SONY

2.4GHz Wireless LAN Access Point

Read This First

Carrier**Gate**

PCWA-A220

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.
To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Owner's Record

The model and serial numbers are located on the bottom of the product. 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-A220
Serial No._____

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your warranty.

FCC ID: XXXXXXX
Exposure to Radio Frequency Radiation.
The radiated output power of the Wireless LAN Access Point is far below the FCC radio frequency exposure limits.
Nevertheless, the Wireless LAN Access Point shall be used in such a manner that the potential for human contact during normal operation is minimized.

FCC Radio-Frequency Exposure Statement

This equipment generates and radiates radio-frequency energy. In order to comply with FCC radio-frequency radiation exposure guidelines for an uncontrolled environment, this equipment has to be installed and operated while maintaining a minimum body to antenna distance of 20 cm. Based on continuous exposure of 30 minutes.
Users are not permitted to make changes or modify the system in any way.

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, you are 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.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.
If you have questions about this product, call the Sony Customer Information Center at 1-877-760-7669; or write to the Sony Customer Information Center at 12451 Gateway Boulevard, Fort Myers, FL 33913. The number below is for FCC-related matters only.
This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Declaration of Conformity
Trade Name: Sony
Model No: PCWA-A220
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 device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

The supplied interface cable must be used with the equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

The socket outlet shall be installed near the equipment and shall be easily accessible.

NOTE:

The power outlet should be installed near the equipment and should be easily accessible.

Safety Information

WARNING

- Opening the unit, for whatever reason, could lead to damages that are not covered by the warranty.
- Do not touch the device or accessories during thunder storms. Electrical shock could result.
- This device is made for use in the USA only.
- For indoor use only.
- Do not use this equipment on hospital premises. Doing so may cause medical devices to malfunction.
- If using the equipment near a pacemaker, make sure it is at least 9 inches (22 cm) away from the pacemaker.
- Do not use this equipment in an aircraft, as doing so could cause the aircraft's equipment to malfunction.
- While using the Access Point, do not cover it or turn it on its side. Do not cover the Access Point with objects such as magazines or newspapers or use it in confined, enclosed places, such as the spaces between walls and furniture. Further, do not turn the Access Point on its side while using it. Either situation could cause heat to build up inside the Access Point, leading to overheating and possible fire.
- Carefully place the Ethernet cable, AC adapter, and other wiring. Personal injury or damage to the Access Point could result from people tripping over the Ethernet cable, AC adapter, or power cord. Protect wiring by locating it in places where people do not walk.
- Do not swing the AC adapter. Injury could result if the adapter strikes a person or fragile material, such as glass.
- Keep the Access Point out of the reach of children. Unforeseeable injury could result from swallowing loose parts, etc.
- Place the Access Point on a stable surface. Do not place the Access Point on wobbly or tilted surfaces. Tipping or falling could result in injury.
- When using wall mounting, make sure that the wall is strong enough to support the Access Point. The Access Point could fall if the wall is not strong enough, leading to unforeseeable accidents. Further, be careful not to drop the unit or the tools used for mounting it. Doing so could result in unforeseeable accidents.
- Avoid locations that are directly exposed to sunlight or heaters.
- Internal overheating could result in fire or damage to the unit.

- Make sure connectors are properly connected.
- Do not insert any metallic objects inside the connectors. Short-circuiting the pins could cause fire or damage to the unit.
- Be careful to insert connectors squarely. Crooked insertion could cause pins to short-circuit, possibly causing fire or damage to the unit.
- Use only the supplied AC adapter with your Sony Wireless LAN Access Point. To disconnect your Wireless LAN Access Point from the power supply, unplug the AC adapter.

For the customers in Canada

- This class B digital apparatus complies with Canadian ICES-003.
- Operation is subject to the 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.
- To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.
- The term "IC" before the equipment certification number only signifies that Industry Canada technical specifications were met.

Pour les utilisateurs au Canada

- Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
- L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes : (1) il ne doit pas produire de brouillage et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.
- Pour empêcher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit être utilisé à l'intérieur et devrait être placé loin des fenêtres afin de fournir un écran de blindage maximal. Si le matériel (ou son antenne d'émission) est installé à l'extérieur, il doit faire l'objet d'une licence.
- Le terme "IC" avant le numéro d'homologation ne signifie seulement que les normes d'Industrie du Canada ont été respectées.

Names of parts and functions

Indicator
POWER
Lights when power is supplied.
WIRELESS
Flashes while data is exchanged through a wireless LAN.
NETWORK
Lights when an Ethernet cable is connected to the   NETWORK connector.

Wall-mounting screw holes
Are used to mount the Access Point to a wall. For details, see the Quick Start Guide supplied with the Access Point.

MAC address label
The MAC address of your Access Point is printed.

Reset switch
Is used to return the Access Point to its default settings.
For details, see Online Help.

NETWORK connector
Is used to connect the Access Point to a DSL modem, ISDN router, broadband router, or Ethernet hub using an Ethernet cable.

DC IN 5V jack
Connects to the AC power adapter.

Precautions

AC adapter

Use ony the supplied AC adapter. Other AC adapters may cause a failure in the Access Point.

Safety

Do not drop the Access Point. Careful handling will help prevent damage.

Installation

Do not place the Access Point where it will be exposed to the following conditions:
- Unstable surfaces.
- High humidity or poor ventilation.
- Excessive dust.
- Direct sunlight or extreme heat.
- Closed cars.
- Magnetized locations (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

Exposure to cold-to-hot temperature extremes or very damp environments may cause moisture to condense on internal parts. This may prevent the Access Point from operating properly.
If this should happen, unplug the AC adapter from the power outlet and let the Access Point sit for two to three hours or until the moisture evaporates.

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. This may damage the finish of the casing.

Specifications

Power
AC100-240 V, 50/60 Hz
(The power cord plug is for use with AC 120 V.)

Power consumption
Approximately 4 W

Interface
100BASE-TX/10BASE-T (RJ-45)

Maximum external dimensions
Approximately $3.1 \times 5 \times 1.1$ inches (w/h/d)
(Approximately $78 \times 125 \times 29$ mm (w/h/d))

Mass
Approximately 7 oz (Approximately 200 g)
(Not including the AC adapter)

Maximum connection distance
Approximately 130 feet (40 m) in direct line of sight with no obstacles
(The maximum connection distance depends on the environment.)

Recommended number of units connected
16 units or less (number of clients)

Protocol support
TCP/IP

Standard
IEEE 802.11b/IEEE 802.11 (wireless connection)
IEEE 802.3 (wired connection)

Radio frequency
2.4 GHz (channel 1 to 11, ISM band)

WEP (Data encryption)
64 bits/128 bits

Modulation method
DS-SS (IEEE 802.11b compliant)

Operating temperature
41°F to 95°F (5°C to 35°C)
(no condensation)

Storage temperature
-4°F to 140°F (-20°C to 60°C)
(no condensation)

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 Access Point.

About Sony's Support Options

Sony provides several support options for your Wireless LAN Access Point.

❒ **Quick Start Guide** explains how to install the Wireless LAN Access Point.

❒ **Access Point Online Help** explains how to configure the Access Point.

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

❒ **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.sony.com/wirelesslansupport/

❒ **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 Access Point, Wireless LAN PC Card, 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**.

SONY®

2.4GHz
Wireless LAN Access Point
(Bridge Type)

Quick Start Guide

Before reading this guide, be sure to read the supplement entitled "Read This First."

This guide provides an overview of the functions of the 2.4GHz Wireless LAN Access Point PCWA-A220, and explains the preparations that are necessary before the Access Point can be put into operation.

CarrierGate

PCWA-A220

Check the Packing List

Once you have unpacked the unit, make sure that all of the following items are present:

• Access Point   • AC adapter

VAIO
WIRELESS LAN ACCESS POINT

• Power cable

• Ethernet cable (straight-through)
• CD-ROM (Setup disc)
• "Read This First"
• Quick Start Guide (this manual)
• Warranty
• One set of printed materials

Capabilities

Wireless access to the Internet from a variety of locations

The Wireless LAN Access Point PCWA-A220 ("Access Point" hereafter) is an IEEE 802.11b-compliant bridge-type 2.4 GHz wireless LAN access point. You can use the Access Point as a base station to construct a wireless LAN environment with computers that contain a wireless LAN PC card. If you want to enable the computers that are connected to the wireless LAN to access the Internet, simply connect the Access Point to a DSL modem, cable modem, ISDN router, broadband router or another similar communication device, or to an Ethernet LAN (wired LAN) that is connected to the Internet.

Notes

• Use an Ethernet cable to connect the Access Point to the communication device. You cannot use a USB connection to connect the Access Point to a communication device.
• Connect the Access Point to a communication device that is equipped with a router function. If you connect the Access Point to a communication device that is not equipped with a router function (such as a cable modem), you will also need a broadband router.
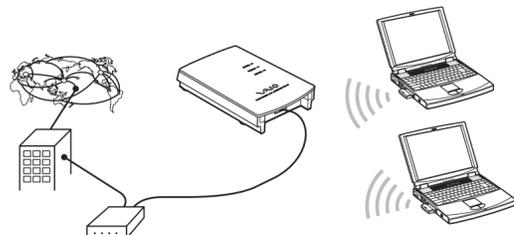
Steps to Installing, Connecting, and Setting Up

Installing the Access Point

Step 1 **Preparation**

Verify your computer's configuration and connection type.

Step 2 **Install the Access Point**

Install the Access Point, connect it to a DSL modem, ISDN router, or broadband router, or to an Ethernet LAN, and then turn the power on.

Establishing a Wireless Connection

Step 3 **Establish communication between the computer and the Access Point**

Configure wireless communication settings for your computer, and establish wireless communication with the Access Point under the default settings. Although communication is possible under the default settings, from a security standpoint it is best to also perform the following steps and change the default settings.

Configuring the Access Point

Step 4 **Install the utility software**

Use the CD-ROM provided to install the utility software that searches for the Access Point.

Step 5 **Change the Access Point settings**

Use the newly installed utility software to change the Access Point settings.

Step 6 **Change the computer settings**

Change the computer's wireless communication settings in accordance with the new Access Point settings that were changed in step 5.

Hint

In this guide, each step is preceded by a check box. After you complete each step, confirm that you have performed all of the necessary tasks described in that step, and then check off the check box before proceeding to the next step.

Example:

☑ **Step 1**

Installing the Access Point

☐ **Step 1**

Preparation

Complete the following preparations before setting up the Access Point.

Set up your wireless LAN PC card.

Install the wireless LAN PC card in the computer, and then install any device drivers and utility software that are necessary in order to use the wireless LAN PC card.
For details, refer to the instruction manual provided with the wireless LAN PC card.

Confirm the method to be used for making the wireless connection between your computer and the Access Point.

Confirm the method to be used for making the wireless connection between the computer in which the PC card is installed and the Access Point.
For details, refer to the instruction manual provided with the wireless LAN PC card.
(Specific settings are explained in Step 3.)

Confirm the method to be used for connecting the Access Point to the DSL modem, ISDN router, or broadband router, or to an Ethernet LAN.

Make the connection using either a straight or a crossed Ethernet cable. When connecting to a communication device, use the same type of cable as when connecting the communication device directly to the computer.

Hints

• For details on the type of cable to use when connecting the Access Point to a communication device, refer to the instruction manual for the communication device.
• The Ethernet cable that is provided with the Access Point is a straight-through cable. If a cross-over cable is needed, you must obtain it separately.
• Connect the Access Point to a communication device that is equipped with a router function. If you connect the Access Point to a communication device that is not equipped with a router function (such as a cable modem), you will also need a broadband router.

Adjust your computer's firewall settings

If you are using the Windows XP Internet Connection Firewall or a personal firewall function provided by virus scanning software, it may be necessary to adjust the security level setting. Refer to the note found at the end of this manual on "Computer Firewall Functions."

☐ **Step 2**

Install the Access Point

Installation

Install the Access Point in a stable location where it will not tip over or fall.

Notes

• Do not install the Access Point on an unstable surface.
• Do not install it on a shelf or other place where jarring or vibration might cause it to fall.
• Do not install the Access Point in any location where passers-by might accidentally come in contact with the Access Point or its cabling.
• When installing the Access Point, be sure to read the "Read This First" supplement as well.

If you hang the Access Point on a Wall...

You can use the mounting holes on the bottom of the access point to hang the Access Point on screws or nails in a wall.

There are no mounting brackets provided with the Access Point. Use sturdy screws or nails that will be able to bear the weight of the Access Point.

■ **Recommended screws**

• Roundhead screws (shaft diameter 3.1 mm)   • Flathead screws (shaft diameter 3.1 mm)

Ø5.7   Ø3.1   2.3   (unit: mm)   Ø6.2   Ø3.1   1.8
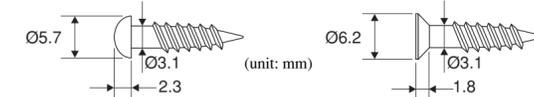
Notes

• Using two screws or other fasteners, ensure that the Access Point is securely set on the wall. When fastening the Access Point to a wall with screws, retighten them after mounting the Access Point.
• Select a location that will hold the weight of the Access Point when mounting it on the wall. If the location cannot hold the weight of the Access Point, the Access Point may drop and cause an accident.
• When mounting the Access Point on walls made of plasterboard or other fragile material, make sure that the material is strong enough to support the unit's weight and use special screw fasteners or other fixtures that are made for use with that material. If the unit is fastened with ordinary screws, there is a danger that it may fall.
• When mounting the Access Point on the wall, be careful not to drop the Access Point or the tools used for doing the work. Dropping the unit or tools could result in unforeseeable accidents.

Approx. 2.1 inches
Approx. 0.1 inch
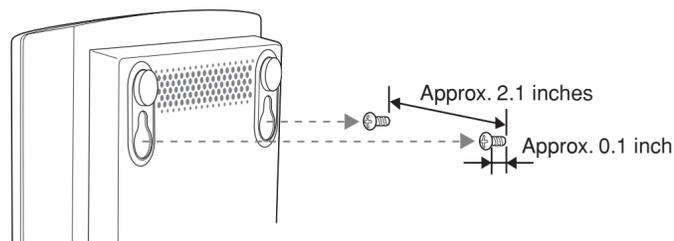
Connecting to a DSL modem, ISDN router, or broadband router, or to an Ethernet LAN

1 Use an Ethernet cable to connect your DSL modem, ISDN router, broadband router or an Ethernet LAN hub to the NETWORK connector on the Access Point.

Note

Make the connection using either a straight-through or a cross-over Ethernet cable. Use the same type of cable as when connecting a communication device directly to the computer. For details on what cable to use, refer to the instruction manual for the communication device that you are using. If you are connecting the Access Point to an Ethernet LAN hub, use a straight-through Ethernet cable. (The Ethernet cable that is provided with the Access Point is a straight-through cable.)

Ethernet cable
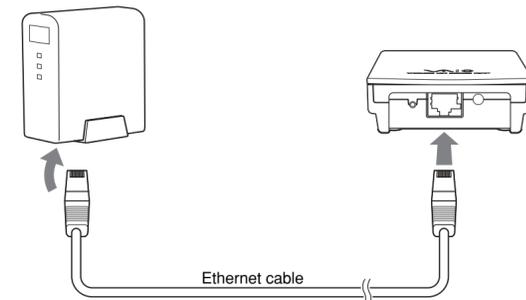
2 Connect the Access Point to a power outlet.

Hint

The Access Point does not have its own power switch.
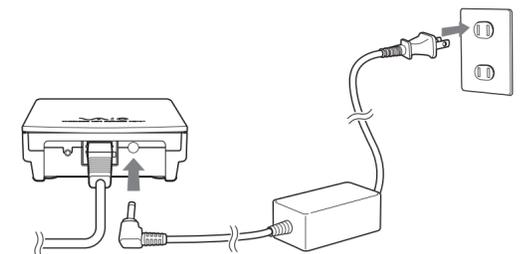
Notes

• Depending on your communication service provider, it may be necessary to make certain settings in your computer and the connection tool. If such settings are necessary, make them before proceeding to Step 3.
• Connect the Access Point to a communication device that is equipped with a router function. If you connect the Access Point to a communication device that is not equipped with a router function (such as a cable modem), you will also need a broadband router.

Establishing a Wireless Connection

☐ **Step 3**

Establish communication between the computer and the Access Point

Make wireless communication settings for your computer, and establish communication with Access Point. For details on the wireless communication settings for your computer, refer to the instruction manual provided with your wireless LAN PC card.
The default settings for Access Point are as follows: Make the wireless communication settings for your computer in accordance with these default settings.
• **Network Name (SSID): default**
• **Encryption (WEP): invalid**

Tips

• The manufacturer of your equipment may refer to the network name (SSID) setting as "ESSID," "Network ID" or some similar term.
• The manufacturer of your equipment may refer to the encryption setting as "security" or some similar term.

Although communication is possible under the default settings, from a security standpoint it is best to also perform the following steps and change the default settings.

Configuring the Access Point

☐ Step 4

Install the utility software

Install the utility software that searches for the Access Point.

1 Set the CD-ROM that was provided with the Access Point into the computer containing the wireless LAN PC card.

2 Double-click "Setup.exe" in the CD-ROM.

This launches the Installer program. Follow the onscreen instructions and install the utility software.
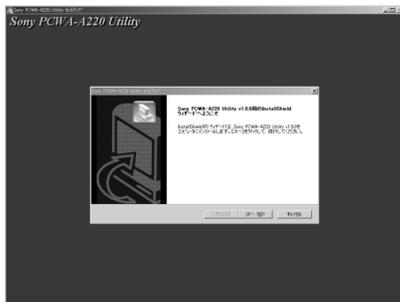
💡 **Hint**

Depending on your computer's settings, the file name "Setup.exe" may appear as "Setup." If there are multiple files named "Setup" in the same folder, double-click the one that has the following icon:

☐ Step 5

Change the Access Point settings

Display the Access Point setup web page in order to make the Access Point settings.

Compatible browsers:

Internet Explorer 5.0 or later
Netscape Communicator 4.78 or later
Netscape 6.1 or later

Note

• When displaying the Access Point setup web page from the Scan Utility software, set one of the Web browsers above as the default.
• Do not use a proxy for the Access Point IP address in the Web browser Proxy setting.

💡 **Hint**

The Access Point setup web page is saved in the Access Point internal memory.

1 Click the "Start" button, point to "Programs" (when using Windows XP, select "All Programs"), and click "Wireless LAN," "PCWA-A220," and "Scan Utility" in that order.

The Scan Utility starts up, and automatically searches for Access Points on the same network. Once the Scan Utility finishes searching for Access Points, it displays a list of Access Points.

💡 **Hint**

If the Scan Utility does not find any Access Points, move the computer to a location that provides good conditions for wireless communication with the Access Point, and then click the "Scan" button to search again.

2 Select the Access Point to which you want to connect from the list of Access Points that were found by the Scan Utility.

💡 **Hint**

If multiple Access Points are shown in the list, check the MAC addresses. Each Access Point's MAC address is printed on a bar code label located near the NETWORK connector on the back of the Access Point. After checking the MAC address, be sure to reconnect the Ethernet cable.

3 If the Access Point is connected to an Ethernet LAN that does not operate on a DHCP server, click "IP Address Setup."

If the Access Point is not connected to an Ethernet LAN, or if a DHCP server is running, this operation and Step 4 are unnecessary. Proceed to Step 5.

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4 If you click "IP Address Setup" in Step 3, select "Static (Manual)." Enter the IP address, netmask, and default gateway, and then click "Execute Setup."

💡 **Hint**

Enter settings that are appropriate for the Ethernet LAN settings. If the network has an administrator, ask the network administrator what settings to use.

5 Click "Access Point Setup Page."

The following screen appears.
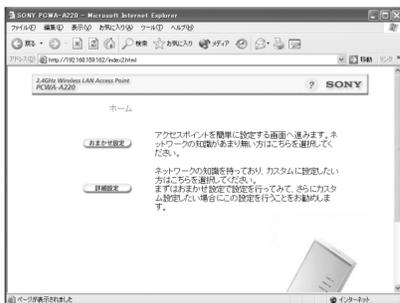
6 Click "Easy Setup."

The Quick Setup screen appears.
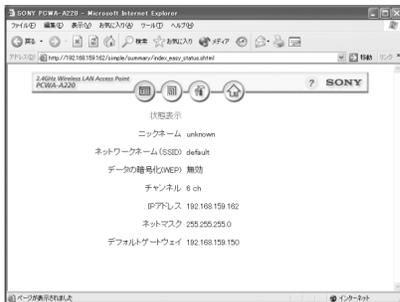
7 Click [ ].

The Administrator Password Setup screen appears.

8 In the "Administrator Password" field, enter a character string consisting of up to 16 letters, numbers or symbols, and then enter the same string again in the "Administrator Password (Confirmation)" field.

Note

Make a note of the administrator password to make sure that you do not forget it.

9 Click "Setup."

The new settings are applied to the Access Point, and the Setup Completed screen appears.

10 Click [ ] to display the Wireless Settings screen.

The Network Password Input screen appears.

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11 In the "Password" field, enter the administrator password that you set in Step 8, and then click "OK."

Note

Do not enter anything in the "User Name" field.

The Settings screen appears.

12 Enter the Network Name (SSID).

The Network Name (SSID) is an ID that distinguishes the wireless network. Enter a character string of up to 32 letters, numbers, and symbols.

Note

Make a note of the network name to make sure that you do not forget it.

13 Select "Enabled" for "Encryption (WEP)" and set "Key Length" to "64."

💡 **Hints**

• "Encryption (WEP)" is a function that encrypts wireless communication in order to prevent illegal access to the network. The "WEP Key" is the password that is needed in order to use a network in which communications are encoded by WEP.
• For the sake of this example, it is assumed that "64" (64 bits) is set for the "Key Length," but "128" (128 bits) may also be selected as well. If you are using the PCWA-C100, however, select "64." (The PCWA-C100 does not support 128-bit encryption keys.)

14 Enter the WEP key.

Enter a character string of 5 letters, numbers, and symbols. If "128" was selected for "Key Length," enter a character string of thirteen letters, numbers or symbols.

Note

Make a note of the encryption key to make sure that you do not forget it.

15 Click "Execute Setup."

16 Close the Web browser.

💡 **Hint**

If you change the wireless settings, the connection with the Access Point will be lost. After finishing Step 5, read Step 6 carefully and then establish the connection again.

☐ Step 6

Change the computer settings

Change the computer's wireless communication settings in accordance with the new Access Point settings that were changed in step 5. For details on how to make these settings, refer to the instruction manual provided with your wireless LAN PC card.
Once you have changed the computer's settings, you will be able to connect with the Access Point again.

For details on the Access Point settings, refer to the online help.

Displaying Online Help

Click the "Start" button, select "Programs" (when using Windows XP, select "All Programs"), and then click "Wireless LAN," "PCWA-A220," and "Online Help" in that order.

Note

Computer Firewall Functions

When using Windows XP's "Internet Connection Firewall"

Enabling the Windows XP Internet Connection Firewall may prevent your computer from being recognized by your network. (This feature is disabled under Windows XP's default settings.) If you have enabled this feature and are unable to configure your Access Point or cannot recognize the Access Point that you would like to configure, try disabling the Internet Connection Firewall feature, and try again to communicate with your Access Point.

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 software or network security software

Virus scanning software 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 instruction manual and online help for your software.

Notes

• Pay special attention to security issues.
• Please note that we are not able to respond to questions on this topic.