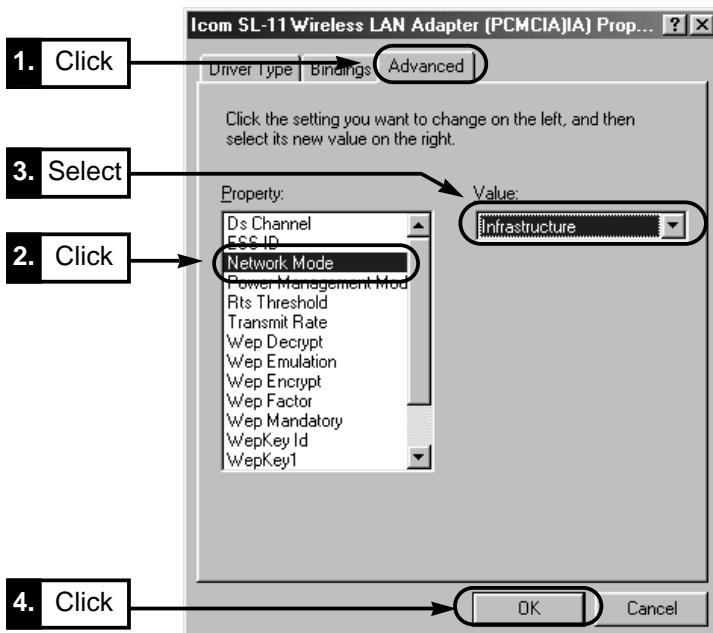
[Procedure]

1. Click <Start> and select [Control Panel] from the [Settings] menu. Double-click the [Network] icon.
2. Select [Icom SL-11 Wireless Adapter (PCMCIA)] and click <Properties>.



3. Select the [Advanced] tab and click [Network Mode]. Select [Infrastructure] and then click <OK>.
 - * Other setting items must not necessarily be changed from defaults. See 7. "Using the Settings Utility" on page 31.

■ Properties screen



4. Click <OK> on the screen shown in Step 2.
5. When the message "Restart computer now?" is displayed, click <Yes>. Restarting the computer will activate the settings.
6. Proceed to 6-2 "Checking the Wireless Network Connection" on page 30.

6 SELECTING THE OPERATION MODE

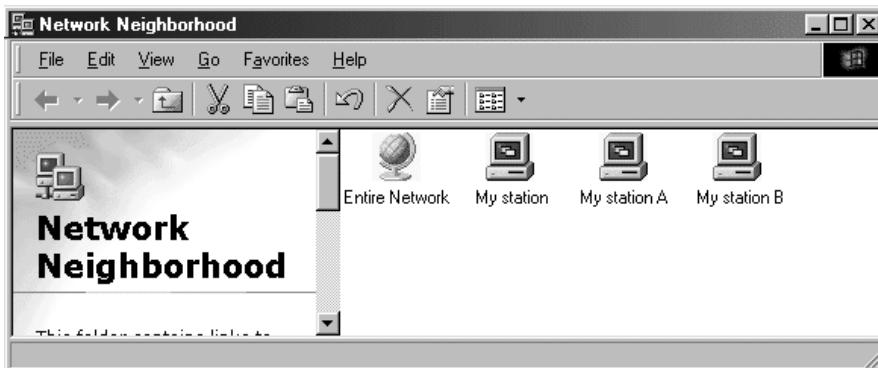
6-2 Checking the Wireless Network Connection

After completing the settings needed for connecting to the network, check if you can access the shared folders located in the other computers of your workgroup.

1. Double-click the [Network Computer] icon on the desktop.
2. Make sure the [Network] screen includes an icon for your computer and icons for the other computers in the network group.

You have a good connection if these icons appear on the screen.

* For the procedure for checking if IP packets are reaching their proper destination, see 10-2 "Checking the Network Connection Using a PING command" on page 92 (in the CD-ROM).



[Note]

Use the [Entire Network] icon to view a list of other computers that are connected to network groups to which your computer does not belong (i.e., network groups with a different workgroup name). However, the list does not include computers belonging to network groups using different ESS IDs than the network group to which your computer belongs. Adjust the ESS ID appropriately for each network group when it is necessary to prevent some groups from viewing information regarding other groups. See also pages 36 and 26.

7-1 About the Settings Utility

The Settings Utility eliminates the need of setting on the Properties screen (see page 11,15) and for restarting the computer after changes in setting. This Utility also provides a monitoring screen on which you can monitor the settings and status of the computers in the wireless network group.

7-2 Installing the Utility

This section describes how to install the Settings Utility.

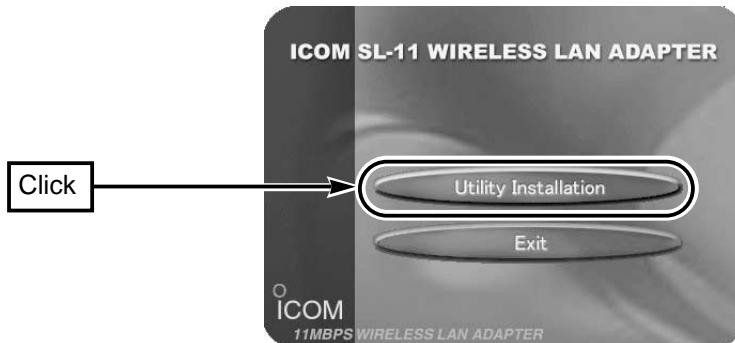
Install the Settings Utility into each of the computers in the network.

*Logon as an Administrator when using Windows 2000 machine.

[Procedure]

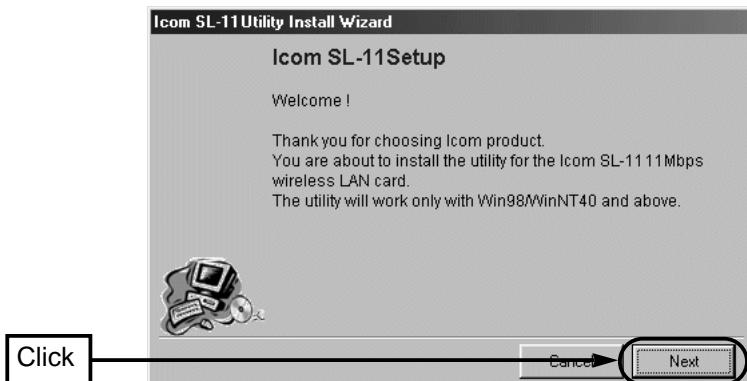
1. Close all applications that are running on your computer.
2. Insert the Utility Software CD as used for driver installation into CD-ROM drive "Drive D."
3. The Auto Run will be activated and the main menu will appear on the screen
*If Auto Run is not activated, click <Start> and select "Run". Enter "D:\AutoRun.exe" in the command line box (when CD is in drive D) and click <OK>.
4. Click <Utility Installation>.

The message "Icom SL-11 Utility Install Wizard" will appear on the screen.

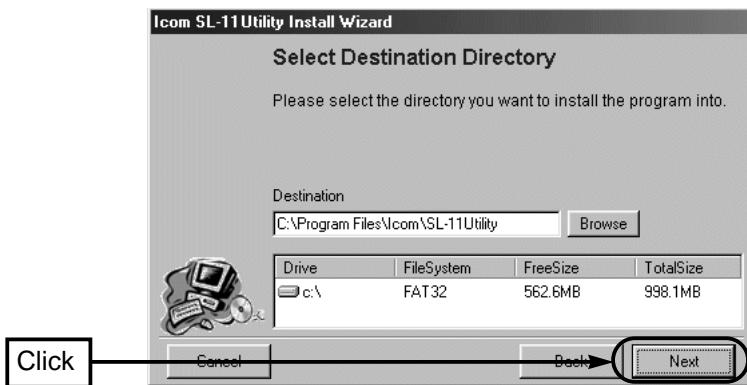


7 USING THE SETTINGS UTILITY

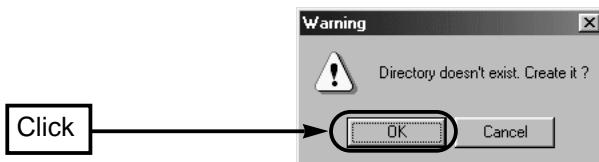
5. Click <Next>.



6. Specify the folder in which you want to install the Settings Utility and click <Next>. If you want to change the default folder that will appear in the text box as shown below, click <Browse> and select the desired folder.



7. Click <OK>.



8. Installation is completed when the operation is continued in accordance with the direction of the screen.

7-3 Starting the Setting Utility

This section describes how to start and quit the Settings Utility installed in your computer.

[Procedure]

1. Insert the card into the PCMCIA slot of your computer.
* Failure to do so disables monitoring the communication status.
2. Click <Start> and select [Icom SL-11 Utility] from the [Program] menu. The Utility starts up and an icon indicating that the Utility is running is displayed on the task bar. See "About the icons on the task bar" show below.



3. To quit the Utility, right-click the Utility icon on the task bar and then select [Quit] from the pop-up menu that appears.



[About the icons on the task bar]



Indicates that the computer is connected properly to the wireless network.



Appears only when the card is in infrastructure mode and indicates either that the card is outside the wireless transmission area or your computer is searching the network for a wireless access point.



Indicates that the operation mode is incorrect, a wireless access point is not found, or the card is not inserted into your computer.



Indicates that the card is inserted into your computer, but cannot be recognized. Possible causes include incorrect installation of the driver.

7-4 Basic Settings

This section describes how to make minimum required setting using the Settings Utility.

See also 7-5 "Advanced Settings" on page 52 (in the CD-ROM) for the security feature of the card.

[Procedure]

1. Insert the card into the PCMCIA slot of your computer.
* Failure to do so disables the next setting step.
2. Right-click the Utility icon on the task bar. Select [Monitor] from the menu that appears.

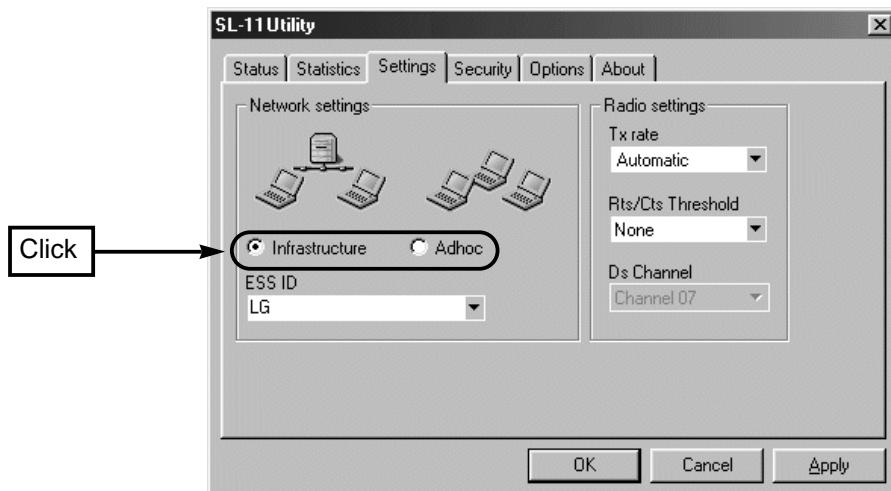


3. Click the [Settings] tab.



4. Select the operation mode.

(Default: Infrastructure mode)

**■ Infrastructure mode (see page 3)**

This mode allows communications via an access point.

An Icom wireless access point is required when this mode is selected.

■ Adhoc mode (see page 3)

This mode allows peer-to-peer communications between computers.

Communications in this mode involve two or more computers, each of which is equipped with the Icom wireless LAN card.

7 USING THE SETTINGS UTILITY

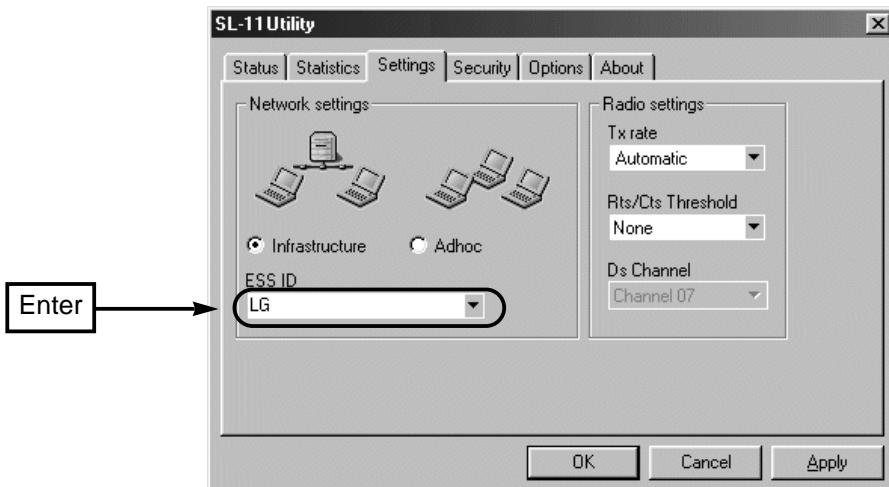
7-4 Basic Settings

[Procedure] (continued)

5. Enter an ESS ID. (Default: LG)

The ESS ID must be the same as the other computers of your workgroup.

- * The ESS ID is case sensitive and must be up to 32 alphanumeric characters long.
- * The ESS ID is distinguished from "Workgroup Name" (see page 26), but we recommend using the same name if possible.



■ About the ESS ID

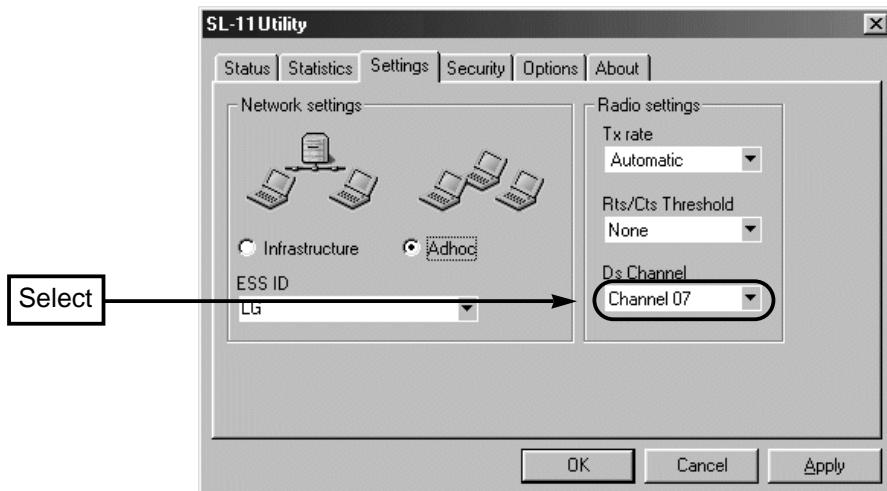
This setting item serves as an arbitrary name for identifying a group within the wireless network.

It is used when multiple wireless workgroups are configured within the wireless transmission area and there is network information that should not be viewed by other wireless workgroups.

The ESS ID must be the same as the other computers of your workgroup.

Specifying a different name disables your computer to communicate with other computers within the group.

6. Select a DS channel. (Default: 7)
 * If the infrastructure mode has been selected in Step 4, the DC channel cannot be changed because the communication channel is selected by an ICOM access point.



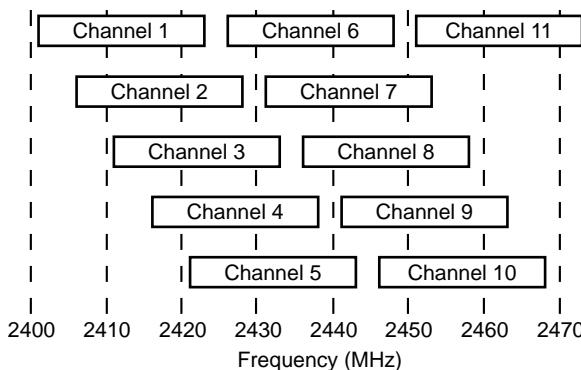
■ About the DS channel

If there are multiple wireless network groups operating in adhoc mode within the wireless transmission area, it is recommended to set the DS channels at least four channels apart from the other groups to avoid interference.

Interference may occur due to partial overlap in bandwidth as shown below.

Channel settings of 1-6-11, for example, eliminates the possibility of interference.

* If there are multiple wireless network groups operating in infrastructure mode within the wireless transmission area, adjust the wireless access point so that interference does not occur between communication channels.



7 USING THE SETTINGS UTILITY

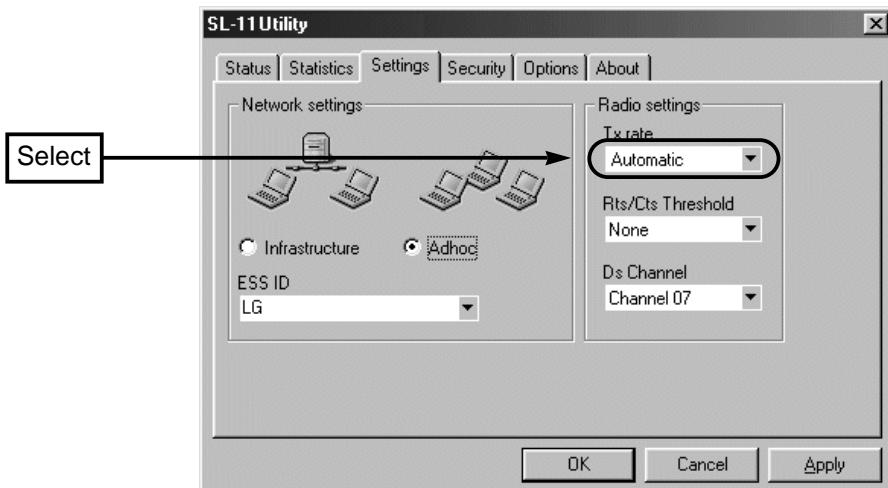
7-4 Basic Settings

[Procedure] (continued)

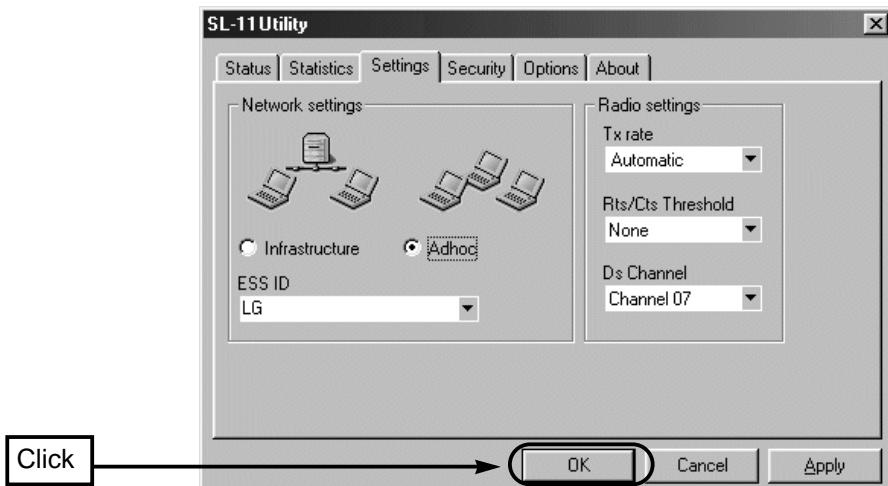
7. Select the transmission speed. (Default: Auto)

Selectable transmission speeds include Automatic, 11, 5.5, 2, or 1 Mbps.

Setting the transmission speed to "Automatic" will provide the optimal speed according to communication environments.



8. After the setting is complete, click <OK>.



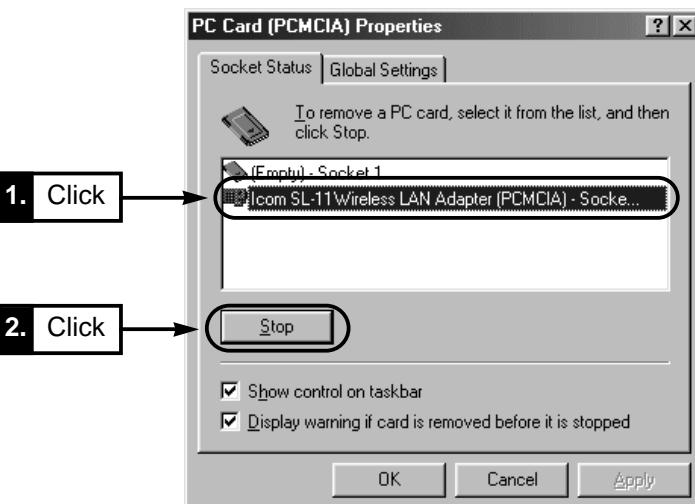
8-1 Remove the card from the computer

This section describes how to remove the card from a Windows 98 machine without turning off the computer. This procedure also applies to Windows 95/2000/Me machines that have the Plug and Play feature. When removing the card after turning off the computer, follow the instruction manual of the computer.

Neglecting the procedure suggested in this chapter may cause the system to run out of control.

[Procedure]

1. Click <Start> and select [Control Panel] from the [Settings] menu. Double-click the [PC Card (PCMCIA)] icon.
2. Select [Icom SL-11 Wireless LAN Adapter (PCMCIA)-Socke...] and click <Stop>.



3. Click <OK>.



8 FOR YOUR INFORMATION

8-2 When the Card Fails

- **Warranty**

At the time of purchase, the retailer will provide a warranty sheet complete with the details of the purchase (date of purchase, name of store). Make sure the information is correct and keep the warranty in a safe place for future use.

- **Requesting servicing**

Refer to the instruction manual and check the settings of both the computer and the SL-11 unit. If you cannot solve the problem, request servicing according to the following terms:

During the warranty period

Contact the store where you purchased the product.

The retailer will service the product in accordance with the warranty. Have your warranty ready at the time of request.

After the warranty period

Contact the store where you purchased the product.

If the product is serviceable, the retailer will repair the product for a fee.

- **Questions Regarding Service**

If you have any questions regarding service, contact the local dealer where you purchased the product or contact the service staff at one of our sales offices.

8-3 Specifications

■ General

- **Applicable international standards** : IEEE 802.11/IEEE 802.11b
- **Communication method** : Simplex
- **Radio communication type** : Direct Sequence Spread Spectrum (DSSS)
- **Frequency Coverage** : 2400 – 2483.5 (11 channels)
- **Data transmission rates** : Auto, 11, 5.5, 2, 1 Mbps
- **Transmission range** : Approx. 50m (indoor), approx. 150 m (outdoor, line of sight)
Approx. 30m (indoor),
Approx. 70m (outdoor, line of sight) at 11 Mbps
- **Encryption scheme** : Wired Equivalent Privacy (WEP)
- **Operating temperature range** : 0 – +50°C
- **Storage temperature range** : -20 – +80°C (without condensation)
- **Built-in antenna** : Pattern diversity antenna
- **Input power** : 5.0 VDC ±5%
- **Power consumption** : 250 mA (typical) for receive
350 mA (typical) for transmit
- **Outline dimensions** : 124.0 (W) × 8.5 (H) × 54.0 (D) mm
(incl.antenna)
- **Mass** : Approx. 50 g

■ Transmission section

- **Transmission power** : Less than 10 mW

■ Reception section

- **Reception sensitivity** : Less than -76 dBm (frame error rate: 8%)
- **Demodulation method** : Digital demodulation (matched filter type)

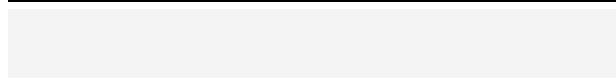
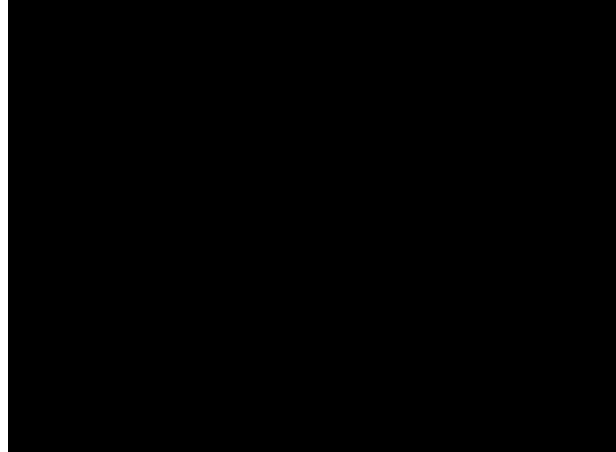
* The specifications may be subject to change without notice.

* The transmission range may vary depending on the transmission speed and the environmental conditions.

MEMO

MEMO

Count on us!



Icom Inc.

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