SONY®

Operating Instructions

Wireless LAN PC Card
PCWA-C100

**For Microsoft® Windows® XP Home Editon
Microsoft® Windows® XP Professional
Users**

Owner's Record

The model and serial numbers are located at the back side. 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-C100
Serial No._____

CAUTION

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

FCC ID: IMRWLPCE24H
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.

* FCC ID of the Wireless LAN PC Card is IMRWLPCE24H.

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.

This device compiles 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.

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

NOTE:

Install and connect the Access Point by following descriptions in its Operating Instructions manual before using it.

About the supplied software

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.

Safety Information
WARNING

- Opening the unit, for whatever reason, could
  lead to damages that are not covered by the
  guarantee.
- To prevent fire or shock hazard, do not expose
  your Sony Wireless LAN PC Card to rain or
  moisture.

NOTES:

- The Sony supplied software may show screens
  slightly different from those included 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 98 Second
  Edition is referred to as Windows 98 Second
  Edition.
- In this manual, Microsoft Windows Me is
  referred to as Windows Me.
- In this manual, Microsoft Windows XP
  Professional and Microsoft Windows XP Home
  Edition are referred to as Windows XP.

Table of contents

NOTES:

- The illustrations in this manual may differ from the actual software.
- Explanations in this manual assume that you are familiar with basic operations of Windows. For how to use your computer and operating system, please refer to their respective manuals.

Overview

What you can do with your Wireless LAN PC Card

You can build a Wireless LAN (Local Area Network) using the Wireless LAN PC Card, PCWA-C100. The Wireless LAN PC Card can be used with or without the Wireless LAN Access Point, PCWA-A100/A200 (hereinafter referred to as the Access Point). With the Access Point, you can build a wireless LAN between multiple computers that are equipped with the Wireless LAN PC Card and gain access to the Internet. You can achieve direct communication (Peer to Peer mode) between computers without using the Access Point.

☼ Tip

Although you can connect up to 49 client computers to a wireless LAN, the maximum recommended number is 16 or less.

Communication through the Access Point
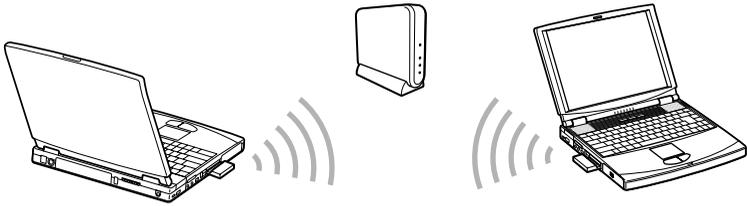
Direct communication between computers (Peer to Peer mode)

☼ Tip

For details about peer-to-peer connections with Windows XP, see the Wireless Palette Help or Windows Help.

About the supplied software

The Wireless LAN PC Card comes with the following software:

• Wireless Palette:

   You can see the status of communications between the computer mounted with the Wireless LAN PC Card and the Access Point, and transfer files using this software.

• Basic Access Point Setup Utility (Basic Setup Utility):

   You can set up the Access Point for Internet access. This dialog-driven utility covers basic setups for Internet access.

• Custom Access Point Setup Utility (Custom Setup Utility):

   You can make advanced configurations of the Access Point. You can specify optional features for Internet access with this utility.

• Access Point Firmware Upgrade Utility:

   This is the software for upgrading Access Point firmware.

   If you are using an old version, some functions will be unavailable. For example, the DSL Modem (PPPoE) mode cannot be selected, and roaming cannot be used. In this case, it is recommended that you upgrade both your Access Point firmware and Wireless LAN Utility.

   See page 37 for how to check the version. For procedures for upgrading the Access Point firmware, see the Access Point Firmware Upgrade Utility Help.

Task flow

To build a wireless LAN environment, you must configure both the Access Point and the Wireless LAN PC Card.

Required tasks depend on the state of your Access Point and Wireless LAN PC Card. The table below lists the states of the Access Point and Wireless LAN PC Card, and the tasks required for building a wireless LAN environment.

		Wireless LAN PC Card	
		New	In use
Access Point	New	1. Connect the Access Point. (*1) 2. Insert the Wireless LAN PC Card into a computer. (*2) 3. Establish communication with the Access Point. (*3) 4. Set up the computer name of your computer. (*4) 5. Install the software. (*5) 6. Configure the Access Point using the Basic Setup Utility. (*6)	1. Connect the Access Point. (*1) 2. Establish communication with the Access Point. (*3) 3. Configure the Access Point using the Basic Setup Utility. (*6)
	In use	1. Insert the Wireless LAN PC Card into a computer. (*2) 2. Establish communication with the Access Point. (*3) 3. Set up the computer name of your computer. (*4) 4. Install the software. (*5)	• To communicate with an Access Point previously used in another wireless LAN environment from a computer containing the Wireless LAN PC Card. 1. Establish communication with the Access Point. (*3)

*1 See "Connections" on page 13 in the Access Point Operating Instructions manual.

*2 See "Inserting the Wireless LAN PC Card" on page 13 and following sections in this manual.

*3 See "To establish communication with the Access Point" on page 15 and succeeding sections in this manual. For further information, see the Wireless Palette Help file.

*4 See "To set up the computer name and workgroup" on page 17 in this manual.

*5 See "Installing software" on page 19 in this manual.

*6 See "Setting up the Access Point" on page 24 and following sections in this manual.

System requirements

- A computer satisfying the following requirements.

  CPU: MMX® Pentium® 233 MHz and above

  RAM: With Windows 98 Second Edition, Windows Me, or Windows 2000:

    64 MB or more

    With Windows XP:

    128 MB or more

  CD-ROM drive

  Default built-in PCMCIA Type II slot

- Operating system: For best results, use a computer with one of the preinstalled operating systems below.

  – Windows 98 Second Edition, English version

  – Windows Me, English version

  – Windows 2000, English version

  – Windows XP, English version

  (Does not operate under the Windows 98, 95 or 3.1 versions or under the Windows NT version. Operation is not guaranteed under all upgraded environments. This does not apply to computers upgraded to Windows XP with a valid upgrade from your computer maker.)

- Display: SVGA (800 × 600 pixels) and above, [supports High Color (16 bit) and above]

Notes

- We do not assure trouble-free operation for all computers satisfying the system requirements.

- The Wireless LAN Access Point PCWA-A100/A200 is required to gain access to the Internet.

- An Internet Service Provider (ISP) is required for Internet access.

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About this manual

When using the Access Point, connect and configure the Access Point as explained in the operating instructions included with the Wireless LAN Access Point.

This manual explains the operation of the Wireless LAN PC Card and the installation and setup of the supplied software. For details on using the Wireless Palette and the Custom Access Point Setup Utility software supplied with the Wireless LAN PC Card, refer to the software's Help files.

The Wireless LAN PC Card has three Help files:

• Wireless Palette Help

• Custom Access Point Setup Utility Help

• Upgrade Manual
  The Upgrade Manual explains procedures for upgrading the Access Point's firmware, the Wireless LAN PC Card Driver, and the Basic/ Custom Access Point Setup Utility.

Opening the Help files

• Wireless Palette Help

  – With the Wireless Palette running, click the Wireless Palette icon (reception level indicator icon) on the taskbar, and select Help from the menu displayed.

• Custom Access Point Setup Utility Help

  – Start the Custom Access Point Setup Utility, and click Help.

• Upgrade Manual (Access Point Firmware Upgrade Utility Help)

  – Start the Access Point Firmware Upgrade Utility, and click Help.

Selecting a topic from the contents

From the Contents list, select the desired topic.

Searching using a Keyword

1 To search using a Keyword, select the Index tab from the Help dialog box.

The Keyword list appears.

2 Enter the keyword you want to apply, or scroll down the Keyword list.

3 Select a topic, then click Display.

Topics related to the Keyword appear.

Unpacking

Your Wireless LAN PC Card comes with the following items.

• Wireless LAN PC Card
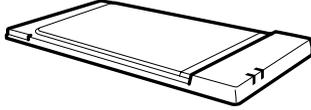
• PC card case
• CD-ROM (Setup disc)
• Operating Instructions
• END-USER LICENSE AGREEMENT
• Other printed materials

Indicators
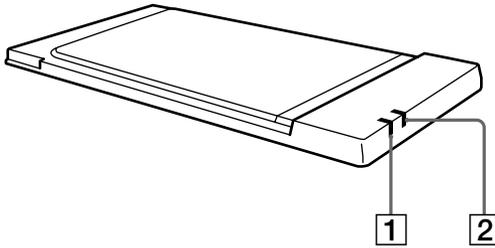
1 **DATA indicator**

Lights while data exchange is in progress.

2 **LINK indicator**

Lights while your computer is connected to the wireless LAN.

Description on the indicators

DATA	LINK	Description
Flashing (green)	Lit (green)	Normal communications.
Fast Flashing (green)	Lit (green)	Peer to Peer mode
Off	Lit (green)	The PC card is powered, but no communication is taking place.
Flashing at 10 sec intervals is established.		The PC card is operating, but no connection
Off		The PC card is powered off.

Inserting the Wireless LAN PC Card

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

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

1 Remove the PC card slot protector from the computer.

(Some computers contain the PC card slot protector to prevent damage to the slot while not in use.)

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

Push the Wireless LAN PC Card into the slot until it is firmly seated. Inserting the card will extend the eject button.

If the card does not fit easily, do not force it in. Take the card out and try reinserting.

Insert the card in the direction of the arrow.

To the PC card slot.
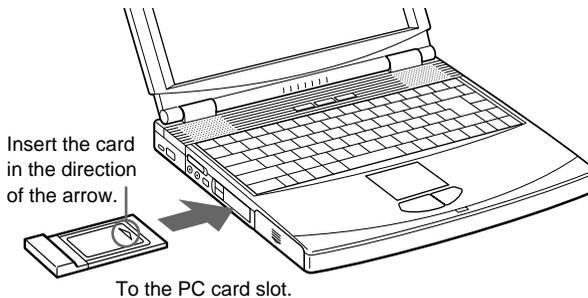
Notes

- Do not install the PC Card Driver that is included in the 1WinMe, 2Win2k or 3Win98 folder of the CD-ROM supplied with the Wireless LAN PC Card. Windows XP has a suitable device driver for the Wireless LAN PC Card, and it is automatically installed when you insert the Wireless LAN PC Card into your computer.

- If your computer has two PC card slots, insert the Wireless LAN PC Card into the top slot. Inserting it into the bottom slot blocks the top slot with its antenna.

- Before using the Wireless LAN PC Card, turn off System Suspend mode or System Hibernation mode using the PowerPanel software.

- While the computer is in System Suspend mode or System Hibernation mode, the Wireless LAN PC Card may not be recognized when it is removed and reinserted.

To remove the Wireless LAN PC Card

1 Close the software that uses the Wireless LAN.

2 Stop PC Card Services on the taskbar.

3 Remove the Wireless LAN PC Card, following the instructions in your computer's manual.

Setting up the connection environment

Perform the following procedure to set up a wireless LAN environment with the Access Point.

1 Establish communication with Access Point (page 15).

Register the Access Point on each computer in the wireless LAN and establish wireless communication with the Access Point. (Make settings 1 to 4 on every computer in the wireless LAN).

2 Set the computer name and workgroup name (page 17).

Set the computer name and workgroup name for every computer used in the wireless LAN.

3 Install the software (page 19).

Install the required software.

4 Verify communication with the Access Point (page 23).

Use Wireless Palette to verify communication with the Access Point.

5 Make the Access Point settings (page 24).

Use the Basic Setup Utility or Custom Setup Utility to make the Access Point settings. Make these settings from any one of the computers in the wireless LAN.

To establish communication with the Access Point

On every computer you want to connect to the wireless LAN, establish communication with the Access Point.

Before establishing a wireless LAN environment:

• Check the six-digit Access Point ID on the bottom surface of the Access Point.

Access Point ID

ID:123456 SN:00UT12345678
           PN:012756

Factory default Encryption KEY
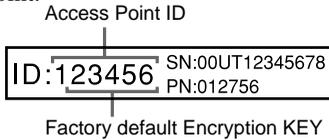
• Install and connect the Access Point. (Refer to the Access Point Operating Instructions manual.)

• Insert the Wireless LAN PC Card into the computer.

Note

Make sure that the Use Windows to configure my wireless network settings check box is checked. This option is checked by default.

To Select the Use Windows to configure my wireless network settings:

1 From the start menu, click Control Panel, and then double-click Network Connections.

2 Right-click Wireless Network Connection and then click Properties.

3 Click Wireless Networks tab.

4 Select the Use Windows to configure my wireless network settings check box.

1 Right-click the Wireless Network Connection icon on the taskbar, then select View Available Wireless Networks from the shortcut menu.

The Connect to Wireless Network dialog box appears.

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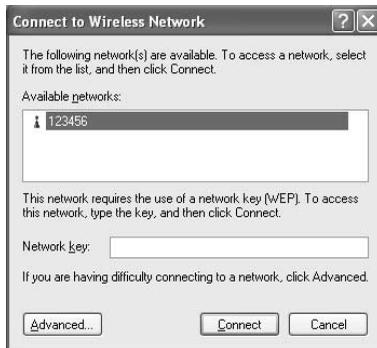
2 Enter the Encryption Key in Network key field, then click Connect.

You will connect to the Access Point.

ϔ **Tip**

For details, refer to Windows Help.

To set the computer name and workgroup

Computer names are displayed on the status indication window of the Wireless Palette.

Note

• When you set the computer name or workgroup, log on to Windows XP as an Administrator.

1 From the start menu, select Control Panel.

The Control Panel window appears.

2 Click the System icon.

The System Properties dialog box appears.

ϔ **Tip**

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

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3 Click the Computer Name tab, then click Change.

The Computer Name Changes dialog box appears.

(This dialog box is from Windows XP Professional.)

4 Specify the Computer name and Workgroup for your computer.

Notes

- Assign a unique name of up to 15 alphanumeric characters to every computer connected to the same LAN. Duplication of names will result in various problems, such as WirelessCapsule (page 31) sending files to both computers.

- The workgroup indicates the name of a group of computers sharing files. Assign the same workgroup name for all computers that share files.

5 Click OK.

The message "You must restart this computer for the changes to take effect" is displayed.

6 Click OK.

The System Properties dialog box reappears.

7 Click OK, then click Yes to restart the computer.

Installing software

Before Installing the software:

- Install and connect the Access Point.
- Insert the Wireless LAN PC Card. (page 13)
- Quit all Windows programs.

Once you set up the connection environment, install the Wireless Palette, the Basic Setup Utility, and the Custom Setup Utility software.

1 From the start menu, click Run.

The Run dialog box appears.

2 Enter the name of the installer.

- If the computer has an internal CD-ROM drive, enter "E:\SETUP.EXE". ("E" indicates the name of the internal CD-ROM. Your CD-ROM drive may be identified with a different letter.)
- If you have copied the Wireless LAN folder from the supplied CD-ROM to your computer's hard disk, enter the file name and its location. (example: C:\Temp\WirelessLAN\SETUP.EXE)

3 Click OK.

The Wireless LAN Utility 2.2 Setup dialog box appears.

4 Click Next.

The License Agreement dialog box appears.

5 Read the agreement and click Yes to accept.

The Choose Destination Location dialog box appears.

6 Select the folder where you want to install the software and click Next.

The Setup Type dialog box appears.

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Tip

If you want to install the software into another folder, click Browse and select the folder or directly enter the folder name.

7 Select Standard Setup then click Next.

Software installation begins.

After a short while, the InstallShield Wizard Complete dialog box will appear. Make sure to select Yes, I want to restart my computer now.

Tip

If you want to select specific software applications, select Custom setup then click Next.

8 Click Finish.

Installation is complete and your computer restarts.

Registering your Wireless LAN Access Point/ Wireless LAN PC Card

If you can access the Internet from a computer on which Wireless Palette is installed, you can register products via the Internet. From the start menu, select All Programs, Wireless LAN, then click Wireless LAN Registration and register the product. With registration, warranty for wireless LAN hardware is extended to one year. For details on customer registration, refer to the supplied Customer Registration for the Wireless LAN Access Point/ Wireless LAN PC Card.

Caution

To protect your personal data, Sony uses SSL (an encryption protocol) for communication between your browser and the Sony WWW server. If you are accessing the Internet from inside an enterprise LAN, you may not be able to use SSL due to the proxy server of the LAN. In such a case, contact your network administrator.

To modify the installed software

You can install/uninstall a specific software application.

1 Display the Wireless LAN Utility 2.2 Setup dialog box.

See steps 1 though 3 on page 19 for details.

2 Select Modify then click Next.

The Select Components dialog box appears.

3 Select the software applications you want to install, then click Next.

The software installation begins.

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To uninstall a specific software application, uncheck the application you want to uninstall.

4 Click Close.

To start the software

Select All Programs, Wireless LAN from the start menu, and then select the software you want to launch.

To uninstall software

Before you perform this procedure, close the Wireless LAN Utility.

1 From the start menu, click Control Panel.

The Control Panel window appears.

2 Double-click the Add or Remove Programs icon.

The Add or Remove Programs dialog box appears.

3 Select Wireless LAN Utility 2.2 from the list of currently installed programs, then click Change/Remove.

The Wireless LAN Utility 2.2 Setup dialog box appears.

4 Select Remove, then click Next.

The Confirm File Deletion dialog box appears.

ῷ **Tip**

To uninstall a specific software application, select Modify and click Next. See "To modify the installed software" on page 20 for more information.

5 Click OK.

Notes

- When the Locked file detected dialog box appears, click Reboot. The computer restarts once uninstallation is completed and all files in use are deleted.

- If the Shared file detected dialog box appears, it is recommended that you click No and keep shared files.
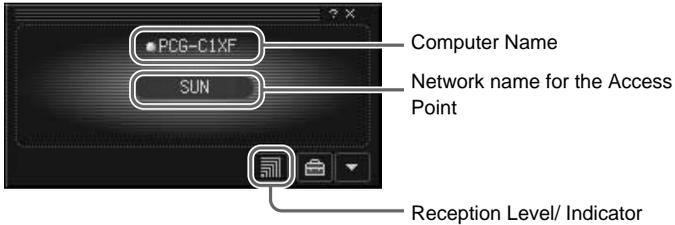
6 Click Close.

Verifying communication with the Access Point

Follow the steps below to verify that if the Wireless LAN PC Card has a connection with the Access Point.

1 Double-click the reception level indicator icon 📶 on the taskbar.

The Wireless Palette status window appears.

Computer Name

Network name for the Access Point

Reception Level/ Indicator

☆ Tip

The reception level indicator icon may also appear as 🔲 or 📶 .

If the icon appears as ⚠ or ⚠ , no communication is taking place with the Access Point. Check the Access Point's configuration. For further information, refer to the Wireless Palette Help file.

2 Verify the Network name for the Access Point.

3 The Network name for the connected Access Point appears.

The reception level indicator (🔲 / 📶 / 📶) indicates the condition of the communications with the Access Point. 📶 indicates the optimum communication. When ⚠ or ⚠ is displayed, no communication is taking place between the Access Point and the computer. Check the Access Point configuration. For more information, refer to Help.

4 Verify the Computer Name.

The computer name is the name that you specified on page 17.

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Setting up the Access Point

You can change the Access Point settings by using the Basic Setup Utility. Changes to the settings may also be made by using the Custom Setup Utility.

This operation must be performed on a single computer on the wireless LAN.

Note

With Windows XP, you can change Access Point settings only when you logged on to Windows as Administrator.

☼ **Tips**

• To launch the Custom Setup Utility, click the Start button and select All Programs, Wireless LAN, then Custom Access Point Setup Utility.

• When using the roaming function, you cannot change settings using the Basic Access Point Setup Utility. Use the Custom Access Point Setup Utility. For information on the usage of the Custom Access Point Setup Utility, see its Help.

1 From the start menu, select All Programs, Wireless LAN, then Basic Access Point Setup Utility.

The Basic Setup Utility starts.
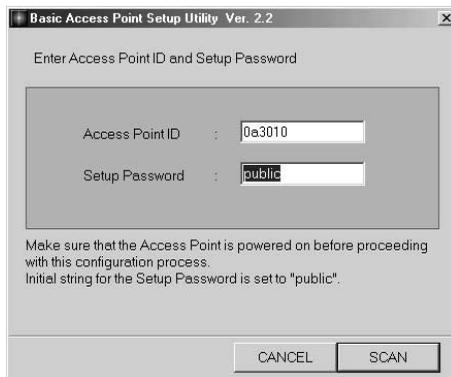
2 Confirm that the Access Point ID displayed belongs to the Access Point that you want to configure, then enter the Setup Password and click SCAN.

By default, "public" appears for Setup Password.

The Access Point ID is a six-digit number on the label attached on the bottom surface of the Access Point. If the Access Point ID displayed is different from the one on the label, enter the correct ID.
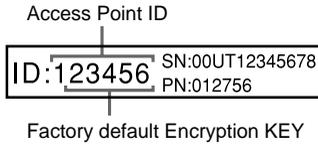
Access Point ID

ID:123456 SN:00UT12345678
           PN:012756

Factory default Encryption KEY

Note

If an error message appears, click OK then confirm the following and repeat step 2.

- The Access Point is powered.
- The correct Access Point ID is displayed.
- The password is correct.
- The Access Point and the computer are located within a range of approximately 100 m (330 feet).

3 In Common Parameters, select the Channel Number and enter the Encryption Key.

Select the channel that the Access Point uses for wireless communications for Channel Number. You can use Channel 1, 4, 7, or 10.

Enter any 5 characters of the ASCII character set (letters, numbers, and symbols) for Encryption Key.

The Phone option is not displayed if you are using the PCWA-A200.
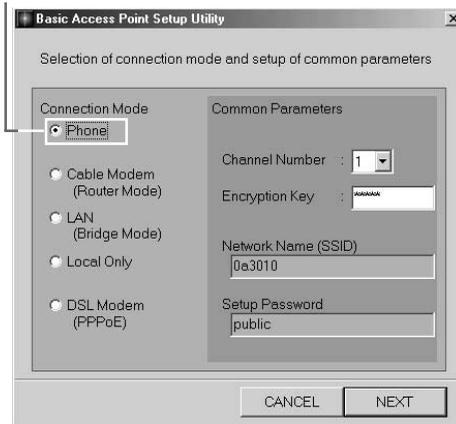
(This figure is from the PCWA-A100 screen.)

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Using the Wireless Palette, enter the same Encryption Key on every computer in the wireless LAN, as specified for the Access Point.

☼ **Tips**

• If there are two or more Access Points close together, assign a unique channel number to avoid radio interference.

• The factory-set Encryption Key of the access point is the last five digits of the Access Point ID.
In order to prevent unauthorized external access, it is strongly recommended that you change the Encryption Key. However, be sure to make a note of the new Encryption Key so that you will not forget it.

4 Select a type of connection method from Connection Mode, then click NEXT.

Select a destination to connect the Access Point. Available options are Cable Modem, LAN, DSL (PPPoE) Modem and Local Only. If you are using the PCWA-A100, the Phone option is also available. The dialog box that appears next depends on your selection.

Notes

• If you have accidentally selected a wrong access method, click BACK and select the correct one.

• In order to make PPPoE connection via the DSL modem, select the DSL Modem (PPPoE) mode. If you are using the DSL modem but the connecting Internet service provider does not support PPPoE, select the Cable Modem mode. If your DSL modem is a router type modem, select the LAN mode. Consult your Internet service provider about PPPoE support and DSL modem.

Note

If you are using the Access Point and are connecting within an existing LAN that already has a DHCP server, do not use the Phone or Local Only connection modes. Select Cable Modem or LAN connection modes instead.
When the Wireless LAN Access Point is using Phone and/or Local Only connection modes, the Access Point acts as a DHCP server.
An Access Point that is connected to a LAN that has another DHCP server may experience the following problem while using the Phone or Local Only connection mode: A client computer within the LAN may acquire an invalid IP address from the Access Point, not from the regular DHCP server. If this happens, the client computer may not be able to access the network because the IP address supplied by the Access Point is a private IP address (10.0.1.2 - 17, by default).
Contact your network administrator before connecting a Wireless LAN Access Point to an existing LAN.

Phone mode (PCWA-A100 only)

The Setup of Phone Connection Parameters dialog box appears.
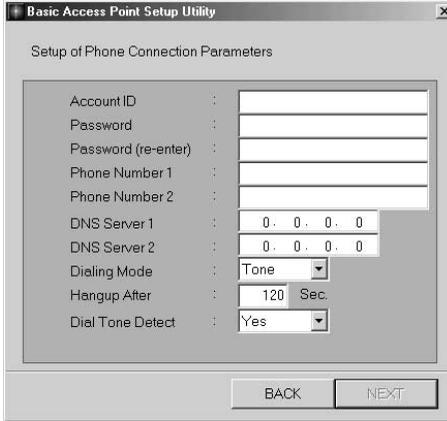
1 Enter the Account ID, Password, Password (re-enter), Phone Number 1 and Phone Number 2 to your provider and select or configure the options of Dialing Mode, Hangup After and Dial Tone Detect.

☞ Tips

- Phone Number 2 is the alternate telephone number to use when a call to Phone Number 1 is not completed. This is not a necessary item.
- Your Internet service provider may specify the DNS server(s). In this case, enter data for DNS Server 1 (DNS Server 2).
- Hangup After specifies how many seconds until the telephone line is automatically hung-up when there is no data being communicated over the Internet. Change this setting to your requirements.

Note

Select Yes in the Dial Tone Detect if you hear a tone signal when you pick up the receiver. If not, select No.

2 Click NEXT.

Settings made in the Setup of Phone Connection Parameters dialog box are displayed.

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3 Make sure that you have made the correct settings, then click NEXT.

Notes are displayed regarding the Phone mode; be sure to read them carefully.

4 Click UPLOAD.

The settings are uploaded to the Access Point. Wait for about 30 seconds until the Access Point POWER indicator lights green.

Note

The indicators on the Access Point flash while changes to the settings are being processed.

When the confirmation dialog box appears, click FINISH to exit.

When you change the Access Point Network Name or Encryption Key:

After changing the Access Point Network Name or Encryption Key, you must update the computer settings and reconnect to the Access Point. For details on how to connect to the Access Point, see "To establish communication with the Access Point" on page 15.

Cable Modem, LAN, and Local Only

The confirmation dialog box appears.

Note

If you select Cable Modem or LAN, set up the device for an Internet connection.

1 Confirm that the Access Point connection mode is correct and click Next.

Notes are displayed regarding the selected mode; be sure to read them carefully.

2 Click UPLOAD.

The settings are uploaded to the Access Point. Wait until the Access Point's POWER indicator turns green.

Note

The indicators on the Access Point flash while changes to the settings are processed.

When the confirmation dialog box appears, click FINISH to exit.

When you change the Access Point Network Name or Encryption Key:

After changing the Access Point Network Name or Encryption Key, you must update the computer settings and reconnect to the Access Point. For details on how to connect to the Access Point, see "To establish communication with the Access Point" on page 15.

DSL Modem (PPPoE) mode

The Setup of DSL (PPPoE) Connection Parameters dialog box appears.
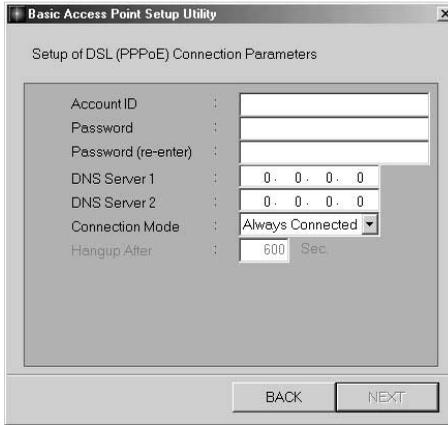
1 Enter the Account ID and Password provided by your Internet service provider, then choose the Connection Mode option from the drop-down list.

☼ Tips

- Your Internet service provider may specify the DNS server(s). In this case, enter the DNS Server information into the DNS Server 1 and DNS Server 2 fields.

- In Connection Mode, you can choose the method of connection to the Internet. If you choose Always Connected, Wireless Palette will connect to the Internet and stay connected. If you choose Auto Connect, Wireless Palette will automatically connect to the Internet when you check your email or run the Web browser. It will automatically disconnect after some period of time has passed with no data transmitted through the Internet. This period of time can be specified in Hangup After.

- Some Internet service providers specify a service name. In that case, enter the service name using the Custom Access Point setup Utility.

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2 Click NEXT.

Settings made in the Setup of DSL (PPPoE) Connection Parameters dialog box are displayed.

3 Make sure that you have made the correct settings, then click NEXT.

Notes are displayed regarding the DSL Modem (PPPoE) mode; be sure to read them carefully.

4 Click UPLOAD.

The settings are uploaded to the Access Point. Wait until the Access Point's POWER indicator turns green.

Note

The indicators on the Access Point flash while changes to the settings are being processed.

When the confirmation dialog box appears, click FINISH to exit.

This completes the software setup. The Wireless LAN environment is complete.

When you change the Access Point Network Name or Encryption Key:

After changing the Access Point Network Name or Encryption Key, you must update the computer settings and reconnect to the Access Point. For details on how to connect to the Access Point, see "To establish communication with the Access Point" on page 15.

Now you can copy a file from another computer on the Wireless LAN (page 31) or connect to the Internet (page 34).

Transferring files using drag and drop (WirelessCapsule)

You can transfer files to other computers that are connected to the Wireless LAN by dragging and dropping files onto the Wireless Palette. This function is called the "WirelessCapsule."

ϔ Hint

Right-click the reception level indicator icon 🖩 on the taskbar, click on Capsule Setup to view the WirelessCapsule Setup screen and confirm that Enable the WirelessCapsule is selected.

(The reception level indicator icon may also appear as ▪ or 🖩 .)

Operation on the sending computer

1 Double-click the reception level indicator icon 🖩 on the taskbar.

The Wireless Palette status screen appears, showing up to 8 computers that are connected to the LAN.

If the WirelessCapsule is enabled, the display appears as shown below.

Your computer: White (with a yellow dot)

Other computers whose WirelessCapsule is enabled: White

Other computers whose WirelessCapsule is disabled: Blue

If the WirelessCapsule is disabled, all computers are displayed in blue.

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2 If the computer that is the destination of the transfer does not appear, click ▼ to display it.

3 Drag the file you want to transfer onto the name of the computer to which you want to transfer it.

The transmission confirmation screen is displayed.

Destination (Computer Name)

File Location

Filename
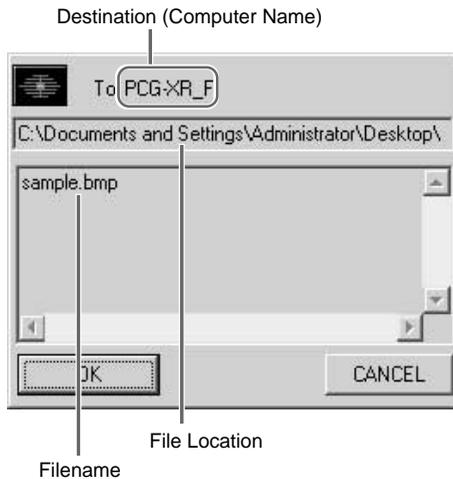
ဘ **Hints**

- If Confirm before sending is not selected in the WirelessCapsule Setup, the file will be transferred as it is without displaying the confirmation screen.
- If you drag and drop a file onto the Access Point, it will be transferred to all computers that have file reception enabled on the same Wireless LAN system. When you drag and drop a file onto the Access Point, "Broadcast" is displayed at the destination.

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Note

The following restrictions apply when transferring files using drag and drop.

- If you send a file with the read-only attribute, the read-only attribute is lost when the file arrives at the receiving computer.

- Folders cannot be transferred.

- The maximum total size of files that can be transferred is approximately 100 MB.

- The maximum number of files that can be transferred is 256.

- File transfer is not possible if the amount of available hard disk drive space at the destination is less than approximately 175 MB.

- File transfer is not possible if files are named using double-byte characters (such as those used in Japanese and Chinese.)

4 Confirm the destination and the filename and click OK.

The name of the destination computer changes to yellow. The name of the Access Point also changes to yellow when you drag and drop (Broadcast) a file onto the Access Point.

Operation on the receiving computer

1 When a file is receiving, the name of the sending computer changes to yellow.

2 Double-click on the name of the computer on the Wireless Palette.

The WirelessCapsule folder is displayed. When necessary, move or copy the file to the appropriate location.

ϔ **Hints**

- Files that received are saved in the "WirelessCapsule" folder.

- When you first start the Wireless Palette, the "WirelessCapsule" folder is created directly below the startup drive. However, you can change that through settings.

- Right-click the reception level indicator icon 🔳 on the taskbar, click on Capsule Setup to view the WirelessCapsule Setup screen. (The reception level indicator icon may also appear as 🔳 or 🔳 .)

- If the name of the file to be received is the same as the name of a file in the "WirelessCapsule" folder, by default that file is overwritten. However, if you select "Save with different," that file will be saved under a different name.

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Connecting to the Internet

When you are through with all settings described in "Setting up the connection environment" on page 15, you can connect to the Internet.

Phone mode (PCWA-A100 only)

1 Double-click the reception level indicator icon 🔝 on the taskbar.

☼ Tip

The icon may appear as ▪ or 🔝 .

2 Click To Connect.

Connection to the Internet service provider is established.

☼ Tip

Further, you can select the connection point from the ISP list. Click the Wireless Palette's Phone icon ☎ to display the ISP list. To find out about setting up several connecting sites, refer to the "Registering multiple Internet service providers" section of the Wireless Palette Help.

3 Launch your Web browser.

A Web site is displayed.

4 Click To Disconnect.

The dial-up connection is disconnected.

Notes

- The Access Point is configured with the manual connection mode at the time of shipment. Clicking To Connect initiates the dial-up connection.

- Note that automatic disconnection may not work due to unexpected packets sent from the Internet. Click To Disconnect to disconnect the connection when you are through with the Internet access.

ỷ Tips

- When the Access Point is in the automatic connection mode, starting an e-mail or browser application causes a dial-up attempt to be made. To place the Access Point in the automatic connection mode, use the Custom Setup Utility. For more information, see the Custom Access Point Setup Utility Help.

- The Access Point does not automatically disconnect a connection to the Internet when an e-mail or browser application is closed on a single computer in order to allow multiple computers to have simultaneous Internet access. Thus, to disconnect the dial-up connection, you must follow the steps above.

  With the factory default setting, the connection is automatically terminated after two minutes.

  You can change the automatic disconnection time by changing the Hangup After setting.

LAN (ISDN Router)

1 Start your browser and make the connection through your ISDN router. (For detials, see the ISDN router manual.)

The connection is made to your provider.

Note

When the ISDN router is in use, the To Connect/To Disconnect function of the Wireless Palette is disabled.

2 Launch your Web browser.

A Web site is displayed.

Cable Modem/DSL Modem (PPPoE)

1 Launch your Web browser.

A home page is displayed.

The cable modem holds open the connection to the Internet. When the computer is connected to the Access Point, it is also connected to the Internet.

Notes

• Check your modem's ability to make an Internet connection.

• When the cable modem's is in use, To Connect/To Disconnect is not displayed on the Wireless Palette.

Confirm your Access Point firmware version

If you are using an older Access Point firmware version, you must upgrade to the latest version. Check the version and upgrade if necessary as follows.

If you continue to use the old version, some of the functions will be limited. For example, the DSL Modem (PPPoE) mode cannot be selected, and roaming cannot be used. Also, if both the new and old versions exist on the same network, this may cause problem.

How to confirm the version

1 Establish communications with the Access Point.

2 Right-click on the Wireless Palette icon on the taskbar.

3 Click on Version from the menu that is displayed.

The latest version of Wireless Access Point is 3.83. If the version you are using is older than this, be sure to upgrade the Access Point firmware.

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For details on how to upgrade, refer to the Upgrade Manual (Access Point Firmware Upgrade Utility Help).

Additional information

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 surface
- 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 occur.

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

IEEE802.11b/IEEE802.11

Radio frequency

2.4 GHz

Modulation method

DS-SS (IEEE802.11 compliant)

Encryption (WEP)

64-bit encryption
(However the actual length of the key that can be
entered is 40 bits, or 5 characters.)

General

Power requirements
    5 V AC (supplied from the computer through
    the PC card adapter)
Current
    Peak current at transmission: 280 mA
    Peak current at reception: 180 mA
Connector
    PC card slot Type-II
Dimensions (approx.)
    Approx. $118 \times 5 \times 54$ mm
    (approx. $4 \frac{3}{4} \times \frac{7}{32} \times 2 \frac{1}{4}$ inches) (w/h/d)
    (Antenna height: 8.7 mm ($\frac{11}{32}$ inches))
Mass
    Approx. 55 g (approx. 2 oz)
Operating temperature
    5°C to 35°C (41°F to 95°F) (not condensed)
Environment temperature
    -20°C to 60°C (-4°F to 140°F) (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.

❒ **This guide** explains how to use your
    Wireless LAN PC Card.

❒ **The Sony Wireless LAN PC Card
    support Web site
    http://www.sony.com/
    wirelesslansupport/** provides the
    latest information on your Wireless
    LAN PC Card. On this Web site, you
    will find:

    • Answers to Frequently Asked
      Questions (FAQs)

    • An electronic version of the Operating
      Instructions

    • Help files

    • Installation information

    • Software upgrades

❒ **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/

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❒ **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**.

Glossary

Channel number

The frequency used for wireless communications.

Wireless communications are available only among client computers and Access Points that use the same channel.

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 IP addresses with a network environment.

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 rather 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.

Encryption Key

IEEE802.11-compliant security system.

Using the Encryption Key as the password, only client computers and Access Points that have the same ID and password may log onto the same wireless LAN for file sharing.

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.

PPPoE (PPP over Ethernet)

PPPoE is a software protocol that uses a DSL modem to access the Internet.

With PPPoE, the client does not set a static IP address. Instead, an IP address is assigned dynamically whenever the client accesses the Internet.

Protocol

The formal specifications that define the procedures for computers to follow when transmitting and receiving data.

TCP/IP (Transmission Control Protocol/Internet Protocol)

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.

Additional information

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Troubleshooting

Read this Troubleshooting section, and Troubleshooting in the Wireless Palette Help and Custom Access Point Setup Utility Help to resolve problems that may occur. If, after referring to the above listed resources, you still cannot resolve a problem, call Sony Customer Information Services.

To access the Wireless Palette Help and Custom Access Point Setup Utility Help:

From the start menu, select All Programs, Wireless LAN, then Wireless Palette or Custom Access Point Setup Utility to start the program. After the program is started, click the Help button. Troubleshooting is provided in the "Additional Information" section of the Help files.

Note

Troubleshooting in the Wireless Palette Help and the Custom Access Point Setup Utility Help contain the same information.

On the overall wireless communications

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.
Other computers on the wireless LAN are not displayed.	→ You did not enter the password when Windows started. Enter the user name and the password requested on Windows startup, then log onto the LAN.
	→ No other computers are logged onto the wireless LAN.
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 Palette.

Symptom	Cause/Remedy
I cannot access the Internet.	→ The Access Point is not properly configured. Configure the Access Point with the connection mode of your choice using one of the Access Point setup utilities. → The Access Point and your computer are too far apart [more than approximately 100 m (330 feet), in direct line of sight]. When the Wireless Palette shows the ⚠ icon, move your computer closer to the Access Point.
The data transfer speed is slow.	→ There is radio interference with another Access Point. Try assigning another channel number using one of the Access Point setup utilities. → There are too many clients logging on to the Access Point. Try later.
I cannot remember the Encryption Key.	**1** Set the Access Point in the Software Reset mode. **2** Change the Encryption Key using the Access Point Setup Utility. For further information about the Software Reset mode, see the "Troubleshooting" section of the Wireless Palette Help file or the Custom Access Point Setup Utility Help file.
I cannot restore communication with the Access Point even by doing a software reset.	→ Use the following steps to reset the Access Point. **1** Use the Access Point Firmware Upgrade Utility to restore the factory default settings of the Access Point. **How to Reset** – Connect the Access Point to the power supply while pressing the reset switch on the bottom side of the Access Point. – Release the switch when the orange POWER indicator lights. For details, refer to the Custom Access Point Setup Utility Help. Select Additional information, Helpful information, then Reset mode and Software Reset mode. **2** Use the Wireless Palette to register the settings of the Access Point and establish communications with it. **3** Use the Access Point Setup Utility to make settings for the Access Point.
The Wireless Palette still shows the previous computer name after a change.	→ The Access Point has not yet recognized the new computer name. Right-click the Wireless Network Connection icon on the taskbar, then select View Available Networks from the shortcut menu. Select the network you want to access from the list, enter the Encryption Key in Network key field and then click Connect.

Additional information

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Symptom	Cause/Remedy
The communication band is supposed to be 11 Mbps, but MPEG2 data transfer fails.	→ 11 Mbps is a logical value. The actual value is approximately 4 to 5 Mbps. This occurs with almost all IEEE 802.11 compliant products. The high-speed stream transfer of MPEG2, may cause a short of the communication band.
No communication is available even though my computer is located within 100 m (330 feet) of the Access Point.	→ The actual communication distance depends on the installation site and surrounding conditions. Move your computer closer to the Access Point.
The data transfer speed has become slower.	→ The actual data transfer speed may change depending on the distance and quality of the link. The natural data transfer speed is 11 Mbps (maximum) but may fall to 5.5 Mbps, 2Mbps, or 1 Mbps in certain conditions.

On the dial-up connection

Symptom	Cause/Remedy
When using the dial-up connection, the Internet connection is unintentionally disconnected.	→ The automatic disconnection feature is enabled. If no communication takes place for two minutes, the Access Point automatically disconnects the dial-up connection by default. To change this setting, use the Custom Access Point Setup Utility. For further information, see the Custom Access Point Setup Utility Help.
When the automatic connection feature is enabled, a connection to the Internet is unintentionally established.	→ Some e-mail applications periodically check incoming mail. Windows also periodically establishes a connection to the Internet for update notices.
The dial-up connection is disabled for awhile after disconnection by clicking To Disconnect.	→ The Access Point does not accept a connection command issued by clicking To Connect for one minute after manual disconnection. Wait approximately one minute after disconnection, then try again.

Limited Warranty Statement

Sony Wireless LAN PC Card Warranty

The limited warranty on your hardware covers parts and labor against defects in material or workmanship for a period of three months from the original date of purchase. You can extend the warranty period for an additional nine months by registering your Wireless LAN PC Card. See "Registering your Wireless LAN Access Point/Wireless LAN PC Card" on page 20. Once you register your Wireless LAN PC Card, the limited warranty period is twelve months from the original date of purchase.

For the purpose of this Limited Warranty "SONY" means SONY ELECTRONICS INC. for Products purchased in the United States of America. SONY warrants this Wireless LAN PC Card product ("the Product") against defects in material or workmanship as follows:

1. Labor: For a period of ninety (90) calendar days from the original date of purchase from SONY or a SONY authorized reseller, SONY will repair defects in material or workmanship in the Product at no charge, or pay the associated labor charges to a SONY authorized service facility. The ninety (90) day warranty period is extendible only to the original purchaser, for an additional period of nine (9) months, for a total of twelve (12) months from date of purchase when the Product is registered electronically prior to the expiry of ninety (90) days from the original date of purchase. After the applicable period, you must pay for all labor charges.

2. Parts: For a period of ninety (90) calendar days from the original date of purchase from SONY or a SONY authorized reseller, SONY will supply, at no charge, new or rebuilt, at SONY's option, replacement parts in exchange for defective parts. Any replacement parts will be warranted for the remainder of the original warranty period or ninety (90) calendar days from installation by SONY's authorized service facility, whichever is longer. The ninety (90) day warranty period is extendible only to the original purchaser, for an additional period of nine (9) months, for a total of twelve (12) months from date of purchase when the Product is registered within ninety (90) days from the original date of purchase. All defective parts replaced under this Limited Warranty will become the property of SONY.

This Limited Warranty covers only the hardware components packaged with the Product. It does not cover the technical assistance for hardware or software usage, and it does not cover any software products whether or not contained in the Product; SONY excludes all warranties express or implied in respect of any software provided with the product and any such software is provided "AS IS," unless expressly provided for in any enclosed software limited warranty. Please refer to the End User License Agreements included with the Product for your rights and obligations with respect to the software.

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This Limited Warranty is non-transferable. Proof of purchase in the form of a bill of sale (which is evidence that the Product is within the warranty period) must be presented to obtain warranty service. In addition, if replacement parts are required and you wish to receive the most expedient service available, you will be required to provide SONY with a credit card authorization to bill your credit card in the event you fail to return the original parts in the postage-paid envelope we provide. The credit card will only be charged for SONY's list price for the part if the original part has not been returned within thirty (30) days.

With respect to certain components you may be entitled to express warranty service during the warranty period, subject to certain restrictions. Please contact SONY for further information.

SONY will not be responsible for any damage to or loss of any programs, data or other information stored on any media or any part of any Product serviced hereunder or any consequential damages resulting therefrom.

Be sure to remove all third party hardware, software, features, parts, options, alterations, and attachments not warranted by SONY prior to sending the Product to SONY for service. SONY is not liable for any loss or damage to these items.

This Limited Warranty does not cover any consumable items supplied with this Product; cosmetic damages; damage or loss to any software programs, data, or media; or damage due to (1) acts of God, accident, misuse, abuse, negligence, commercial use or modifications of this Product; (2) improper operation or maintenance of this Product; (3) connection to improper voltage supply; or (4) attempted repair by any party other than a SONY authorized service facility. This Limited Warranty does not apply when the malfunction results from the use of this Product in conjunction with accessories, products or ancillary or peripheral equipment, or where it is determined by SONY that there is no fault with the Product itself. This Limited Warranty is valid only in the United States of America. This Limited Warranty is invalid if the factory-applied serial number has been altered or removed from the product.

Repair or replacement of defective parts or hardware as provided under this Limited Warranty is the exclusive remedy of the consumer. SONY SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR OTHER DAMAGES INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS, LOSS OF REVENUE, LOSS OF DATA, LOSS OF USE OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT, DOWNTIME AND PURCHASER'S TIME. FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER LEGAL THEORY RELATED TO THIS PRODUCT. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW,

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This Limited Warranty gives you specified legal rights, and you may have other rights which vary from state to state.

Technical Support: Although technical support is not provided free of charge under this Limited Warranty, SONY has established a telephone number for technical support. Charges may apply for technical support, unless and to the extent that free technical support for a limited period is provided in writing as a feature of your Product. Prior to placing you call, please have available the model and serial numbers for your Product, date of purchase, a list of all options installed in your Product and a detailed description of the problem.

For Product support, online knowledge base, frequently asked questions, and free upgrades via the Internet: http://www.sony.com/wirelesslansupport/

For Product information, service assistance, resolution of a service problem, or technical assistance, call 1-877-760-7669.

Save this for future reference.

Additional information

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