SONY

4-672-859-**12**(1)

Operating Instructions

IEEE802.11a/b Dual Band Wireless PC Card

PCWA-C700

CarrierGate

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Owner's Record

The model and serial numbers are located on the back of the unit. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. PCWA-C700
Serial No._____

CAUTION

Any changes or modifications not expressly approved in this manual could void your warranty.

FCC ID: AK8PCWAC700

Exposure to Radio Frequency Radiation.

The radiated output power of the Wireless LAN PC Card is far below the FCC radio frequency exposure limits.

Nevertheless, the Wireless LAN PC Card shall be used in such a manner that the potential for human contact during normal operation is minimized.

Only use the product indoors when using it with 802.11a (5 GHz).

Note

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 or communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to 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.

Declaration of Conformity

Trade Name: Sony

Model No: PCWA-C700

Responsible Party: Sony Electronics Inc.

Address: 680 Kinderkamack Road,
Oradell, NJ 07649 USA

Telephone: 201-930-6972

This phone number is for FCC-related matters only.

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This equipment may not cause harmful interference, and

(2) this equipment must accept any interference received, including interference that may cause undesired operation.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Safety Information

WARNING

- Opening the product, for whatever reason, could lead to damages that are not covered by the warranty.
- Do not use this product on hospital premises. Doing so may cause medical devices to malfunction.
- If using the product near a pacemaker, make sure it is at least 9 inches (22 cm) away from the pacemaker.
- Do not use this product in an aircraft, as doing so could cause the aircraft's equipment to malfunction. Make sure you remove the equipment from the PC card slot before carrying your computer onto an aircraft.
- Do not apply unnecessary physical strain on the product when it is inserted in your computer as this could damage the product and/or your computer.
- The use of optical instruments with this product will increase eye hazard.

FCC RF Exposure

Install and connect this product by following descriptions in its Operating Instructions before using it.

This equipment generates and radiates radio frequency energy.

SAR (Specific Absorption Rate) for this device was measured in accordance with FCC OET Bulletin 65. Supplement C and guidelines established in IEEE C95.1-1991.

In order to comply with FCC RF exposure limits please maintain at least 3 mm spacing between the user and the antenna of this device while it is in use.

This product can only be used with desktop computers and laptop (notebook) computers with side mounted PCMCIA slots.

This device cannot be used with other types of host devices, such as PDAs.

Users are not permitted to make changes or modify the system in any way.

About the supplied software

THE SUPPLIED SOFTWARE IS SUPPLIED PURSUANT TO THE APPLICABLE END-USER LICENSE AGREEMENT.

- Copyright laws prohibit reproducing the software or the software manual in whole or in part, or renting the software without the permission of the copyright holder.
- In no event will SONY be liable for any financial damage or loss of profits, including claims made by third parties, arising out of the use of the software supplied with this product.
- In the event a problem occurs with this software as a result of defective manufacturing, SONY will replace it at SONY's option or issue a refund; however, SONY bears no other responsibility.
- The software provided with this product cannot be used with equipment other than that which is designated for use with.
- Please note that, due to continued efforts to improve quality, the software specifications may be changed without notice.

Notes

- The user interface of the Sony supplied software may differ slightly from that shown in this manual.
- This manual is written based on the assumption that you are familiar with basic operations of the Windows operating system. For computer operations, refer to manuals that come with your computer.

- In this manual, Microsoft® Windows® Millennium Edition is referred to as Windows Me.
- In this manual, Microsoft® Windows® 2000 Professional is referred to as Windows 2000.
- In this manual, Microsoft® Windows® XP Professional and Microsoft® Windows® XP Home Edition are referred to as Windows XP.

Table of contents

Overview

Capabilities

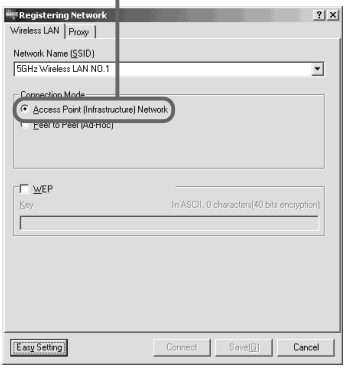
The IEEE802.11a/b Dual Band Wireless PC Card PCWA-C700[*1] is a PC Card type wireless network card. With this card, you can build a wireless LAN, allowing multiple computers to communicate and exchange data without needing any physical connection. The supplied Wireless Panel software lets you easily configure the card for multiple networks. For example, you can store different settings required for networking at the office and at home, or quickly switch between Access Point (Infrastructure) Network connection mode and Peer to Peer (Ad-Hoc) Network connection mode. This greatly facilitates use of the card in various environments and for a range of applications.

Hints

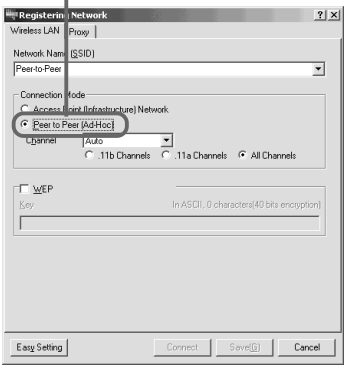
- The network mode can be easily switched using the supplied Wireless Panel software.
- To use the card in Access Point Network connection mode, a separately available 802.11a/b Wireless LAN Access Point[*2] is required.

With Windows Me or Windows 2000:

Access Point (Infrastructure) Network connection mode



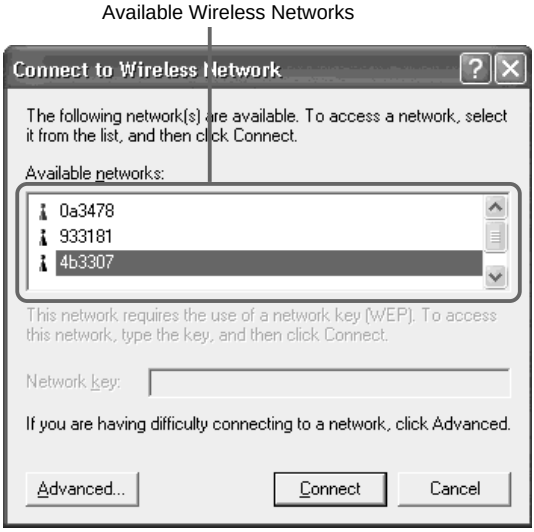
Peer to Peer (Ad-Hoc) Network connection mode



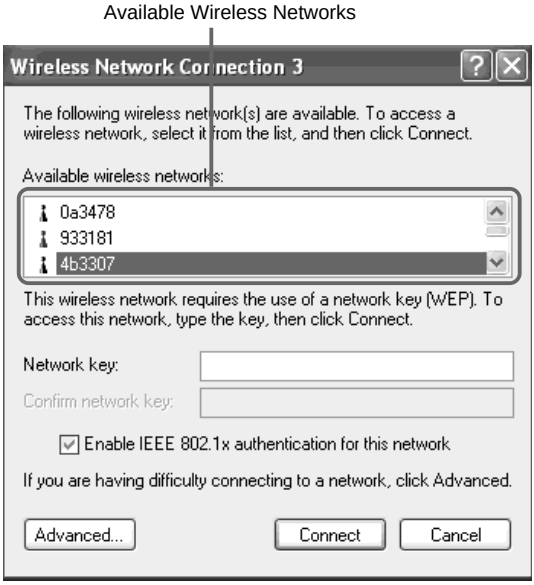
[*1] In this documentation, the IEEE802.11a/b Dual Band Wireless PC Card PCWA-C700 is referred to as the Wireless LAN PC Card.

[*2] If using the separately available 5GHz Wireless LAN Access Point PCWA-A500 (February, 2003), refer also to the “Quick Start Guide” supplied with the unit.

With Windows XP:

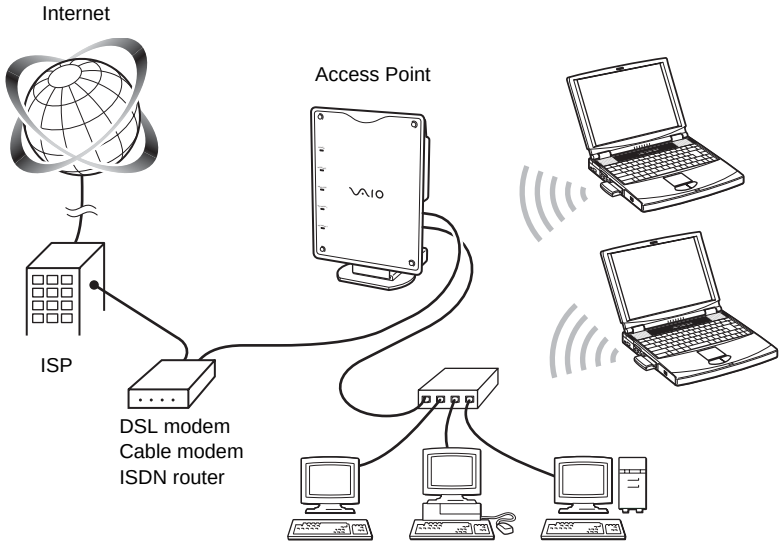


Windows XP Service Pack 1:



Accessing the Internet from various points within your home (Access Point Network connection mode)

With a separately available Access Point you can easily build a wireless network. By connecting a DSL modem, cable modem, or ISDN router to the Access Point, you can access the Internet from the living room, bedroom, or any other convenient location in the house. Equipping multiple computers with a Wireless LAN PC Card also allows you to exchange files between the computers via the Access Point.



Hint

The illustration above shows an example of a system configuration using Access Point Network connection mode. Two computers with Wireless LAN PC Cards communicate with the Access Point that is connected to an Ethernet LAN via a hub.

Smooth movie streaming playback* (in Peer to Peer Network connection mode)

The Peer to Peer Network connection mode enables computers equipped with Wireless LAN PC Cards to communicate directly. This allows playback of streaming data and file sharing in locations where the Wireless LAN Access Point is not present.

Notes

- Poor signal conditions may cause movie playback interruptions.
- Smooth movie streaming playback is only possible when using 802.11a (5 GHz).

* A method of playing a file while the download is still in progress.

System requirements

To use the supplied software, the following system requirements must be met:

❑ Windows PC:

– 128 MB RAM or more

– Card Bus compliant PC Card slot

– CD-ROM drive (for software installation)

❑ Operating system:

– Microsoft® Windows® Millennium Edition

– Microsoft® Windows® 2000 Professional

– Microsoft® Windows® XP Home Edition

– Microsoft® Windows® XP Professional

❑ Display:

High color (16 bit color) or higher, 800 × 400 pixels or higher

Notes

- Correct operation is not assured for all computers, even if satisfying the above system requirements.
- Correct operation in an OS upgrade environment is not assured, except for factory provided Windows XP upgrade packages for Sony VAIO series computers.
- For Internet access via the wireless LAN, a 802.11a/b Wireless LAN Access Point (available separately) is required.
- An Internet Service Provider (ISP) is required for Internet access.

Documentation and Help file

This product comes with the following documentation and help files.

❑ Operating Instructions (this document)

Explains how to install the Wireless LAN PC Card and how to configure all settings of the card.

❑ Wireless LAN Quick Guide

Contains detailed information about the Wireless Panel software and instructions for setting up a Peer to Peer network. This guide provides information on configuring and changing advanced settings.

❑ Troubleshooting Guide

Contains answers to frequently asked questions and commonly encountered problems. Go through the points in this guide before contacting the Sony Customer Information Services Center.

❑ Wireless Panel Online Help

This is the Online Help of the supplied Wireless Panel software. Refer to it for instructions on how to use the software. Access the Wireless Panel Online Help as follows:

1. Install the Wireless Panel software, following the instructions in this manual.
2. Start the Wireless Panel.
3. Right-click the Wireless Panel icon on the taskbar and select Help from the shortcut menu.

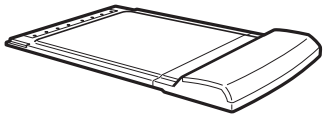
Hint

You can also access Help by clicking the ? icon on the Wireless Panel title bar.

Unpacking

Your Wireless LAN PC Card comes with the following items:

- Wireless PC Card PCWA-C700



- PC Card case
- CD-ROM (Setup disc)
- Wireless LAN Quick Guide
- Troubleshooting Guide
- Operating Instructions
- Warranty Card

Supplied software

The supplied CD-ROM contains the following software.

❑Wireless LAN PC Card driver

This device driver is necessary to the operation of the Wireless LAN PC Card.

❑Wireless Panel

Wireless Panel is a utility software that lets you configure the computer for the wireless LAN and monitor the communication status. The software is also used to switch between networks.

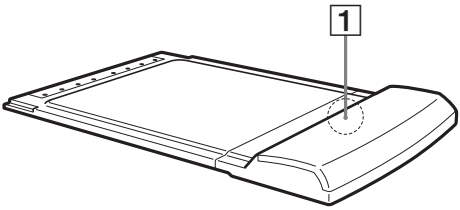
Normally, the Wireless Panel appears as an icon in the taskbar, which shows the communication status.

When using the card for the first time, see page 15 for information on how to install the Wireless LAN PC Card driver and the Wireless Panel.

Notes

- To install the supplied software on a computer running Windows 2000, log on with a user account listed in “Administrators”. To install the supplied software on a computer running Windows XP, log on with a user account with administrator access privileges. You cannot install the software or modify settings when logged on with any other account.
- To change any of the Wireless Panel settings on a computer running Windows 2000, log on with a user account listed in “Administrators”. You cannot modify settings when logged on with any other account.

Names of parts



1 Indicator

Indicator modes and operation status

Color	Lighting pattern	Status
Green *1	Rapid flashing	Communication in progress
	Lit	Communication standby (Communication is possible but no data are being sent or received.)
Orange *2	Rapid flashing	Communication in progress
	Lit	Communication standby (Communication is possible but no data are being sent or received.)
Red	Flashing	Connection not established (PC Card is functioning properly, but connection to network has not been established.)
Off		PC Card is not powered

*1 802.11b (2.4 GHz) wireless LAN operation

*2 802.11a (5 GHz) wireless LAN operation

Inserting the Wireless LAN PC Card

This section explains how to insert the Wireless LAN PC Card into your computer and how to remove it.

You do not need to turn off your computer when inserting or removing the Wireless LAN PC Card.

Proceed as follows.

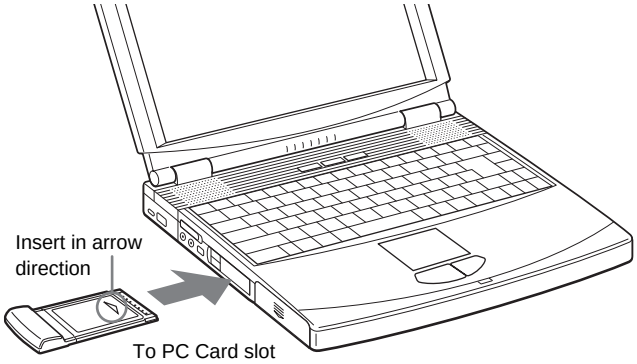
1 If your computer has a PC card slot protector, remove it. (Some computers have such a protector to prevent damage to the PC card slot while not in use.)

2 Insert the Wireless LAN PC Card in the PC card slot.

Note

If your computer has two PC Card slots, insert the Wireless LAN PC Card into the top slot. If inserted into the bottom slot, the antenna of the Wireless LAN PC Card will block the top slot. See section “If your computer has two PC Card slots” on page 14.

Push the Wireless LAN PC Card into the slot until it is firmly seated. If the card does not fit easily, do not force it in. Take the card out and try reinserting it.



To remove the Wireless LAN PC Card

1 Exit any software that uses the wireless LAN.

2 Safely remove the hardware according to the documentation of your computer.

3 Remove the Wireless LAN PC Card according to the documentation of your computer.

If your computer has two PC Card slots

Notes

- When using a computer which has two PC Card slots arranged vertically (one above the other), insert the Wireless LAN PC Card into the top slot. If inserted into the bottom slot, the antenna of the Wireless LAN PC Card will block the top slot.
- If you insert the Wireless LAN PC Card into a slot other than the one you usually use, the computer treats the card as a new device and automatically begins installing device drivers for it. Completing the driver installation makes it possible to use the Wireless LAN PC Card in that slot. Installation is performed automatically by the installation wizard. (For instructions on how to uninstall the Wireless LAN PC Card driver, see page 67.)

Hint

If you are using Windows Me or Windows 2000, you can register up to 32 networks for each PC card slot. However, you have to register each network individually. You cannot share the settings across slots.

Installing the supplied software

This section explains how to install the Wireless LAN PC Card driver and Wireless Panel.

Before you start

Make sure that you can use your CD-ROM drive.

Important

Computer Firewall Functions

When using Windows XP's "Internet Connection Firewall"

Enabling the Windows XP "Internet Connection Firewall" may prevent you from being able to access your computer through wireless communication. (This function is inactive under Windows XP default settings.) Because of this function, you may not be able to connect to your network when you change your Access Point settings. If this happens, deactivate the "Internet Connection Firewall" function, connect to the network, and then reactivate the function. For details, refer to Windows XP Help.

Note

Network security is an important issue. You are urged to consider carefully how best to protect your computer.

When using a personal firewall function provided by virus scanning or network security software

Virus scanning and network security software sometimes includes a function called a "personal firewall" that is designed to prevent illegal access by outside entities. Depending on the software, the security level of this function may be initially set to a high level. If this high security level setting is left in effect, it may be impossible for an outside entity to access your computer. This can cause problems such as not being able to connect to the network when changing the Access Point's settings. In this event, lower the security level in order to permit the network connection. For details, refer to the manuals provided with your software.

Notes

- Pay special attention to security issues.
- For questions regarding firewall functions, please contact your firewall software manufacturer.

Note

When using Windows 2000, log on with a user account listed in “Administrators”. When using Windows XP, log on as a user with administrator access privileges.

1 Insert the supplied CD-ROM into the CD-ROM drive of your computer.

The installation wizard starts.

2 Click “Install Driver and Software Utility”.

Follow the instructions of the wizard to complete the installation of the Wireless LAN PC Card driver and Wireless Panel.

Hints

- For information about how to insert the Wireless LAN PC Card, see page 13.
- For details about how to confirm the driver installation, and how to remove the driver and Wireless Panel, see pages 67 and 70.

What to do next

Configure the LAN environment.

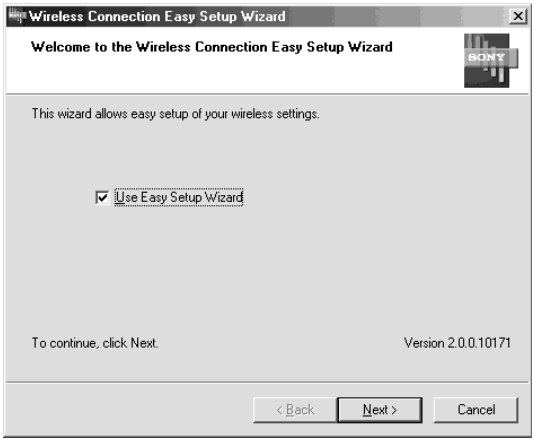
When using Windows Me or Windows 2000, proceed to page 17.

When using Windows XP, the Wireless Easy Setup Wizard does not appear. Proceed to page 27.

Configuring the wireless LAN environment

Windows Me or Windows 2000

After installation of the supplied software is complete, the Wireless Connection Easy Setup Wizard starts automatically. This wizard makes it easy to configure your wireless network.

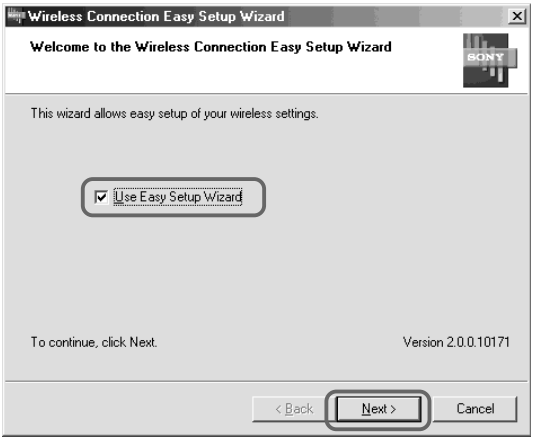


Hints

- If you want to exit the wizard, click “Cancel”.
- Any settings you configure with the wizard can be easily changed later using the Wireless Panel. For information on how to use the Wireless Panel, see page 40.
- You can also configure the card without using the wizard. Refer to the Wireless LAN Online Help for details.
- You can also start the wizard at any time other than immediately after installation of the Wireless Panel. To do this, double-click “InitSetup.exe” in the folder where you installed the Wireless Panel. (The default location is “C:\Program Files\Sony\Wireless Panel”.)
- To use the product in Access Point Network connection mode, see page 18.
- To use the product in Peer to Peer Network connection mode, see page 25.

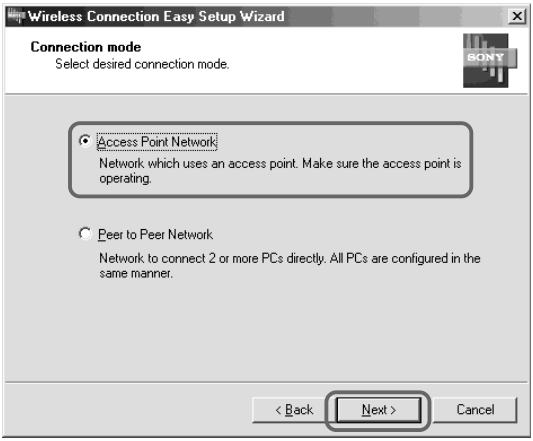
Using the product in Access Point (Infrastructure) Network connection mode

1 Check the box “Use Easy Setup Wizard” and click “Next”.



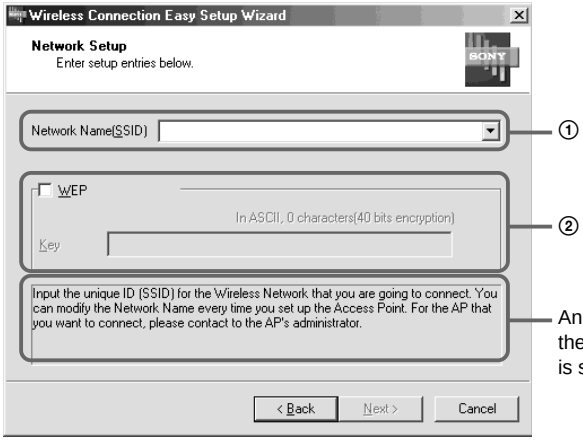
The “Connection mode” screen appears.

2 Select “Access Point Network”, and click “Next”.



The following screen appears.

3 Configure the “Network Name (SSID)” and “WEP” items.



①Network Name (SSID)

This is a unique ID used to identify wireless networks. The setting can be made individually for Access Point Network connection mode and Peer to Peer Network connection mode. When connecting to an existing network, consult your network administrator regarding the proper settings. For Peer to Peer Network connection mode and when changing an existing Network Name, you can use up to 32 alphanumeric characters (including symbols).

Hints

- Opening the “Network Name” drop-down list will show the Network Names of any Access Points within range. You can then select a Network Name from the list.
- When using the Sony 5GHz Wireless LAN Access Point PCWA-A500, the default Network Name (SSID) of the Access Point is shown on the ID label of the Access Point. For details on the position of the label and other information, refer to the manuals provided with the Access Point.

②WEP

If Data Encryption (WEP) is enabled for the Access Point to which you connect, check this item. When this item is checked, you also need to enter the encryption key (WEP key) in the “Key” field. The data encryption function serves to prevent unauthorized access to the network. For security reasons, it is strongly recommended that you enable this feature. The setting can be configured individually for Access Point Network connection mode and Peer to Peer Network connection mode. When connecting to an existing network, consult your network administrator regarding the proper settings. For information on how to control this setting at the Access Point, refer to the manuals of the Access Point. When configuring a Peer to Peer network, the setting must be the same for all computers on the network.

Key

If data encryption (WEP) is enabled for the Access Point, enter the encryption key (WEP key) here. Because this key functions as a password that enables communication with the network, the key entered here must be exactly the same as that set for the Access Point. Only computers for which the key has been configured correctly can join the network. The number of characters depends on the “ASCII/Hex” and “Length” settings (see table below).

ASCII/Hex	Length	Number of characters
ASCII	40 bits 104 bits	5 characters 13 characters
Hex	40 bits 104 bits	10 characters 26 characters

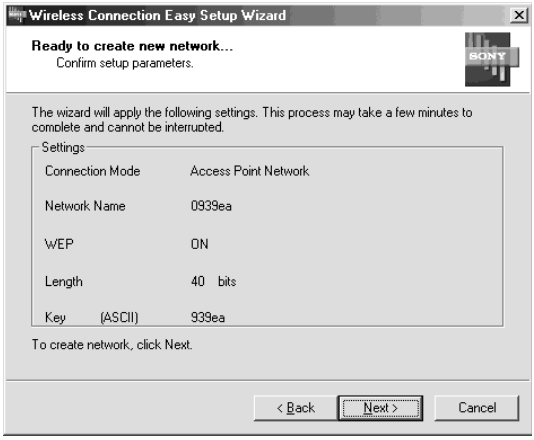
Hint

This product supports a function called “roaming” which allows the creation of a wireless network with multiple Access Points for wider coverage. When using this function, configure all Access Points to the same Network Name (SSID) and Data Encryption (WEP) settings.

4 When all the items are configured, click “Next”.

A confirmation screen showing the selected settings appears.

5 Verify that all settings are as desired, and click “Next”.

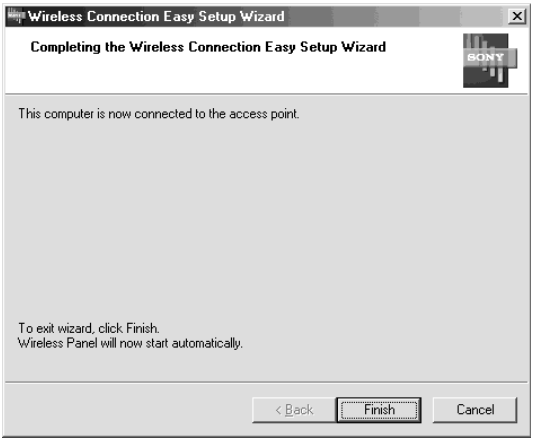


When connection is complete, the Wireless Connection Easy Setup Wizard completion screen appears.

Note

If an error message is shown, read the message carefully and click “Back” to correct the settings.

6 Click “Finish”.



The Wireless Panel starts automatically, and the icon appears in the taskbar.

If the Access Point has already been configured, the setup procedure is now complete. If you want to change the Access Point settings, refer to the manuals of the Access Point for information on how to proceed. When using the Sony 5GHz Wireless LAN Access Point PCWA-A500, proceed to step 7.

Note

To use an Access Point to connect to the Internet, you must change the Access Point default settings.

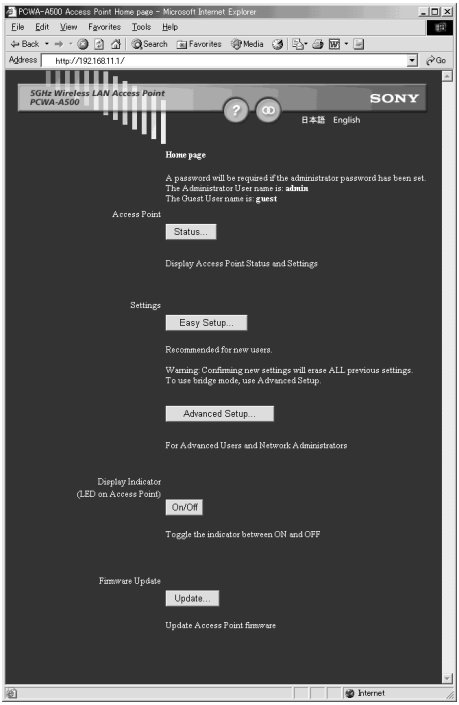
7 When using the Sony 5GHz Wireless LAN Access Point PCWA-A500, click the “AP Setting” button on the “Status” tab of the Wireless Panel.

For information on how to open the Wireless Panel, see page 40. For information on the “AP Setting” button, see page 44.

Your Web browser starts and displays the Access Point home page (setup page).

Notes

- If you are using Internet Explorer, any proxy setting will automatically be disabled for the IP address of the Access Point. When using another browser, make sure that the browser does not use a proxy server for the Access Point IP address. (The default IP address of the PCWA-A500 is 192.168.11.1.)
- The content of the Access Point home page (setup page) differs depending on the firmware version. (The illustration below shows an example for the PCWA-A500.)



8 Configure the Access Point according to the on-screen instructions.

Hints

- For details on how to configure the Access Point, refer to the manuals of the Access Point or its Online Help.
- Help regarding Access Point settings can be opened by clicking .

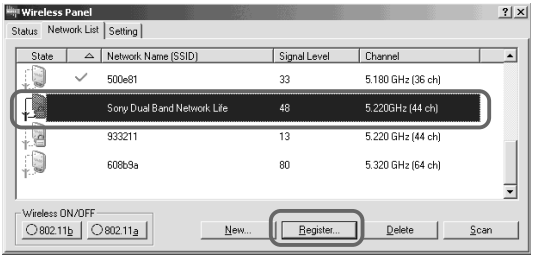
Note

If you change the Network Name (SSID) and Data Encryption (WEP) settings of the Access Point, the settings will no longer match those of the computer and communication will be interrupted. To resume communication, the settings of the computer must be changed accordingly.

9 When Access Point settings are completed, double-click the icon in the system tray.

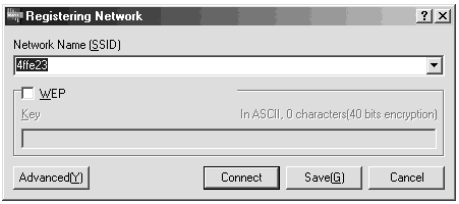
The Wireless Panel screen appears.

10 Click the “Network List” tab, select a wireless network from the list, and click “Register”.



The “Register Network” dialog box appears.

11 If you have enabled Data Encryption (WEP) for the Access Point in step 8, check the box “WEP” and enter the encryption key (WEP key) in the “Key” field.



Hint

This dialog box appears only when “Dialog Format” is selected in “Add/Edit/Register Network” on the "Setting" tab of the “Wireless Panel” dialog box.

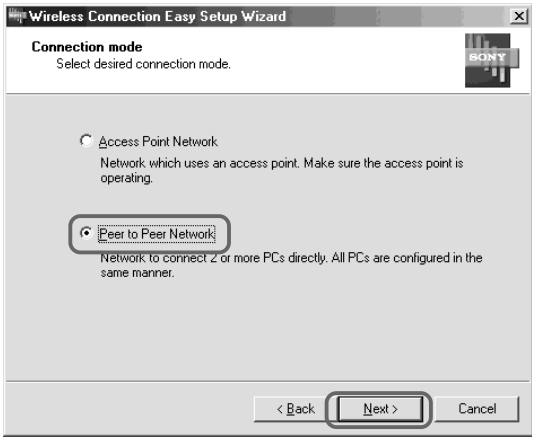
12 Click “Connect”.

This completes the setup procedure.

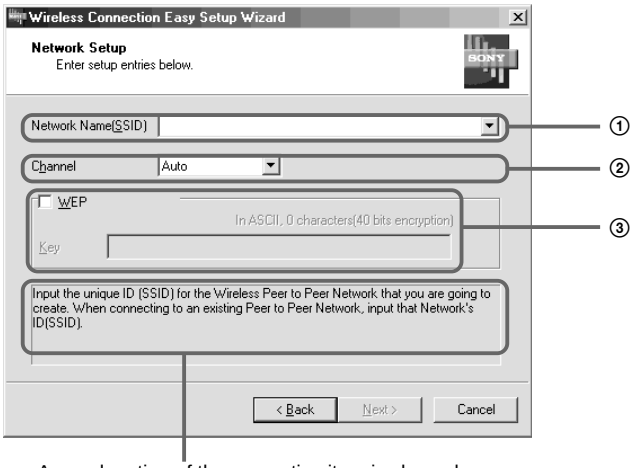
Using the product in Peer to Peer Network connection mode

1 When the Wireless Connection Easy Setup Wizard starts, check the box “Use Easy Setup Wizard” and click “Next”.

2 Select “Peer to Peer Network”, and click “Next”.



3 Configure the “Network Name (SSID)”, “Channel”, and “WEP” items.



①Network Name (SSID)

See page 19 for details.

②Channel

A drop-down list appears which lets you select the radio channel to use.

Hints

- You can leave this setting at “Auto”, but to ensure low-interference transmission, you may want to use the “Network List” tab (page 44) of the Wireless Panel to verify the channels used by networks operating within communication range of your computer, and select a channel with low usage.
- When connecting to an existing Peer to Peer network, changing the channel has no effect. The channel automatically will revert to the one used by the Peer to Peer network.

③WEP

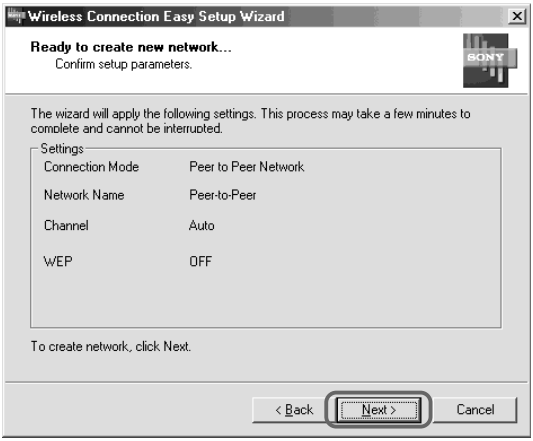
See page 20 for details.

4 When all items are configured, click “Next”.

A confirmation screen showing the selected settings appears.

5 Verify that all settings are as desired, and click “Next”.

The network settings are activated. This process may require up to several minutes. Please wait until it is complete.



6 When the Wireless Connection Easy Setup Wizard completion screen appears, click “Finish”.

The wizard closes.

7 Configure the same settings at all computers participating in the network.

This completes the setup procedure.

Hint

For information on how to share files and printers on the network, refer to the Windows Help and documentation.

Windows XP

Note

Before configuring the Wireless LAN PC Card

Perform the following steps to confirm that the “Use Windows to configure my wireless network settings” check box is selected. This option is selected by default.

1 Click “Start”, “Control Panel”, and double-click “Network Connections”.

Hint

If “Network Connections” is not displayed, click “Switch to Classic View”.

2 Right-click “Wireless Network Connection *” (“*” is a number that differs according to the computer settings), and select “Properties” from the shortcut menu.

3 Click the “Wireless Network” tab.

4 Confirm that the box “Use Windows to configure my wireless network settings” is checked. If not, place a check mark in the box.

- To use the product in Access Point Network connection mode, see below.
- To use the product in Peer to Peer Network connection mode, see page 33.

Using the product in Access Point Network connection mode

1 Click “Start”, and click “Connect To” – “Show all connections”.

The “Network Connections” window appears.

2 Right-click “Wireless Network Connection *” (“*” is a number that differs according to the computer settings), and select “View Available Wireless Networks” from the shortcut menu.

The “Connect to Wireless Network” dialog box appears.

Hints

- If the computer is not connected to a wireless network, an “x” is shown for the “Wireless Network Connection *” icon in the “Network Connections” window.

- If you have installed Windows XP Service Pack 1, see page 29.

3 From the “Available Wireless Networks” list in the “Connect to Wireless Network” dialog box, select the Access Point to which you want to connect.

Hint

The “Available Wireless Networks” list shows the names of Access Points within communication range of the computer. When using the Sony 5GHz Wireless LAN Access Point PCWA-A500, the default Network Name (SSID) of the Access Point is shown on the ID label of the card. For details on the position of the label and other information, refer to the manuals of the Access Point. Because the Network Name of an Access Point may have been changed, consult your network administrator if you are not sure.

4 If Data Encryption (WEP) is enabled for the Access Point, enter the encryption key (WEP key) in the “Network key” field.

The key entered here must be exactly the same as that set for the Access Point. The number of characters depends on the “Key format” and “Key length” settings (see table below).

Key format	Key length	Number of characters
ASCII	40 bits 104 bits	5 characters 13 characters
Hex	40 bits 104 bits	10 characters 26 characters

Hint

The data encryption (WEP) function serves to prevent unauthorized access to the network. When the function is enabled, only computers configured with the correct encryption key (WEP key) can join the network. For security reasons, it is strongly recommended that you enable this feature. The setting can be made individually for Access Point Network connection mode and Peer to Peer Network connection mode. When connecting to an existing network, consult your network administrator regarding the proper settings. For information on how to control this setting at the Access Point, refer to the manuals of the Access Point.

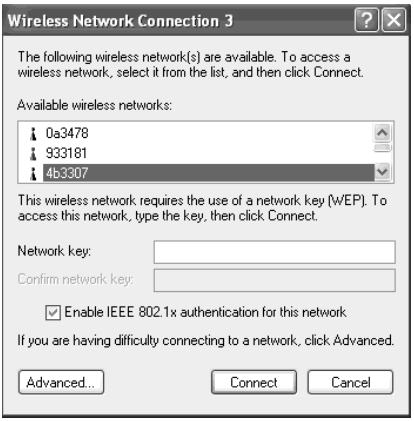
❑ **When using Service Pack 1**

If you have installed Windows XP Service Pack 1, steps 3 and 4 must be performed as follows.

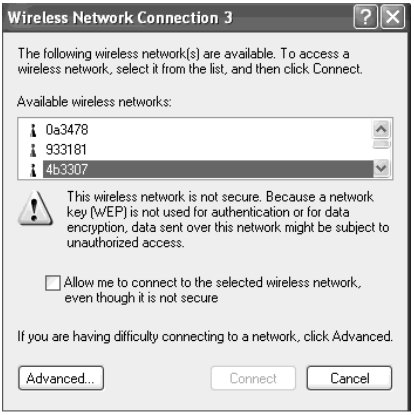
3 From the “Available Wireless Networks” list in the “Connect to Wireless Network” dialog box, select the Access Point to which you want to connect.

4 Depending on the Data Encryption (WEP) settings of the Access Point, proceed as follows.

- Data Encryption (WEP) at selected Access Point is enabled
  Enter the encryption key (WEP key) in the “Network key” field. (The input is shown only as asterisks.) For verification, the same string must be entered once more in the “Confirm network key” field.



- Data Encryption (WEP) at selected Access Point is disabled
  Select “Allow me to connect to the selected wireless network, even though it is not secure” check box. (For security reasons, enabling data encryption is recommended.)



5 Click “Connect”.

Connection to the Access Point is established.

If the Access Point has already been configured, the setup procedure is now complete.

If you want to change the Access Point settings, refer to the manuals of the Access Point for information on how to proceed. When using the Sony 5GHz Wireless LAN Access Point PCWA-A500, proceed to step 6.

Note

To use an Access Point to connect to the Internet, you must change the Access Point default settings.

6 When using the Sony 5GHz Wireless LAN Access Point PCWA-A500, click the “AP Setting” button on the “Status” tab of the Wireless Panel.

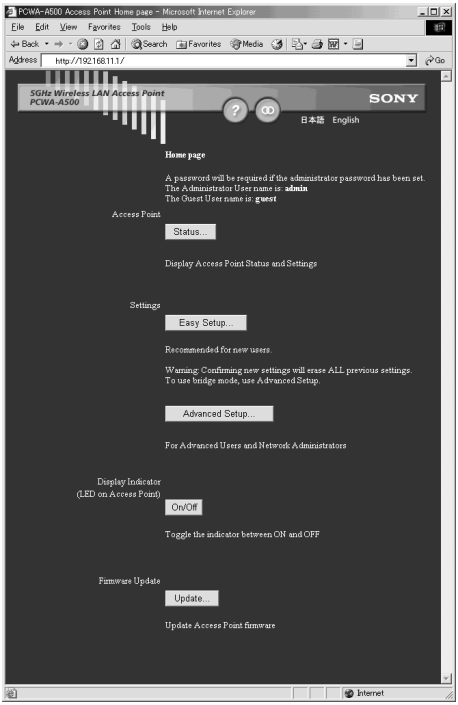
For information on how to open the Wireless Panel, see page 40. For information on the “AP Setting” button, see page 44.

Your Web browser starts and displays the Access Point home page (setup page).

Notes

- If you are using Internet Explorer, any proxy setting will automatically be disabled for the IP address of the Access Point. When using another browser, make sure that the browser does not use a proxy server for the Access Point IP address. (The factory default IP address of the PCWA-A500 is 192.168.11.1.)

- The content of the Access Point home page (setup page) differs depending on the firmware version. (The illustration below shows an example for the PCWA-A500.)



7 Configure the Access Point according to the on-screen instructions.

Hints

- For details on how to configure the Access Point, refer to the manuals of the Access Point or its Online Help.
- Help regarding Access Point settings can be opened by clicking .

Note

If you change the Network Name (SSID) and Data Encryption (WEP) settings of the Access Point, the settings will no longer match those of the computer and communication will be interrupted. To resume communication, the settings of the computer must be changed accordingly.

8 When Access Point settings are completed, right-click the “Wireless Network Connection” icon in the taskbar, and select “View Available Wireless Networks” from the shortcut menu.

9 If you have enabled Data Encryption (WEP) for the Access Point in step 7, enter the encryption key (WEP key) in the “Network key” field.

When Windows XP Service Pack 1 is installed, the same string must be entered once more in the “Confirm network key” field.

10 Click “Connect”.

This completes the setup procedure.

Using the product in Peer to Peer Network connection mode

1 Click “Start”, and click “Connect To” – “Show all connections”.

The “Network Connections” window appears.

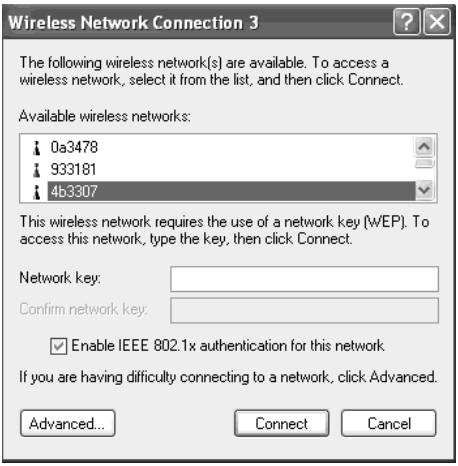
2 Right-click “Wireless Network Connection *” (“*” is a number that differs according to the computer settings), and select “View Available Wireless Networks” from the shortcut menu.

The “Connect to Wireless Network” dialog box appears.

Hint

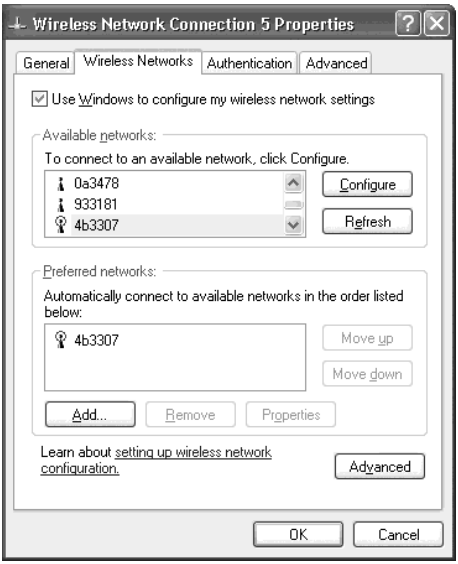
If the computer is not connected to a wireless network, an “x” is shown for the “Wireless Network Connection *” icon in the “Network Connections” window.

With Windows XP Service Pack 1

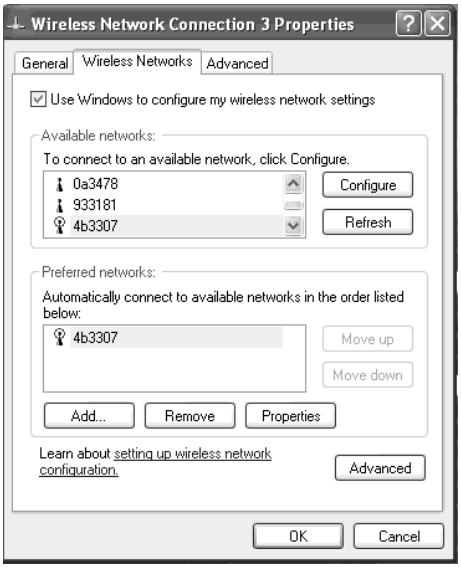


3 Click “Advanced”.

The “Wireless Network Connection * Properties” dialog box appears. (“*” is a number that differs according to the computer settings.)

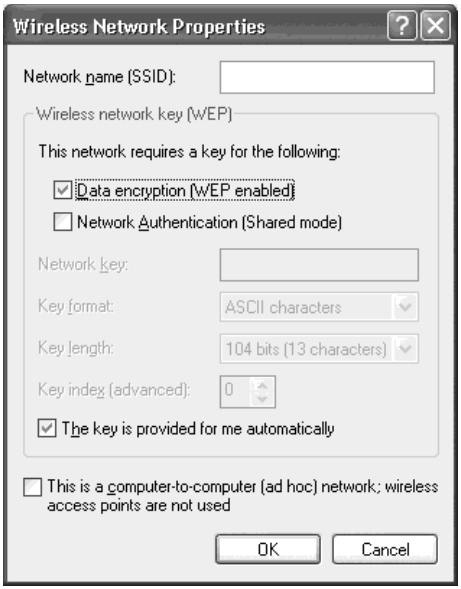


With Windows XP Service Pack 1

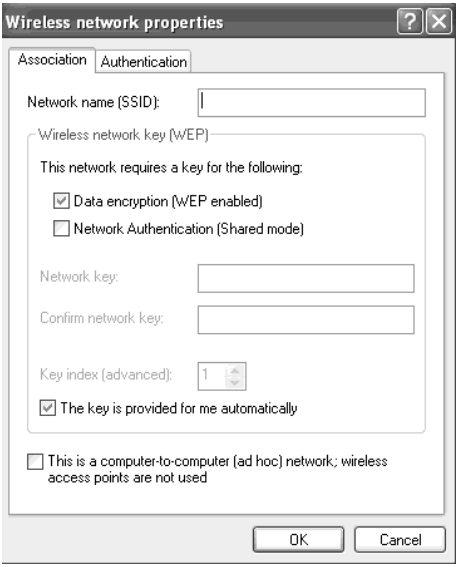


4 Click “Add”.

The “Wireless Network Properties” dialog box appears.



With Windows XP Service Pack 1



5 Enter the Network Name (SSID) for this network (alphanumeric characters or symbols can be used).

The Network Name (also called SSID) is a unique ID that identifies the network. When connecting to a Peer to Peer network , all computers must use the same Network Name. The Network Name can be up to 32 characters long. When connecting to an existing network, consult your network administrator regarding the proper settings.

6 Check the box “Data encryption (WEP enabled)” and remove the check mark from the box “The key is provided for me automatically”.

Note

The data encryption (WEP) function serves to prevent unauthorized access to the network. When the function is enabled, only computers configured with the correct encryption key (WEP key) can participate in the network. For security reasons, it is strongly recommended that you enable this feature.

7 Enter the encryption key (WEP key) in the “Network key” field.

Notes

- When creating a new Peer to Peer Network, you can enter any character string to use as a key. When connecting to an existing network, consult your network administrator regarding the proper settings. The number of characters for the key depends on the “Key format” and “Key length” settings (see table below).

Key format	Key length	Number of characters
ASCII	40 bits	5 characters
	104 bits	13 characters
Hex	40 bits	10 characters
	104 bits	26 characters

- With Windows XP Service Pack 1, you cannot select “Key format” or “Key length”.

“Network key”

If data encryption (WEP) is enabled, enter the encryption key (WEP key) here. Because this key functions as password that enables communication with the network, the key entered here must be exactly the same as that set for the Access Point. Only computers for which the key has been configured correctly can join the network. The number of characters depends on the “Key format” and “Key length” settings (see table above).

“Key format”

This is the format for entering the password (WEP key) required. You can select either ASCII (alphanumeric characters, including symbols) or Hex (hexadecimal notation).

“Key length”

This is the length (bit length) of the WEP key (password) required when connecting to networks where WEP is enabled. You can select from 40 bits or 104 bits. Generally, the longer the bit length, the better the security.

8 Check the box “This is a computer-to-computer (ad hoc) network; wireless access points are not used”, and click “OK”.

The “Wireless Network Connection * Properties” dialog box appears.

9 Click “Advanced”.

The “Advanced” dialog box appears.

10 Check the box “Computer-to-computer (ad hoc) networks only” and click “Close”.

The “Wireless Network Connection * Properties” dialog box appears.

11 Click “OK”.

The setting are saved, and the computer automatically connects to the newly registered network.

Hint

For additional information on the wireless network capabilities of Windows XP, refer to Windows XP “Help and Support”. (Click “Start”, and click “Help and Support”, enter “wireless” into the Search field, and click the green arrow icon.) You may also wish to consult the Windows XP documentation.

Checking the communication status

Checking the wireless signal strength

The communication status is shown by the signal level indicator in the taskbar.

Signal level indicator

Meaning of indicator appearance

	Excellent
	Good
	Poor
	Out of range
	Card not inserted (Wireless LAN PC Card is not inserted or not recognized correctly)
	Peer to Peer (Communicating in Peer to Peer Network connection mode)

Checking network information

To obtain information about the network to which you are connected, proceed as follows.

Double-click the signal level indicator in the taskbar.

The Wireless Panel main screen appears, and information about the network connection is shown. For details about the various items, see the section “Opening up the Wireless Panel” (page 40).

Using the Wireless Panel

The Wireless Panel is a software application that shows information about the communication status of the computer connected to the wireless network. Normally, the Wireless Panel runs in the background and only shows the radio signal condition by means of the signal level indicator in the taskbar. The main screen of the Wireless Panel contains more detailed information. When running under operating systems other than Windows XP, communication setup and network switching are also performed using the Wireless Panel. For more information, refer also to the “Wireless LAN Quick Guide”.

Notes

- To use the Wireless Panel under Windows 2000 for modifying communication settings, log on with a user account listed in “Administrators”. You cannot modify settings when logged on with any other account.
- On a computer running Windows XP, communication setup and network switching are not performed with the Wireless Panel but with built-in functions of Windows XP. However, the Wireless Panel can be used to check the communication status.

Opening the Wireless Panel

To open the Wireless Panel, proceed as follows.

Double-click the signal level indicator in the taskbar.

The Wireless Panel appears.

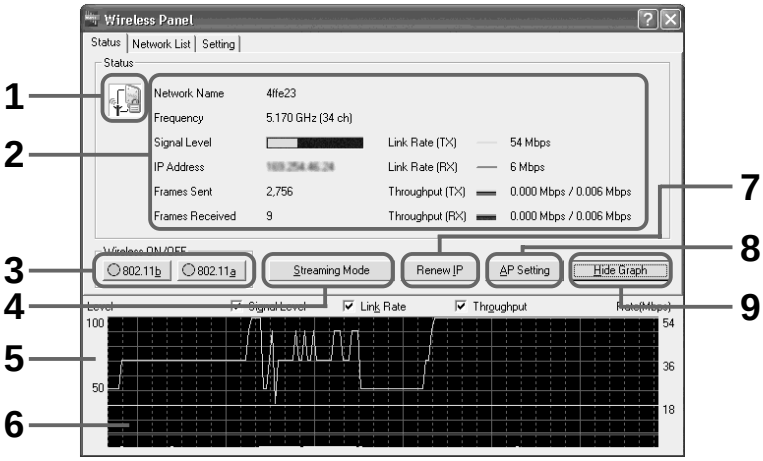
Hints

- For information on the signal level indicator, see “Checking the wireless signal strength” on page 39.
- When you move the mouse pointer over an item in the Wireless Panel screen, a short description of that item appears.

There are three tabs on the main screen of the Wireless Panel.

- “Status” tab (page 41)
- “Network List” tab (page 44)
- “Setting” tab (page 47)

“Status” tab



1 Status indicator icon

The icon type indicates the type of network to which the computer is connected.

Data encryption	Network mode	
	Access Point Network	Peer to Peer Network
Off		
On		

2 Status

Shows the communication status of the wireless network.

“Network Name”
Unique ID for the wireless network to which the computer is connected. Also called SSID.

“Frequency”
Indicates the communication channel and frequency currently being used.

“Signal Level”
Indicates the signal level as a bar graph.
Install the computer and Access Point so that the signal level displayed here is as high as possible.

“IP Address”
Indicates the computer’s IP address.
In Access Point Network connection mode, if an IP address starting with “169.254. ...” or if “0.0.0.0” is shown here, the Access Point and computer are not linked, or the Access Point is not connected to the Internet. For details, refer to the “Wireless LAN Quick Guide” or the “Troubleshooting Guide”.

“Frames Sent”
Shows the total number of network data frames that have been sent.

“Frames Received”
Shows the total number of network data frames that have been received.

“Link Rate (TX)”
Shows the transmission rate.

“Link Rate (RX)”
Shows the reception rate.

“Throughput (TX)”
Shows the current transmission rate and maximum transmission rate of the session in the format “Current Mbps/Max. Mbps”. The maximum value update frequency corresponds to the time width of the status graph.

“Throughput (RX)”
Shows the current reception rate and maximum reception rate of the session in the format “Current Mbps/Max. Mbps”. The maximum value update frequency corresponds to the time width of the status graph.

3 Wireless ON/OFF

Wireless signal transmission can be switched on/off independently for the 802.11b (2.4 GHz) and 802.11a (5 GHz) bands. Select the On/Off status according to the environment you are in. Take special care if you are using your computer in locations where radio emissions are prohibited, such as outdoors (802.11a band) or within an aircraft (802.11a and 802.11b bands). Be sure to set wireless signal transmission to Off with these buttons in such cases.

4 “Streaming Mode” button

This button is shown only when using Windows XP. It allows you to temporarily suspend the Windows XP wireless configuration functions (Wireless Zero Configuration service) in order to optimize throughput for real-time playback of streaming data.

5 Graph scale

This is a scale for transmission and reception link rate and throughput. Normally, the transmission and reception throughput will be about half the link rate.

6 Status indicator graph

Shows the signal level, RX link rate, and TX throughput. These parameters are useful for finding the optimum location of computer and Access Point, and for measuring throughput.

7 “Renew IP” button

Clicking this button causes the computer to release the currently assigned IP address and obtain a new IP address.

Notes

- When a fixed IP address has been assigned to the computer, this function cannot be used.
- Under Windows Me, this function cannot be used.

8 “AP Setting” button

Clicking on this button starts your Web browser and displays the Access Point home page (setup page). This page lets you configure the Access Point and display status information. In Peer to Peer Network connection mode, this button cannot be used.

Note

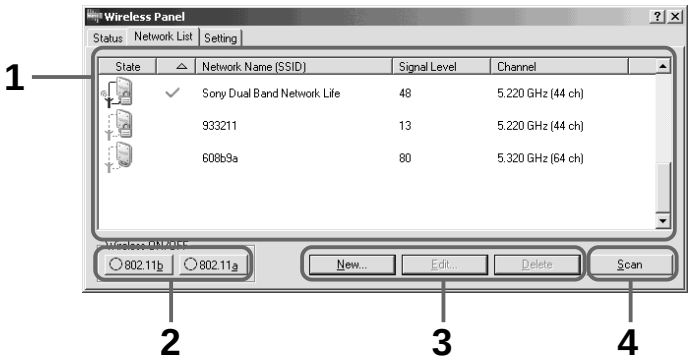
The “AP Setting” button can only be used when you are using the Sony 5GHz Wireless LAN Access Point PCWA-A500* or another 5GHz Wireless LAN Access Point which supports this feature. (* As of February, 2003)

9 “Show Graph/Hide Graph” button

Lets you turn the status graph on an off. The default setting is off.

“Network List”

The “Network List” tab shows a list of 802.11a/b wireless networks operating within communication range of the computer. You can select a network from this list to connect to, and you can register networks for the computer.



1 Network List

All wireless networks operating within communication range are shown.

“Status”

The status of registered networks is shown as an icon.
Access Points within communication range are shown as colored icons, and Access Points outside communication range are shown as gray icons.

Status		Network mode	
		Access Point Network	**Peer to Peer Network**
Connected	Data encryption On		
	Data encryption Off		
Not connected	Data encryption Off		
	Data encryption Off		

“Registered”

If the network has been registered with the Wireless Panel, a check mark is shown here.

Note

This is shown only under Windows Me and Windows 2000.

“Network Name (SSID)”

Shows the unique network ID.

Hint

The Sony 2.4GHz Access Point PCWA-A100/A200 can be configured not to show the Network Name (SSID). (This is referred to as a “closed system”.) For a closed system Access Point, the “Network Name (SSID)” field in the network list will be blank.

To connect to a closed system, obtain information about the Network Name (SSID) and encryption key (WEP key) from the network administrator and use this information to register the network. When connected, the Network Name (SSID) is shown in the network list.

“Signal Level”

Shows the signal level (field strength) of the received radio signal. Higher numbers mean a better signal.

“Channel”

Shows the channel used by the respective network. If multiple networks use the same channel, communication may be impaired.

2 Wireless ON/OFF

Wireless signal transmission can be switched on/off independently for the 802.11b (2.4 GHz) and 802.11a (5 GHz) bands. Select the On/Off status according to the environment you are in. Take special care if you are using your computer in locations where radio emissions are prohibited, such as outdoors (802.11a band) or within an aircraft (802.11a and 802.11b bands). Be sure to set wireless signal transmission to Off with these buttons in such cases.

3 “New”/“Register”/“Edit”/“Delete” button

“New”

This is used when no network is selected from the list. If “Dialog Format” is selected in “Add/Edit/Register Network” on the “Setting” tab of the “Wireless Panel” dialog box, when you click this button the “Registering Network” dialog box appears, letting you register a new network and connect to it.

“Register”

When you select a network from the list, the button caption changes to “Register”. If “Dialog Format” is selected in “Add/Edit/Register Network” on the “Setting” tab of the “Wireless Panel” dialog box, when you click this button the “Registering Network” dialog box appears, letting you register the selected network. You can register up to 32 networks.

“Edit”

When you select a registered network from the list, the button caption changes to “Edit”. If “Dialog Format” is selected in “Add/Edit/Register Network” on the “Setting” tab of the “Wireless Panel” dialog box, when you click this button the “Registering Network” dialog box appears, letting you change the registered settings.

“Delete”

This can be used when a registered network is selected from the list. Clicking the button brings up a confirmation message, letting you delete a registered network. (The currently connected network cannot be deleted.)

Note

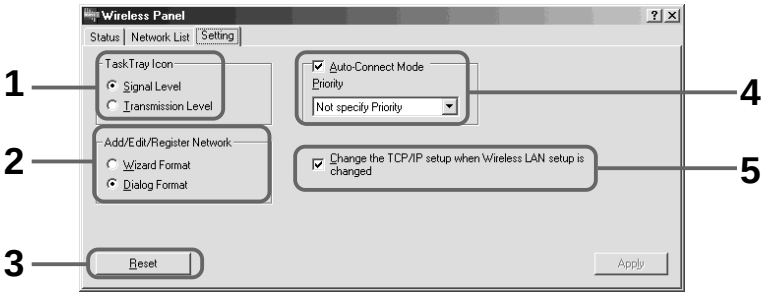
This function is available only under Windows Me and Windows 2000.

4 “Scan” button

Clicking this button causes the computer to scan again for 802.11b (2.4 GHz)/802.11a (5 GHz) wireless networks operating within communication range. The network list is updated according to the results of the scan.

“Setting” tab

The “Setting” tab lets you configure the Wireless Panel.



1 Task Tray Icon

Lets you change the icon in the taskbar.

2 Add/Edit/Register Network

This item lets you select whether various procedures such as registering a wireless network are performed by a wizard or in a dialog box (as in this manual).

Note

This function is available only under Windows Me and Windows 2000.

3 “Reset” button

Clicking this button returns all items under the “Setting” tab to their defaults.

4 Auto-Connect Mode

When this box is checked, the computer automatically connects to the registered network with the strongest signal if the current connection is interrupted.

Clicking  brings up a list in which you can specify the priority for automatic connection.

Note

This function is available only under Windows Me and Windows 2000.

5 Change the TCP/IP setup when Wireless LAN setup is changed

Check this box if you want to automatically switch TCP/IP settings (as set under “Advanced” in the “Registering Network” dialog box) when you switch the wireless network.

Note

This function is available only under Windows Me and Windows 2000.

Manually installing, verifying, and removing the supplied software

Installing the Wireless LAN PC Card driver manually

Notes

- When using Windows 2000, log on with a user account listed in “Administrators”. When using Windows XP, log on with a user account with administrator privileges.
- Exit all other Windows programs.

1 In the Sony Wireless LAN Setup Wizard dialog box, click “Exit”.

2 If your computer has only one PC card slot and it is currently used, copy the “setup” folder from the supplied CD-ROM to the hard disk of your computer before inserting the Wireless LAN PC Card.

The following explanation assumes that a folder called “Temp” was created on drive D and that the data was copied to this folder.

3 Insert the Wireless LAN PC Card into the PC Card slot of the computer.

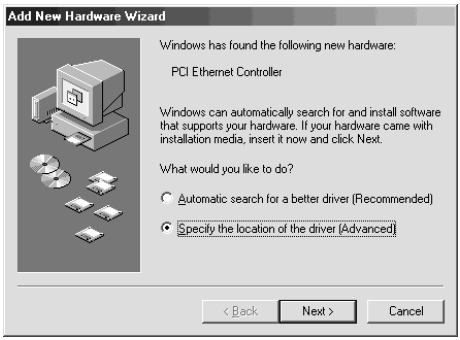
See page 13 for details.

4 Install the Wireless LAN PC Card driver.

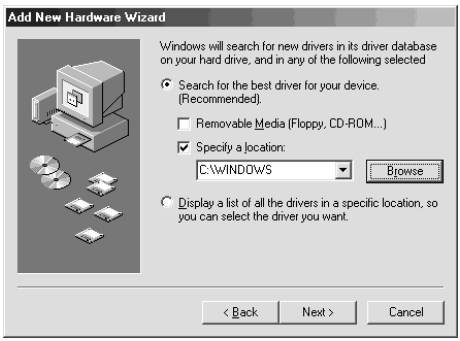
The actual procedure differs slightly, depending on whether you are using Windows Me, Windows 2000, or Windows XP. See the section specific to your operating system.

Windows Me:

1 Select “Specify the location of the driver” and click “Next”.



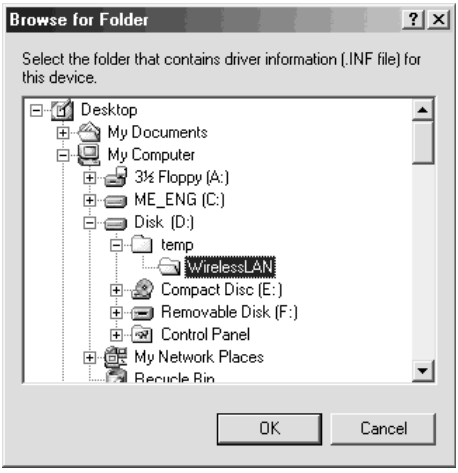
2 Check the box “Specify a location”.



3 Click “Browse” and specify the location of the driver in the dialog box that appears.

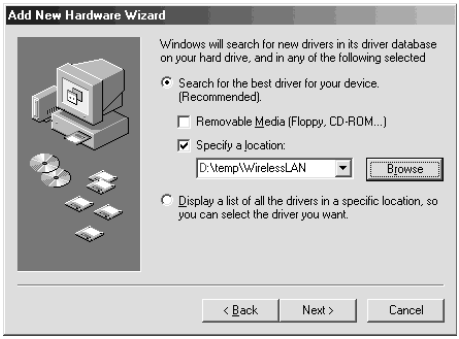
Hint

If the “WirelessLAN” folder from the CD-ROM has been copied to the “Temp” folder on drive D, enter “D:\Temp\WirelessLAN”.

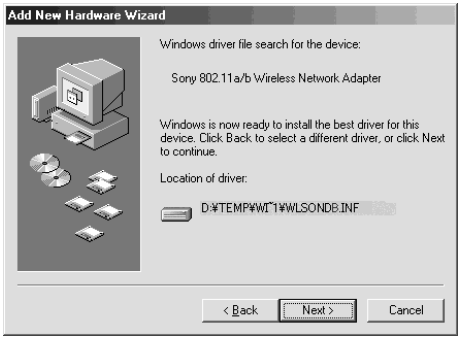


4 Click “OK”.

5 Click “Next”.



6 Click “Next”.



The driver is installed.

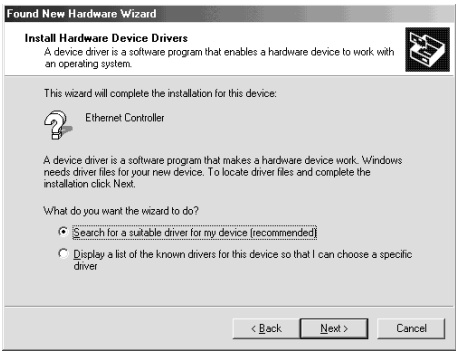
7 Click “Finish”.

Restart the computer.

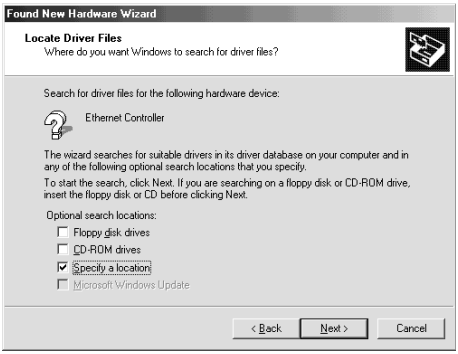
Windows 2000:

1 Click “Next”.

2 Select “Search for a suitable driver for my device” and click “Next”.



3 Check the box “Specify a location” and click “Next”.



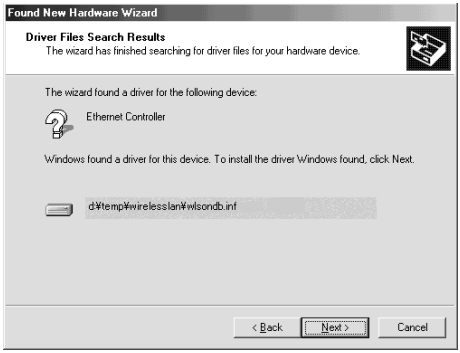
4 Click “Browse” and specify the location of the driver in the dialog box.

Hint

If the “WirelessLAN” folder from the CD-ROM has been copied to the “Temp” folder on drive D, enter “D:\Temp\WirelessLAN”.

5 Click “OK”.

6 Click “Next”.



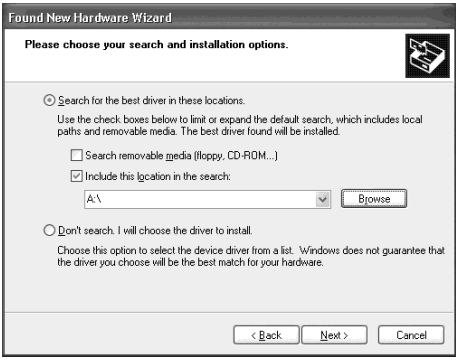
The driver is installed.

7 Click “Finish”.

Windows XP:

1 Select “Install from a list or specific location” and click “Next”.

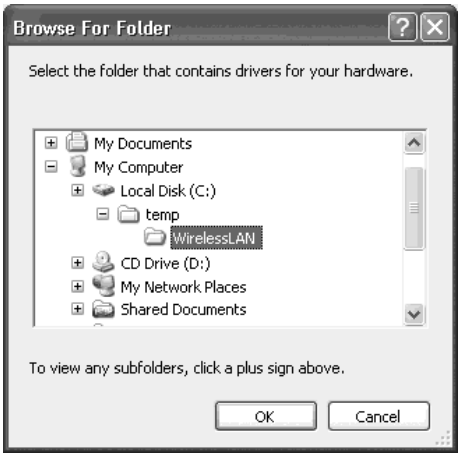
2 Check the box “Include this location in the search” and click “Browse”.



3 In the dialog box that appears, select the folder that contains the driver and click “OK”.

Hint

If the “WirelessLAN” folder from the CD-ROM has been copied to the “Temp” folder on drive D, select “D:\Temp\WirelessLAN”.



4 Click “OK”.

5 Click “Next”.

6 Click “Finish”.

Installing the Wireless Panel manually

Note

When using Windows 2000, log on with a user account listed in “Administrators”. When using Windows XP, log on with a user account with administrator access privileges.

Before installation

- Install the Access Point and connect it to a power outlet when using the Access Point Network connection mode.
- Complete installation of the Wireless LAN PC Card driver. (See page 49)
- Exit all other Windows programs.

1 Go to the “WirelessLAN” folder copied from the CD-ROM and double-click “Setup.exe”.

Depending on your computer’s settings, the file name “Setup.exe” may be displayed as “Setup”. If there are multiple files named “Setup” in the same folder, double-click the one with the following icon:

2 Click “Next”.

3 The “License Agreement” dialog box appears. Click “Yes” to accept.

The “Choose Destination Location” dialog box appears.

4 Click “Next”.

The Wireless Panel software is installed.

5 Click “Finish”.

Under Windows Me and Windows 2000, the message “Installation is completed. Wireless Connection Easy Setup Wizard will be launched” appears.

Hint

In the following cases, the Wireless Connection Easy Setup Wizard does not appear.

- If the driver for the Wireless LAN PC Card PCWA-C500 is already installed and enabled.
- If the Wireless LAN PC Card PCWA-C700 was installed and enabled, and then the Wireless Panel only was uninstalled and is now being reinstalled.

Under Windows XP, the Wireless Panel starts automatically and the  icon appears in the taskbar. Under Windows XP, installation of the Wireless Panel is now complete.

6 Click “OK” to start the Wireless Connection Easy Setup Wizard.

Under Windows Me and Windows 2000, the Wireless Connection Easy Setup Wizard starts after Wireless Panel installation is completed.

What to do next

Configure the wireless LAN environment.

When using Windows Me or Windows 2000, proceed to page 17

When using Windows XP, the Wireless Connection Easy Setup Wizard does not appear. Proceed to page 27.

Verifying Wireless LAN PC Card driver installation

To verify that the Wireless LAN PC Card driver has been installed properly, perform the following steps.

Windows Me:

1 Click “Start”, and click “Settings” – “Control Panel”.

Control Panel appears.

2 Double-click the “System” icon.

Hint

If the “System” icon is not shown, select “View all Control Panel options”.

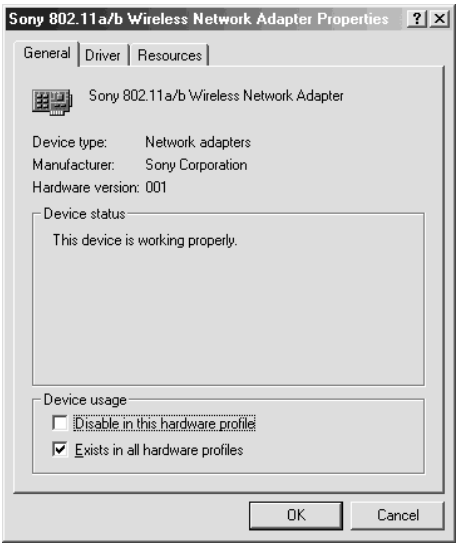
3 Click the “Device Manager” tab.

4 Click “View devices by type”.

5 Double-click “Network adapters”.

6 Double-click “Sony 802.11a/b Wireless Network Adapter”.

The “Sony 802.11a/b Wireless Network Adapter Properties” dialog box appears.



Note

The Wireless LAN PC Card is not working properly in the following cases:

- “Sony 802.11a/b Wireless Network Adapter” is shown with an “X” or “!” symbol.
  - ➔ Click “Sony 802.11a/b Wireless Network Adapter” and click “Remove” to uninstall the driver. Then repeat the installation process.
- Double-clicking “Network Adapters” does not display “Sony 802.11a/b Wireless Network Adapter”.
  - ➔ Remove the Wireless LAN PC Card. Then repeat the installation process.
- Double-clicking “Other devices” displays “Sony 802.11a/b Wireless Network Adapter”.
  - ➔ Click “Sony 802.11a/b Wireless Network Adapter”, then click “Remove” to uninstall the driver. Repeat the installation process.

7 Confirm that the message “This device is working properly.” is displayed under “Device status”.

Note

If “This device is working properly.” is not shown, the Wireless LAN PC Card is not working correctly. Perform steps 1 - 5, click “Sony 802.11a/b Wireless Network Adapter”, then click “Remove” to uninstall the driver. After uninstalling, restart the computer and repeat the installation process.

8 Click “OK” to close the “Sony 802.11a/b Wireless Network Adapter Properties” dialog box.

The “System Properties” dialog box appears.

9 Click “OK” to close the “System Properties” dialog box.

Control Panel appears.

10 Click  to close Control Panel.

If the computer you are using incorporates another Ethernet interface besides the Wireless LAN PC Card, disable the other interface as follows.

1 Click “Start”, and click “Settings” – “Control Panel”.

Control Panel appears.

2 Double-click the “System” icon.

Hint

If the “System” icon is not shown, select “View all Control Panel options”.

3 Click the “Device Manager” tab and double-click “Network adapters”.

4 Double-click the network adapter to disable.

5 Click the “General” tab, then select the “Disable in this hardware profile” check box.

6 Click “OK” to close the Properties dialog box for the network adapter to disable.

The “System Properties” dialog box appears.

7 Click “OK” to close the “System Properties” dialog box.

Control Panel appears.

8 Click  to close Control Panel.

Windows 2000:

1 Click “Start”, and click “Settings” – “Control Panel”.

Control Panel appears.

2 Double-click the “System” icon.

The “System Properties” dialog box appears.

3 Click the “Hardware” tab, then click “Device Manager”.

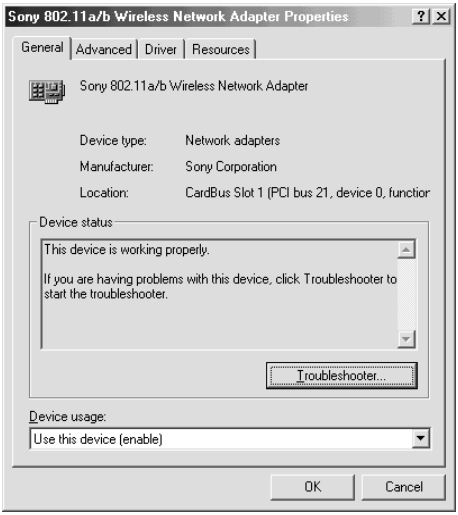
The “Device Manager” window appears.

4 In the “View” menu, click “View devices by type”.

5 Double-click “Network adapters”.

6 Double-click “Sony 802.11a/b Wireless Network Adapter”.

The “Sony 802.11a/b Wireless Network Adapter Properties” dialog box appears.



Note

The Wireless LAN PC Card is not working properly in the following cases:

- “Sony 802.11a/b Wireless Network Adapter” is shown with an “X” or “!” symbol.

  → Right-click “Sony 802.11a/b Wireless Network Adapter” and click “Remove” to uninstall the driver. Then repeat the installation process.

- Double-clicking “Network Adapters” does not display “Sony 802.11a/b Wireless Network Adapter”.

  → Remove the Wireless LAN PC Card. Then repeat the installation process.

- Double-clicking “Other devices” displays “Sony 802.11a/b Wireless Network Adapter”.

  → Right-click “Sony 802.11a/b Wireless Network Adapter”, then click “Remove” to uninstall the driver. Repeat the installation process.

7 Confirm that the message “This device is working properly.” is displayed under “Device status”.

Note

If “This device is working properly.” is not shown, the Wireless LAN PC Card is not working correctly. Perform steps 1 - 5, right-click “Sony 802.11a/b Wireless Network Adapter”, then click “Remove” to uninstall the driver. After uninstalling, restart the computer and repeat the installation process.

8 Click “OK” to close the “Sony 802.11a/b Wireless Network Adapter Properties” dialog box.

The “Device Manager” window appears.

9 Click  to close the “Device Manager” window.

The “System Properties” dialog box appears.

10 Click “OK” to close the “System Properties” dialog box.

Control Panel appears.

11 Click  to close Control Panel.

If the computer you are using incorporates another Ethernet interface besides the Wireless LAN PC Card, disable the other interface as follows.

1 Click “Start”, and click “Settings” – “Network and Dial-up Connections”.

The “Network and Dial-up Connections” window appears.

2 Select the network adapter to disable.

3 On the “File” menu, click “Disable”.

4 Click  to close the “Network and Dial-up Connections” window.

Windows XP:

1 Click “Start”, and click “Control Panel”.

Control Panel appears.

2 Double-click the “System” icon.

The “System Properties” dialog box appears.

Hint

If the “System” icon is not displayed, click “Switch to Classic View”.

3 Click the “Hardware” tab, then click “Device Manager”.

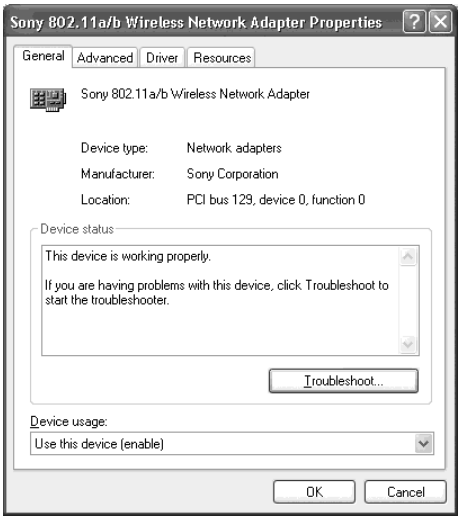
The “Device Manager” window appears.

4 On the “View” menu, click “View devices by type”.

5 Double-click “Network adapters”.

6 Double-click “Sony 802.11a/b Wireless Network Adapter”.

The “Sony 802.11a/b Wireless Network Adapter Properties” dialog box appears.



Note

The Wireless LAN PC Card is not working properly in the following cases:

- “Sony 802.11a/b Wireless Network Adapter” is shown with an “X” or “!” symbol.
  - ➔ Right-click “Sony 802.11a/b Wireless Network Adapter” and click “Remove” to uninstall the driver. Then repeat the installation process.
- Double-clicking “Network Adapters” does not display “Sony 802.11a/b Wireless Network Adapter”.
  - ➔ Remove the Wireless LAN PC Card. Then repeat the installation process.
- Double-clicking “Other devices” displays “Sony 802.11a/b Wireless Network Adapter”.
  - ➔ Right-click “Sony 802.11a/b Wireless Network Adapter”, then click “Remove” to uninstall the driver. Repeat the installation process.

7 Confirm that the message “This device is working properly.” is displayed under “Device status”.

Note

If “This device is working properly.” is not shown, the Wireless LAN PC Card is not working correctly. Perform steps 1 - 5, right-click “Sony 802.11a/b Wireless Network Adapter”, then click “Remove” to uninstall the driver. After uninstalling, restart the computer and repeat the installation process.

8 Click “OK” to close the “Sony 802.11a/b Wireless Network Adapter Properties” dialog box.

The “Device Manager” window appears.

9 Click ✕ to close the “Device Manager” window.

The “System Properties” dialog box appears.

10 Click “OK” to close the “System Properties” dialog box.

Control Panel appears.

11 Click ✕ to close Control Panel.

If the computer you are using incorporates another Ethernet interface besides the Wireless LAN PC Card, disable the other interface as follows.

1 Click “Start”, and click “Connect To” – “Show all connections”.

The “Network Connections” window appears.

2 From “LAN or high-speed Internet”, select the network adapter to disable.

3 On the “File” menu, click “Disable”.

4 Click ✕ to close the “Network Connections” window.

Uninstalling the Wireless LAN PC Card driver

To uninstall the Wireless LAN PC Card driver, proceed as follows.

Hint

For information on how to install the Wireless LAN PC Card driver, see page 49.

Windows Me:

1 Click “Start”, and click “Settings” – “Control Panel”.

Control Panel appears.

2 Double-click the “System” icon.

The “System Properties” dialog box appears.

Hint

If the “System” icon is not shown, select “View all Control Panel options”.

3 Click the “Device Manager” tab.

4 Click “View devices by type”.

5 Double-click “Network adapters”.

6 Click “Sony 802.11a/b Wireless Network Adapter”, then click “Uninstall”.

The “Confirm Device Removal” dialog box appears.

7 Click “OK” to uninstall.

The message “To finish removing your hardware, you must restart your computer. Do you want to restart your computer now?” appears.

8 Remove the Wireless LAN PC Card from its slot, then click “Yes”.

The computer restarts. This completes uninstallation of the driver.

Windows 2000:

Notes

- In Windows 2000, only users with administrator access privileges can uninstall drivers. Log onto Windows 2000 with a user account listed in “Administrators”.
- Exit all programs before running the uninstall process.

1 Click “Start”, and click “Settings” – “Control Panel”.

Control Panel appears.

2 Double-click the “System” icon.

The “System Properties” dialog box appears.

3 Click the “Hardware” tab, then click “Device Manager”.

The “Device Manager” window appears.

4 On the “View” menu, click “View devices by type”.

5 Double-click “Network adapters”, and double-click “Sony 802.11a/b Wireless Network Adapter”.

The “Sony 802.11a/b Wireless Network Adapter Properties” dialog box appears.

6 Click the “Driver” tab, then click “Uninstall”.

The “Confirm Device Removal” dialog box appears.

7 Click “OK”.

The Device Manager window appears.

8 Click  to close the “Device Manager” window.

The “System Properties” dialog box appears.

9 Click “OK” to close the “System Properties” dialog box.

Control Panel appears.

10 Click  to close Control Panel.

Windows XP:

Notes

- In Windows XP, only users with administrator access privileges can uninstall drivers. Log onto Windows XP with a user account with administrator access privileges.
- Exit all programs before running the uninstall process.

1 Click “Start”, and click “Control Panel”.

Control Panel appears.

2 Double-click the “System” icon.

The “System Properties” dialog box appears.

Hint

If the “System” icon is not displayed, click “Switch to Classic View”.

3 Click the “Hardware” tab, then click “Device Manager”.

The “Device Manager” window appears.

4 On the “View” menu, click “View devices by type”.

5 Double-click “Network adapters”, and Double-click “Sony 802.11a/b Wireless Network Adapter”.

The “Sony 802.11a/b Wireless Network Adapter Properties” dialog box appears.

6 Click the “Driver” tab, then click “Uninstall”.

The “Confirm Device Removal” dialog box appears.

7 Click “OK”.

The Device Manager window appears.

8 Click ✕ to close the Device Manager window.

The “System Properties” dialog box appears.

9 Click “OK” to close the “System Properties” dialog box.

Control Panel appears.

10 Click ✕ to close Control Panel.

Uninstalling the Wireless Panel

To uninstall the Wireless Panel, proceed as follows.

Note

Exit the Wireless Panel with the icon in the taskbar before proceeding.

Hint

For information on how to install the Wireless Panel, see page 57.

Windows Me:

Note

Exit all programs before running the uninstall process.

1 Click “Start”, and click “Settings” – “Control Panel”.

Control Panel appears.

2 Double-click the “Add/Remove Programs” icon.

The “Add/Remove Programs Properties” dialog box appears.

3 Select “Wireless Panel” and click “Add/Remove”.

The “Confirm File Deletion” dialog box appears.

4 Click “OK”.

The software uninstall process is carried out.

5 Click “Finish”.

The uninstall process is complete.

Windows 2000:

Notes

- In Windows 2000, only users with administrator access privileges can uninstall software. Log onto Windows 2000 with a user account listed in “Administrators”.
- Exit all programs before running the uninstall process.

1 Click “Start”, and click “Settings” – “Control Panel”.

Control Panel appears.

2 Double-click the “Add/Remove Programs” icon.

The “Add/Remove Programs” dialog box appears.

3 Select “Wireless Panel” and click “Change/Remove”.

The “Confirm File Deletion” dialog box appears.

4 Click “OK”.

The software uninstall process is carried out, and then the InstallShield completion dialog box appears.

5 Click “Finish”.

The uninstall process is complete.

Windows XP:

Notes

- In Windows XP, only users with administrator access privileges can uninstall software. Log onto Windows XP with a user account with administrator access privileges.
- Exit all programs before running the uninstall process.

1 Click “Start”, and click “Control Panel”.

Control Panel appears.

2 Double-click the “Add or Remove Programs” icon.

The “Add or Remove Programs” window appears.

Hint

If the “Add or Remove Programs” icon is not displayed, click “Switch to Classic View”.

3 Select “Wireless Panel” and click “Change/Remove”.

The “Confirm File Deletion” dialog box appears.

4 Click “OK”.

The software uninstall process is carried out, and then the maintenance completion dialog box appears.

5 Click “Finish”.

The uninstall process is complete.

Precautions

Safety

Do not drop or cause a mechanical shock to the Wireless LAN PC Card, as this may damage the unit.

Installation

Do not expose the Wireless LAN PC Card to the following conditions:

- Unstable surfaces
- High humidity or poor ventilation
- Excessive dust
- Direct sunlight or extreme heat
- Closed cars
- Magnetized location (near magnets, speakers, or televisions)
- Locations exposed to frequent vibration
- Locations where the transmission of radio waves may be obstructed by metal plates or concrete walls

Operation

If the Wireless LAN PC Card is moved directly from a cold location to a warm locations, or if it is placed in a very damp environment, moisture may condense on the parts inside. The Wireless LAN PC Card may not operate properly if moisture condensation occurs.

Cleaning

Clean the casing with a soft cloth, lightly moistened with water or a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzene as it may damage the finish of the casing.

Specifications

Protocol support

TCP/IP compliant

Standard compliance

IEEE 802.11a/IEEE 802.11b

Radio frequency

5 GHz wireless network:
    5.15 to 5.35 GHz (IEEE 802.11a)
2.4 GHz wireless network:
    2.4 to 2.4835 GHz (IEEE 802.11b)
    (ISM band: IEEE 802.11b)

Modulation

OFDM (IEEE 802.11a compliant)
DS-SS (IEEE 802.11b compliant)

General

Power requirements
    3.3 V DC (supplied from the computer through the PC card adapter)
Current
    Peak current at transmission: 660 mA
    Peak current at reception: 380 mA
Connector
    PC Card CardBus
Dimensions
    Approx. 2.2 × 0.2 × 4.7 inches
    (Approx. 54 × 5 × 119 mm) (W × H × D)
    (Antenna height: 0.5 inches (Approx. 11 mm))
Mass
    Approx. 1.7 oz. (Approx. 47 g)
Operating temperature
    41°F to 95°F (5°C to 35°C) (not condensed)
Environment temperature
    –4°F to 140°F (–20°C to 60°C) (not condensed)

Supplied accessories

See “Unpacking” on page 11.

Design and specifications are subject to change without notice.

Getting help

This section describes how to get help and support from Sony, as well as troubleshooting tips for your Wireless LAN PC Card.

About Sony’s Support Options

Sony provides several support options for your Wireless LAN PC Card.

❒ **Operating Instructions** explains how to use your Wireless LAN PC Card.

❒ **Troubleshooting Guide** contains answers to frequently asked questions and solutions to common problems.

❒ **Wireless LAN Quick Guide** describes the Wireless Panel software and explains how to set up a Peer to Peer network in detail, and provides information on configuring and changing specific settings.

❒ **Wireless Panel Online Help** explains how to use the Wireless Panel utility software provided.

❒ **The Sony Wireless LAN products support Web site http://www.sony.com/wirelesslansupport** provides the latest information on your Wireless LAN products.

❒ **The Sony e-mail support service** answers your questions by electronic mail. Just send your question in an e-mail message and a customer service representative will reply. To send a question to Sony e-mail support, fill out the e-mail form at **http://www.ita.sel.sony.com/support/pc/email.html**

❒ **The Sony fax-back service** provides you with answers to commonly asked questions. You can use this automated service to request a list of available topics then select the topics you want to receive. To contact the Sony fax-back service, call **1-877-760-7669**.

❒ **The Sony Customer Information Services Center** offers information about your Wireless LAN products and other Sony products that work with your computer. To contact the Sony Customer Information Services Center, call **1-877-760-7669**.
Open 24 hours/day, 7 days/week.

Glossary

Access Point (Infrastructure) Network mode

A method of building a wireless network using one or more Access Points. For details, see “Capabilities” on page 5.

Channel

A part of the frequency spectrum to be used for wireless communication.

Only client computers and Access Points set to the same channel can communicate with each other.

Client

A computer connected to a LAN (Local Area Network). Also may be called a client computer.

DHCP (Dynamic Host Configuration Protocol)

DHCP lets network administrators centrally manage and automate assignment of client computer IP addresses.

DNS (Domain Name System)

A system that translates host names into IP addresses.

Networks that use the TCP/IP protocol, such as the Internet, use a set of numbers like 192.168.0.1 (IP address) to identify a computer. However, since the IP address is hard to memorize, DNS was developed to allow a name like “www.sony.com” to identify a computer for convenience. DNS servers manage these translations from host names into IP addresses.

LAN (Local Area Network)

A network which is accessible only to its members, unlike the Internet which is open to an unlimited number of people. A LAN may be built for different purposes. For example, you can build an office LAN that is accessible only to members of the same department or a home LAN that is accessible only to family members.

Network Name (SSID)

A wireless LAN group identifier according to the IEEE 802.11 standard. SSID stands for “Service Set ID”. The Network Name can be set individually for each Access Point and Peer to Peer Network to connect to. When roaming among multiple Access Points is used, all Access Points must be configured for the same Network Name (SSID) and WEP encryption key.

TCP/IP (Transmission Control Protocol/Internet Protocol)

TCP/IP is the network communications protocol that is used to communicate over the Internet. TCP is a connection-oriented protocol for establishing reliable, sequenced data transfer. TCP ensures that data reaches its destination.

IP assembles and addresses data packets for transmission to their network destinations.

WAN (Wide Area Network)

A network that interconnects remote LANs through the Internet or telephone lines.

Troubleshooting

Read the Troubleshooting section of this guide before calling Sony Customer Information Services. If you still cannot resolve your issue after reading this section, call Sony Customer Information Services.

Symptom	Cause/Remedy
My computer does not detect the Wireless LAN PC Card.	The Wireless LAN PC Card may not be properly inserted into the PC card slot of your computer. ➔ Check that the Wireless LAN PC Card is inserted in the proper direction, then push it in as far as it will go.
I cannot access the Internet.	The Access Point is not connected. ➔ Follow the instructions in the Access Point Operating Instructions to connect it properly. The Wireless LAN PC Card is not properly inserted into your computer. ➔ See the instructions on page 13 of this manual to insert it properly. Communication between the Access Point and your computer are not established. ➔ Check the communication status using the Wireless Panel. For details on how to check the status, see “Checking the communication status” (page 39). The Access Point is not properly configured. ➔ Configure the Access Point with the connection method of your choice. Distance between computer and Access Point is too great. The maximum allowable distance is about 150 feet for 802.11a and 100 feet for 802.11b line of sight, but this will vary depending on usage conditions. ➔ Check the signal level indicator in the taskbar. If the level is low, bring the computer and Access Point closer together.

Symptom	Cause/Remedy
Data transfer speed is slow	There is interference with other Access Points. → Try changing the Access Point channel setting. The network is handling a large amount of simultaneous traffic. → Try again when the network load is lower. Communication distance is long. → Reduce the communication distance. There are obstacles (objects blocking radio transmission) within the communication range. → Remove the obstacles or change the installation location. Channel 14 is used for the IEEE 802.11b band. → Channel 14 is limited to 2 Mbps.
I cannot remember the WEP Key.	→ When using an Access Point, reset the Access Point to its defaults. For further information about how to reset the Access Point, see the Access Point Operating Instructions. → When using a Wireless LAN PC Card in Peer to Peer Network connection mode, delete the network settings registered on each computer connected to the network, then reconfigure the computer's wireless network settings.
Distance between Access Point and computer is less than 150 feet (IEEE 802.11a) and 100 feet (IEEE 802.11b), but communication is not possible.	The actual communication distance depends on the installation site and surrounding conditions. → Move your computer closer to the Access Point.

❒ **The Sony Wireless LAN products support Web site http://www.sony.com/wirelesslansupport** provides the latest information on your Wireless LAN products.

❒ **The Sony e-mail support service** answers your questions by electronic mail. Just send your question in an e-mail message and a customer service representative will reply. To send a question to Sony e-mail support, fill out the e-mail form at **http://www.ita.sel.sony.com/support/pc/email.html**

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http://www.sony.net/

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