

Wireless LAN PC Card

**PCWA-C100 - Microsoft® Windows® 98
Second Edition/ Microsoft® Windows®
Millennium Edition/ Microsoft® Windows®
2000 Professional**

SONY®



Notice

Owner's record

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

Model No. PCWA-C100

Serial No. _____

Regulatory information

This product complies with the European Directive 1999/5/EC (R&TTE Directive).

This product complies with EN55022 Class B and EN55024 for use in the following areas: residential, commercial and light-industrial.

This product has been tested and found compliant with the limits set out in the EMC Directive for using connection cables not longer than 3 metres (9.8 feet).

CE0122!

In some countries the use of the Wireless LAN Access Point is restricted. Before using it, make sure you have read the Wireless LAN regulation flyer.

About the supplied software

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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.

 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 instructions on how to use your computer and operating system, please refer to their respective manuals.

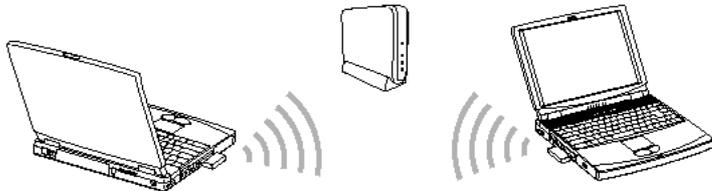
Overview

What you can do with your Wireless LAN PC Card

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

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

Communication through the Access Point



Direct communication between computers (Peer to Peer mode)



About the supplied software

The Wireless LAN PC Card is delivered with the following software:

- ❑ **Wireless Palette:** You can set up a computer containing the Wireless LAN PC Card for communications with the Access Point, display the communication status, and switch between Access Points when multiple Access Points are present.
- ❑ **Basic Access Point Setup Utility (Basic Setup Utility):** You can set up the Access Point for Internet access. This dialog-driven utility covers basic setup procedures 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 the Confirming your software version ([page 56](#)) section to check the version. To upgrade 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.

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

If you are already using a Sony Wireless LAN product, make sure you check the product's version. See the [Confirming your software version \(page 56\)](#) section to check the version.

New Wireless LAN PC Card

Wireless LAN PC Card in use

<p><i>Access Point</i></p>	<p>New</p>	<ol style="list-style-type: none"> 1. Connect the Access Point. See Connections in the Access Point Operating Instructions manual. 2. Insert the Wireless LAN PC Card into a computer, set up the Windows-based environment and install software. See Inserting the Wireless LAN PC Card (page 13) and following sections in this manual. 3. Install the software, and then set up according to the Wizard. See Installing software (page 39) in this manual. 4. Verify the communication with the Access Point. See Verifying communication with the Access Point (page 48) in this manual. 5. Configure the Access Point using the Basic Setup Utility. See Establishing communication with the Access Point (page 44) and following sections in this manual. For further information, see the Wireless Palette Help file. 	<ol style="list-style-type: none"> 1. Connect the Access Point. See Connections in the Access Point Operating Instructions manual. 2. Register the Access Point using the Wireless Palette. See Establishing communication with the Access Point (page 44) and following sections in this manual. For further information, see the Wireless Palette Help file. 3. Configure the Access Point using the BasicSetup Utility. See Setting up the Access Point (page 48) and following sections in this manual.
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New Wireless LAN PC Card**Wireless LAN PC Card in use**

	In use	<ol style="list-style-type: none"> 1. Insert the Wireless LAN PC Card into a computer, set up the Windows-based environment and install the software. See Inserting the Wireless LAN PC Card (page 13) and following sections in this manual. 2. Install the software, and then set up according to the Wizard. See Installing software (page 39) in this manual. 3. Verify the communication with the Access Point. See Verifying communication with the Access Point (page 48) in this manual. 	<p>To communicate with an Access Point previously used in another wireless LAN environment from a computer containing the Wireless LAN PC Card:</p> <ol style="list-style-type: none"> 1. Register the Access Point using the Wireless Palette. See Establishing communication with the Access Point (page 44) and succeeding sections in this manual. For further information, see the Wireless Palette Help file.
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System requirements

A computer answering to the following minimum system requirements:

- ❑ CPU: Intel® Pentium® 233Mhz with MMX® technology or later
- ❑ RAM :
 - ❑ 64 MB or more with Microsoft® Windows® 98 Second Edition, Microsoft® Windows® Millennium Edition or Microsoft® Windows® 2000 Professional
 - ❑ 128 MB or more with Microsoft® Windows® XP Home or Professional Edition.
- ❑ 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.
 - ❑ Microsoft® Windows® 98 Second Edition, English version
 - ❑ Microsoft® Windows® Millennium Edition, English version
 - ❑ Microsoft® Windows® 2000 Professional, English version
 - ❑ Microsoft® Windows® XP Professional Edition, English version

- Microsoft® Windows® XP Home Edition, English version
- (Does not operate under Microsoft® Windows® 3.1, 95, 98 or NT. Also, operation is not guaranteed under all upgraded environments.)
- Display: SVGA (800 x 600 pixels) and above, (supports High Color (16 bit) and above)



We do not assure trouble-free operation for all computers answering to these system requirements.

The Wireless LAN Access Point PCWA-A200 is required to gain access to the internet using this Wireless LAN technology.

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



About this manual

This manual explains the operation of the Wireless LAN PC Card and the installation and setup of the supplied software when using Windows® 98 Second Edition, Windows® Millennium Edition or Windows® 2000 Professional operating systems. If your operating system is Windows® XP Professional Edition or XP Home Edition, refer to the Windows® XP Professional Edition/XP Home Edition manual. For details on using the Wireless Palette and the Custom Access Point Setup Utility software supplied with the Wireless LAN PC Card, please refer to the software's Help files.

About the online help

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.

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

Opening the online help files

To access Wireless Palette Help, proceed as follows:

From the **Start** menu, select **Programs, Wireless LAN**, then **Wireless Palette Help**.

To access Custom Access Point Setup Utility Help, proceed as follows:

From the **Start** menu, select **Programs, Wireless LAN**, then **Custom Access Point Setup Utility Help**.

To access Upgrade Manual, proceed as follows:

From the **Start** menu, select **Programs, Wireless LAN, Access Point Firmware Upgrade**, then **Manual**.

Selecting a topic from the contents

To select a topic from the contents, proceed as follows:

From the **Contents** list, select the topic you want to consult.

Searching for information by using a keyword

To search for a topic using a keyword, proceed as follows:

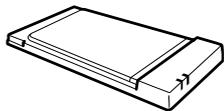
- 1 To search using a keyword, select the **Index** tab from the **Help** dialog box. The **Keyword list** appears.
- 2 Enter the keyword you want to apply, or scroll down the **Keyword list**.
- 3 Select a topic, and then click **Display**. Topics related to the keyword appear.

Getting started

Unpacking your wireless LAN PC Card

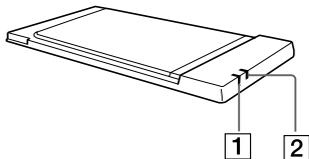
Your Wireless LAN PC Card is delivered with the following items:

- ❑ Wireless LAN PC Card



- ❑ PC card case
- ❑ CD-ROM (Setup disc)
- ❑ Operating Instructions

Locating the indicators



1	DATA indicator	Lights up when data is exchanged.
2	LINK indicator	Lights up while your computer is connected to the Wireless LAN.

Description of 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		The PC Card is operating, but no connection is established.
Off		The PC Card is powered off.

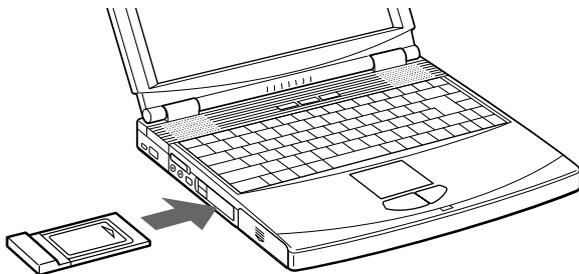
Inserting the Wireless LAN PC Card

If you are inserting the Wireless LAN PC Card for the first time, see Installing the driver software ([page 15](#)) for details.

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.

To insert your Wireless LAN PC Card, proceed as follows:

- 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 into 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 it.



 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.

Removing the Wireless LAN PC Card

To remove the Wireless LAN PC Card, proceed as follows:

- 1 Close the software that uses the Wireless LAN.
- 2 Stop **PC Card Services** using the taskbar or Control Panel.
- 3 Remove the Wireless LAN PC Card, following the instructions in your computer's manual.

Installing the driver software

Install the driver software for the Wireless LAN PC Card. The installation procedure requires the availability of a CD-ROM drive when the Wireless LAN PC Card is inserted.

If your computer has two PC Card slots and your CD-ROM drive must be connected through one of them, connect the CD-ROM drive to the bottom slot.

If your computer has only one PC Card slot, and your CD-ROM drive must be connected through it, copy the Wireless LAN folder from the supplied CD-ROM into the hard disk before inserting the Wireless LAN PC Card. The following steps use C:\Temp folder as an example. If you can use the CD-ROM drive while the Wireless LAN PC Card is inserted, the following steps are not required. Begin installation starting from step 1.

- 1 Connect the CD-ROM drive to the computer and insert the supplied CD-ROM into the drive.
- 2 Create a Temp folder on the **C:** drive using Window Explorer.
- 3 Copy the Wireless LAN folder in the CD-ROM to C:\Temp folder.
- 4 Remove the CD-ROM drive connector from the PC Card slot, then proceed to step 2.
If you need more help on how to remove the CD-ROM drive, please refer to the Removing the Wireless LAN PC Card (page 14) section, as both accessories use the same approach.

To install the driver when using Windows[®] 98 Second Edition, proceed as follows:

- 1 Insert the supplied CD-ROM into the CD-ROM drive.
- 2 Insert the Wireless LAN PC Card into the PC Card slot.
The **Add New Hardware Wizard** screen appears.
- 3 Click **Next**.
- 4 Make sure that the **Find an appropriate driver for a device in use** check box is selected, and then click **Next**.
- 5 Select **Specify a location**, then click **Browse**.
- 6 Select the folder containing the driver, then click **OK**.

- ❑ When installing from the provided CD-ROM by using a CD-ROM drive connected to the computer: Select the Win98 folder in the WirelessLAN folder on the CD-ROM drive.
 - ❑ When installing after having copied the contents of the provided CD-ROM to your hard disk: Browse to the appropriate subdirectory containing the driver. The subdirectory should be found in the folder you copied from the CD-ROM (here assumed to be C:\Temp\WirelessLAN\Win98).
- 7 Click **Next** to begin the search procedure.
 - 8 Click **Next** to install the driver.
A new window appears when the software has been installed.
 - 9 Click **Finish**.
 - 10 Follow the on-screen instructions to restart the computer.
-  Restarting the computer takes longer than booting.

To install the driver when using Windows[®] Millennium Edition, proceed as follows:

- 1 Insert the supplied CD-ROM into the CD-ROM drive.
- 2 Insert the Wireless LAN PC Card into the PC Card slot.
The **Add New Hardware Wizard** screen appears.
- 3 Select **Specify the location of the driver**, then click **Next**.
- 4 Select **Specify a location**, then click **Browse**.
- 5 Select the folder containing the driver, then click **OK**.
 - ❑ When installing from the provided CD-ROM in a CD-ROM drive connected to the computer: Select the WinMe folder in the WirelessLAN folder on the CD-ROM drive.
 - ❑ When installing after having copied the contents of the provided CD-ROM to your hard disk: Browse to the appropriate subdirectory containing the driver. The subdirectory should be found in the folder you copied from the CD-ROM (here assumed to be C:\Temp\WirelessLAN\WinMe).
- 6 Click **Next** to begin the search procedure.

- 7 Click **Next** to install the driver.
A new window appears when the driver has been installed.
- 8 Click **Finish**.
Follow the on-screen instructions to restart the computer.

 Restarting the computer takes longer than booting.

To install the driver when using Windows® 2000 Professional, proceed as follows:

- 1 Insert the supplied CD-ROM into the CD-ROM drive.
- 2 Insert the Wireless LAN PC Card into the PC Card slot.
The **Found New Hardware Wizard** screen appears.
- 3 Click **Next**.
- 4 Make sure that **Search for a suitable driver for my device** is selected, then click **Next**.
- 5 Select **Specify a location**, then click **Next**.
- 6 Click **Browse**.
- 7 Select the folder containing the driver, then click **Open**.
 - When installing from the provided CD-ROM in a CD-ROM drive connected to the computer: Select the **Win2k** folder in the **WirelessLAN** folder on the CD-ROM drive.
 - When installing after having copied the contents of the provided CD-ROM to your hard disk: Browse to the appropriate subdirectory containing the driver. The subdirectory should be found in the folder you copied from the CD-ROM (here assumed to be C:\Temp\WirelessLAN\Win2k).
- 8 Click **OK** to begin the search procedure.
- 9 Click **Next** to install the driver.
A new window appears when the driver has been installed.
- 10 Click **Finish**.

 You must log on to your system with Administrator privileges.

Verifying the driver installation

After the computer restarts, verify that the Wireless LAN PC Card is working properly.

To verify the driver's installation when using Window[®] 98 Second Edition, proceed as follows:

- 1 From the **Start** menu, select **Settings**, then **Control Panel**.
The **Control Panel** window appears.
- 2 Double-click the **System** icon.
The **System Properties** dialog box appears.
- 3 Click the **Device Manager** tab, then click **View devices by type**.
- 4 Double-click **Network adapters**, then double-click **Sony PCWA-C100 Wireless PC Card**.
The **Sony PCWA-C100 Wireless PC Card Properties** dialog box appears.
- 5 Make sure that the **This device is working properly** message is displayed under **Device status**.
- 6 Click **OK**.
The **System Properties** dialog box appears.
- 7 Click **OK**.
The **Control Panel** window appears.
- 8 Double-click the **PC Card (PCMCIA)** icon.
The **PC Card (PCMCIA) Properties** dialog box appears.
- 9 Make sure that **Sony PCWA-C100 Wireless PC Card** is displayed under **Socket Status**.
- 10 Click **OK**.
The **PC Card (PCMCIA) Properties** dialog box closes.
- 11 Click .
The **Control Panel** window closes.

To verify the driver's installation when using Window[®] Millennium Edition, proceed as follows:

- 1 From the **Start** menu, click **Settings**, then **Control Panel**.
The **Control Panel** window appears.
- 2 Double-click the **System** icon. If all of the Control Panel options are not displayed, select **View all Control Panel options** then double-click the **System** icon.
The **System Properties** dialog box appears.
- 3 Click the **Device Manager** tab, then click **View devices by type**.
- 4 Double-click **Network adapters**, then double-click **Sony PCWA-C100 Wireless PC Card**.
The **Sony PCWA-C100 Wireless PC Card Properties** dialog box appears.
- 5 Make sure that the **This device is working properly** message is displayed under **Device status**.
- 6 Click **OK**.
The **System Properties** dialog box appears.
- 7 Click **OK**.
The **Control Panel** window appears.
- 8 Double-click the **PC Card (PCMCIA)** icon.
The **PC Card (PCMCIA) Properties** dialog box appears.
- 9 Make sure that **Sony PCWA-C100 Wireless PC Card** is displayed under **Socket Status**.
- 10 Click **OK**.
The **PC Card (PCMCIA) Properties** dialog box closes.
- 11 Click .
The **Control Panel** window closes.

To verify the driver's installation when using Window[®] 2000 Professional, proceed as follows:

- 1 From the **Start** menu, click **Settings**, then **Control Panel**.
The **Control Panel** window appears.

- 2 Double-click the **System** icon.
The **System** dialog box appears.
- 3 Click the **Hardware** tab, then click **Device Manager**.
- 4 Double-click **Network adapters**, then double-click **Sony PCWA-C100 Wireless PC Card**.
The **Sony PCWA-C100 Wireless PC Card Properties** dialog box appears.
- 5 Make sure that the **This device is working properly** message is displayed under **Device status**.
- 6 Click **OK**.
The **Device Manager** window appears.
- 7 Click .
The **System Properties** dialog box appears.
- 8 Click **OK**.
The **Control Panel** window appears.
- 9 Click .
The **Control Panel** window closes.

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

- ❑ **Sony PCWA-C100 Wireless PC Card** is shown with a yellow question or exclamation mark.
Click **Sony PCWA-C100 Wireless PC Card** and click **Remove**. Then repeat from step 2 in Installing the driver software ([page 15](#)).
- ❑ Double-clicking **Network Adapters** does not display **Sony PCWA-C100 Wireless PC Card**.
You have to remove the Wireless LAN PC Card. Please refer to the Removing the Wireless LAN PC Card ([page 14](#)) section to remove it. Then repeat from step 2 in Installing the driver software ([page 15](#)).
- ❑ Double-clicking **Other devices** displays **Sony PCWA-C100 Wireless PC Card**.
You have to click **Sony PCWA-C100 Wireless PC Card**, then click **Remove**. Repeat from step 2 in Installing the driver software ([page 15](#)).

- ❑ If the **This device is working properly** message is not displayed, the Wireless LAN PC Card is not working properly.
Click **OK** to close the **Properties** dialog box, then reinstall the driver as follows:
 - ❑ Click **Remove**.
 - ❑ When the **Confirm Device Removal** dialog box appears, click **OK**.
 - ❑ Click **Yes** and restart the computer.
 - ❑ When the computer restarts, repeat from step 2 in Installing the driver software ([page 15](#)).
- ❑ If the Sony PCWA-C100 Wireless PC Card is not displayed in the **PC Card (PCMCIA) Properties** dialog box, the Wireless LAN PC Card is not working properly.
Repeat steps 1 through 4 in the next sections to verify the driver's installation. Click **Sony PCWA-C100 Wireless PC Card**, then click **Remove** to remove the driver. Click **Yes** to restart the computer. When the computer restarts, repeat from step 2 in Installing the driver software ([page 15](#)).

Uninstalling the driver

Leave the Wireless LAN PC Card plugged into your computer while uninstalling the driver.

To uninstall the driver when using Windows[®] 98 Second Edition, proceed as follows:

- 1 From the **Start** menu, select **Settings**, then **Control Panel**.
The **Control Panel** window appears.
- 2 Double-click the **System** icon.
The **System Properties** dialog box appears.
- 3 Click the **Device Manager** tab and select **View devices by type**.
- 4 Double-click **Network adapters**, select **Sony PCWA-C100 Wireless PC Card**, and then click **Remove**.
Make sure that the **Device Removal** dialog box appears.

- 5 Click **OK**.
The **To finish removing your hardware, you must restart your computer. Do you want to restart your computer now?** message appears.
- 6 Remove the Wireless LAN PC Card from its slot, then click **Yes**.
The system restarts. The driver is no longer installed.

To uninstall the driver when using Windows[®] Millennium Edition, proceed as follows:

- 1 From the **Start** menu, select **Settings**, then **Control Panel**.
The **Control Panel** window appears.
- 2 Double-click the **System** icon. If all of the Control Panel options are not displayed, select **View all Control Panel options** then double-click the **System** icon.
The **System Properties** dialog box appears.
- 3 Click the **Device Manager** tab and select **View devices by type**.
- 4 Double-click **Network adapters**, select **Sony PCWA-C100 Wireless PC Card**, and then click **Remove**.
Make sure that the **Device Removal** dialog box appears.
- 5 Click **OK**.
The **To finish removing your hardware, you must restart your computer. Do you want to restart your computer now?** message appears.
- 6 Remove the Wireless LAN PC Card from its slot, and then click **Yes**.
The system restarts. The driver is no longer installed.

To uninstall the driver when using Windows[®] 2000 Professional, proceed as follows:

- 1 From the **Start** menu, click **Settings**, then **Control Panel**.
The **Control Panel** window appears.
- 2 Double-click the **System** icon.
The **System Properties** dialog box appears.



- 3 Click the **Hardware** tab, and then click **Device Manager**.
The **Device Manager** window appears.
- 4 From the **View** menu, select **Devices by type**.
- 5 Double-click **Network adapters**, and then double-click **Sony PCWA-C100 Wireless PC Card**.
The **Sony PCWA-C100 Wireless PC Card Properties** dialog box appears.
- 6 Click the **Driver** tab, and then click **Uninstall**.
Make sure that the **Device Removal** dialog box appears.
- 7 Click **OK**.
The **Device Manager** window appears.
- 8 Click .
The **System Properties** dialog box appears.
- 9 Click **OK**.



Setting up the Windows-based environment (Windows® 98 Second Edition)

Verifying the installed network components

To verify the installed network components, proceed as follows:

- 1 From the **Start** menu, select **Settings**, then **Control Panel**.
The **Control Panel** window appears.
- 2 Double-click the **Network** icon.
The **Network** dialog box appears.
- 3 Click the **Configuration** tab to verify the settings.
- 4 Make sure that the following items are displayed under **The following network components are installed**.
 - TCP/IP -> Sony PCWA-C100 Wireless PC Card
 - Client for Microsoft Networks
 - File and printer sharing for Microsoft Networks
 - NetBEUI -> Sony PCWA-C100 Wireless PC Card
- 5 Make sure that **Client for Microsoft Networks** is displayed under the **Primary Network Logon** drop-down menu.
If everything is displayed, proceed to the Verifying the computer name and workgroup ([page 32](#)) section.
If any of these components are missing, add each component individually.
Read the following sections:
 - Adding TCP/IP ([page 25](#));

- ❑ Adding Client for Microsoft Networks (page 25);
 - ❑ Adding File and printer sharing for Microsoft Networks (page 26);
 - ❑ Adding NetBEUI (Option) (page 26).
- When you have added all components, proceed to the Specifying the IP address (page 27) section.

 If the **Version Conflict** dialog box appears while you are setting up the Windows-based environment, click **Yes** to continue.

★ Installing NetBEUI is optional. Install it only when you use NetBEUI protocol on your network.

Adding TCP/IP

If TCP/IP -> Sony PCWA-C100 Wireless PC Card is not displayed in step 3 above, proceed as follows:

- 1 Click **Add** on the **Configuration** tab.
The **Select Network Component Type** dialog box appears.
- 2 Click **Protocol**, then click **Add**.
The **Select Network Protocol** dialog box appears.
- 3 Select **Microsoft** in the Manufacturers list, then select **TCP/IP** in the **Network Protocols** list.
- 4 Click **OK**.
TCP/IP -> Sony PCWA-C100 Wireless PC Card appears under **The following network components are installed**.

Adding Client for Microsoft Networks

If Client for Microsoft Networks is not displayed in step 3, proceed as follows:

- 1 From the **Configuration** tab, click **Add**.
The **Select Network Component Type** dialog box appears.
- 2 Click **Client**, then click **Add**.
The **Select Network Client** dialog box appears.

- 3 Select **Microsoft** in the **Manufacturers** list, and select **Client for Microsoft Networks** in the **Network Clients** list.
- 4 Click **OK**.
Client for Microsoft Networks appears under **The following network components are installed**.

Adding File and printer sharing for Microsoft Networks

If File and printer sharing for Microsoft Networks is not displayed in step 3, proceed as follows:

- 1 Click **File and Print Sharing** on the **Configuration** tab.
The **File and Print Sharing** dialog box appears.
- 2 Select the **I want to be able to give others access to my files** and **I want to be able to allow others to print to my printer(s)** check boxes.
- 3 Click **OK**.
File and printer sharing for Microsoft Networks appears under **The following network components are installed**.

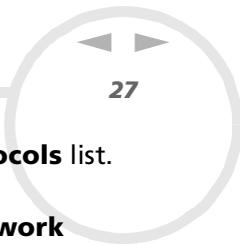
When you have added all components, proceed to the Specifying the IP address ([page 27](#)) section.

-  This client is required to allow other computers on the same Local Area Network to access files shared on your computer or to print documents on a printer connected to your computer.
File and Print Sharing is not recommended while connected to the Internet. Security is an issue and Microsoft® warns to disable the option. While connected to the Internet, use some firewall software.

Adding NetBEUI (Option)

If NetBEUI -> Sony PCWA-C100 Wireless PC Card is not displayed in step 3, proceed as follows:

- 1 From the **Configuration** tab, click **Add**.
The **Select Network Component Type** dialog box appears.
- 2 Click **Protocol**, then click **Add**.
The **Select Network Protocol** dialog box appears.



- 3 Select **Microsoft** in the Manufacturers list, then select **NetBEUI** in the **Network Protocols** list.
- 4 Click **OK**.
NetBEUI -> Sony PCWA-C100 Wireless PC Card is added under **The following network components are installed**.

Specifying the IP address

To specify the IP address, proceed as follows:

- 1 Click **TCP/IP -> Sony PCWA-C100 Wireless PC Card**, and then click **Properties** on the **Network** dialog box.
The **TCP/IP Properties** dialog box appears.
If TCP/IP is not displayed, go back to the section **Adding TCP/IP** to add TCP/IP, then return here to continue.
- 2 Click **Obtain an IP address automatically**, then click **OK**.
The **Network** dialog box appears.
Proceed to the Verifying the computer name and workgroup ([page 28](#)) section, upon completion of this setting.



Verifying the computer name and workgroup

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

To verify the computer name and workgroup, proceed as follows:

- 1 Click the **Identification** tab on the **Network** dialog box, and then enter the Computer name and Workgroup.
- 2 Click **OK**.
The **System Settings Change** dialog box appears.
- 3 Click **Yes** to restart the computer.
Proceed to the Setting up sharing on the computer ([page 39](#)) section, on completion of these instructions.

 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 Wireless Capsule 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.

Restarting the computer takes longer than booting.



Setting up the Windows-based environment (Windows® Millennium Edition)

Verifying the installed network components

To verify the installed network components, proceed as follows:

- 1 From the **Start** menu, select **Settings**, then **Control Panel**.
The **Control Panel** window appears.
- 2 Double-click the **Network** icon. If all of the Control Panel options are not displayed, select **View all Control Panel options**, then double-click the **Network** icon.
The **Network** dialog box appears.
- 3 Open the **Wireless LAN PC Card Network properties** dialog box.
- 4 Click the **Configuration** tab to verify the settings.
- 5 Make sure that the following items are displayed under **The following network components are installed**.
 - TCP/IP -> Sony PCWA-C100 Wireless PC Card
 - Client for Microsoft Networks
 - File and printer sharing for Microsoft Networks
 - NetBEUI -> Sony PCWA-C100 Wireless PC Card
- 6 Make sure that **Client for Microsoft Networks** is displayed under the **Primary Network Logon** drop-down menu.
If everything is displayed, proceed to the Verifying the computer name and workgroup ([page 28](#)) section.
If any of these components are missing, add each component individually.
For more information, read the following sections:
 - Adding TCP/IP ([page 25](#));

- ❑ Adding Client for Microsoft Networks ([page 25](#));
- ❑ Adding File and printer sharing for Microsoft Networks ([page 26](#));
- ❑ Adding NetBEUI (Option) ([page 31](#)).

When you have added all components, proceed to the Specifying the IP address ([page 32](#)) section.

 If the **Version Conflict** dialog box appears while you are setting up the Windows-based environment, click **Yes** to continue.

★ Installing NetBEUI is optional. Install it only when you use NetBEUI protocol on your network.

Adding TCP/IP

If TCP/IP -> Sony PCWA-C100 Wireless PC Card is not displayed in step 3 above, proceed as follows:

- 1 Click **Add** on the **Configuration** tab.
The **Select Network Component Type** dialog box appears.
- 2 Click **Protocol**, and then click **Add**.
The **Select Network Protocol** dialog box appears.
- 3 Select **Microsoft** in the **Manufacturers** list, and then select **TCP/IP** in the **Network Protocols** list.
- 4 Click **OK**.
TCP/IP -> Sony PCWA-C100 Wireless PC Card appears under **The following network components are installed**.

Adding Client for Microsoft Networks

If Client for Microsoft Networks is not displayed in step 3, proceed as follows:

- 1 From the **Configuration** tab, click **Add**.
The **Select Network Component Type** dialog box appears.
- 2 Click **Client**, and then click **Add**.
The **Select Network Client** dialog box appears.

- 3 Select **Microsoft** in the **Manufacturers** list, and select **Client for Microsoft Networks** in the **Network Clients** list.
- 4 Click **OK**.
Client for Microsoft Networks appears under **The following network components are installed**.

Adding File and printer sharing for Microsoft Networks

If File and printer sharing for Microsoft Networks is not displayed in step 3, proceed as follows:

- 1 Click **File and Print Sharing** on the **Configuration** tab.
The **File and Print Sharing** dialog box appears.
- 2 Select the **I want to be able to give others access to my files** and **I want to be able to allow others to print to my printer(s)** check boxes.
- 3 Click **OK**.
File and printer sharing for Microsoft Networks appears under **The following network components are installed**.

When you have added all components, proceed to the Specifying the IP address ([page 32](#)) section.

-  This client is required to allow other computers on the same Local Area Network to access files shared on your computer or to print documents on a printer connected to your computer.
File and Print Sharing is not recommended while connected to the Internet. Security is an issue and Microsoft® warns to disable the option. While connected to the Internet, use some firewall software.

Adding NetBEUI (Option)

If NetBEUI -> Sony PCWA-C100 Wireless PC Card is not displayed in step 3, proceed as follows:

- 1 From the **Configuration** tab, click **Add**.
The **Select Network Component Type** dialog box appears.
- 2 Click **Protocol**, and then click **Add**.
The **Select Network Protocol** dialog box appears.

- 3 Select **Microsoft** in the **Manufacturers** list, and then select **NetBEUI** in the **Network Protocols** list.
- 4 Click **OK**.
NetBEUI -> Sony PCWA-C100 Wireless PC Card is added under **The following network components are installed**.

Specifying the IP address

To specify the IP address, proceed as follows:

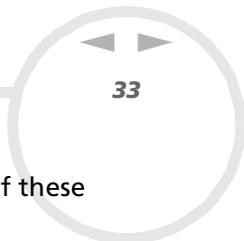
- 1 Click **TCP/IP -> Sony PCWA-C100 Wireless PC Card**, then click **Properties** on the **Network** dialog box. The **TCP/IP Properties** dialog box appears.
If TCP/IP is not displayed, go back to the Adding TCP/IP ([page 25](#)) section to add TCP/IP, then return here to continue.
- 2 Click **Obtain an IP address automatically**, then click **OK**.
The **Network** dialog box appears.
Proceed to the Verifying the computer name and workgroup ([page 28](#)) section, upon completion of this setting.

Verifying the computer name and workgroup

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

To verify the computer name and workgroup, proceed as follows:

- 1 Click the **Identification** tab on the **Network** dialog box, and then enter the Computer name and Workgroup.
- 2 Click **OK**.
The **System Settings Change** dialog box appears.



- 3 Click **Yes** to restart the computer.

Proceed to the Setting up sharing on the computer (page 39) section, on completion of these instructions.

-  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 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.

Restarting the computer takes longer than booting.



Setting up the Windows-based environment (Windows® 2000 Professional)

Verifying the current network components

To verify the current network components, proceed as follows:

- 1 From the **Start** menu, select **Settings**, then **Network and Dial-up Connections**. The **Network and Dial-up Connections** window appears.
- 2 Double-click the **Local Area Connection** icon. The **Local Area Connection Properties** dialog box appears.
- 3 Make sure that the following network components are displayed in the component list:
 - Internet Protocol (TCP/IP)
 - Client for Microsoft Networks
 - File and Printer Sharing for Microsoft Networks
 - NetBEUI Protocol
- 4 If everything is displayed, click **Close** and proceed to the Verifying the computer name and workgroup ([page 28](#)) section.
- 5 If any of these components are missing, add each component individually.
- 6 For more information, read the following sections:
 - Adding TCP/IP ([page 25](#));
 - Adding Client for Microsoft Networks ([page 25](#));
 - Adding File and printer sharing for Microsoft Networks ([page 26](#));
 - Adding NetBEUI (Option) ([page 26](#)).When you have added all components, proceed to the Specifying the IP address ([page 27](#)) section.

-  When multiple connection environments exist, multiple **Local Area Connection** icons are displayed. Locate the icon that appears as **Sony PCWA-C100 Wireless PC Card**, and double-click it.
- ★ Installing NetBEUI is optional. Install it only when you use NetBEUI protocol on your network.

Adding Internet Protocol (TCP/IP)

If Internet Protocol (TCP/IP) is not displayed in step 2, proceed as follows:

- 1 Click **Install** on the **Local Area Connection Properties** dialog box. The **Select Network Component Type** dialog box appears.
- 2 Click **Protocol**, then click **Add**. The **Select Network Protocol** dialog box appears.
- 3 Click **Internet Protocol (TCP/IP)**.
- 4 Click **OK**. **Internet Protocol (TCP/IP)** is added in the component list.

Adding Client for Microsoft Networks

If Client for Microsoft Networks is not displayed in step 2, proceed as follows:

- 1 Click **Install** on the **Local Area Connection Properties** dialog box. The **Select Network Component Type** dialog box appears.
- 2 Click **Client**, and then **Add**. The **Select Network Service** dialog box appears.
- 3 Click **Client for Microsoft Networks**.
- 4 Click **OK**. Client for Microsoft Networks is added to the component list.

Adding File and printer sharing for Microsoft Networks

If File and Printer Sharing for Microsoft Networks is not displayed in step 2, proceed as follows:

- 1 Click **Install** on the **Local Area Connection Properties** dialog box.
The **Select Network Component Type** dialog box appears.
- 2 Click **Service**, then click **Add**.
The **Select Network Service** dialog box appears.
- 3 Click **File and Printer Sharing for Microsoft Networks**.
- 4 Click **OK**.
File and printer sharing for Microsoft Networks appears under **Components checked are used by this connection**.

When you have added all components, proceed to the Specifying the IP address ([page 27](#)) section.

-  This setting is required to allow other computers on the same LAN to share files from your computer or the printer connected to your computer. File and Printer Sharing is not recommended while connected to the Internet. Security is an issue and Microsoft® warns to disable the option. While connected to the Internet, please consider using some firewall software.

Adding NetBEUI Protocol (Option)

If NetBEUI Protocol is not displayed in step 2, proceed as follows:

- 1 Click **Install** on the **Local Area Connection Properties** dialog box.
The **Select Network Component Type** dialog box appears.
- 2 Click **Protocol**, and then click **Add**.
The **Select Network Protocol** dialog box appears.
- 3 Click **NetBEUI Protocol**.
- 4 Click **OK**.
NetBEUI Protocol is added to the component list.

Specifying the IP address

To specify the IP address, proceed as follows:

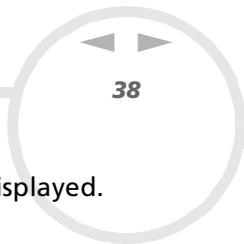
- 1 Select **Internet Protocol (TCP/IP)** from the component list of the **Local Area Connection Properties**, then click **Properties**.
The **Internet Protocol (TCP/IP) Properties** dialog box appears.
- 2 Click **Obtain an IP address automatically**, then click **OK**.
The **Local Area Connection Properties** dialog box appears.
- 3 Click **OK**.
The **Local Area Connection Properties** dialog box closes.
- 4 Click .
- 5 The **Network and Dial-up Connections** window closes.
Proceed to the Verifying the computer name and workgroup ([page 28](#)) section upon completion of these instructions.

Verifying the computer name and workgroup

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

To verify the computer name and workgroup, proceed as follows:

- 1 From the **Start** menu, select **Settings**, and then click **Control Panel**.
The **Control Panel** window appears.
- 2 Double-click the **System** icon.
The **System Properties** dialog box appears.
- 3 Click the **Network Identification** tab, and then click **Properties**.
The **Identification Changes** dialog box appears.
- 4 Specify the Computer name and Workgroup for your computer.



- 5 Click **OK**.
The **You must reboot this computer for the changes to take effect** message is displayed.
 - 6 Click **OK**.
The **System Properties** dialog box appears.
 - 7 Click **OK**, then click **Yes** to restart the computer.
Proceed to the Setting up sharing on the computer ([page 39](#)) section, upon completion of this setting.
-  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 Wireless Capsule 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.
- Restarting the computer takes longer than booting.

Setting up sharing on the computer

Installing software

Before installing the applications:

- Install and connect the Access Point
- Install the driver software
- Insert the Wireless LAN PC Card
- Quit all Windows® programs

Once you set up your Windows®-based environment, install the Wireless Palette, the Basic Setup Utility, and the Custom Setup Utility software.

To install these applications, proceed as follows:

- 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 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.
- 7 Select **Standard** then click **Next**.
The software installation begins.
If you are installing the Wireless LAN Utility for the first time, the **Initial Wireless Network Registration Wizard** will be activated. In this case, enter the Nickname, the Network Name (SSID) and the Encryption Key (WEP Key), and then click **OK** to complete the basic setup. After a short while, the **InstallShield Wizard Complete** dialog box appears. Make sure to select **Yes, I want to restart my computer now**.
- 8 Click **Finish**.
Installation is complete and your computer restarts.
Proceed to Setting up the connection environment ([page 44](#)), for instructions on how to establish a connection between the computer and the Access Point.
 - ★ If you want to install the software into another folder, click **Browse** and select the folder or enter the folder name directly.
 - ★ If you want select specific software applications, select **Custom setup** then click **Next**.
 -  The **Initial Wireless Network Registration Wizard** will perform setup steps from the Establishing communication with the Access Point ([page 44](#)) section to Step 4. **Initial Wireless Network Registration** shows up only the first time you install the software.
For information on Nickname, Network Name (SSID) and Encryption Key (WEP Key), see further on.

Modifying the installed software

You can install/uninstall a specific software application.

To install a specific application, proceed as follows:

- 1 Display the **Wireless LAN Utility Setup** dialog box.
- 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 and the **Maintenance Complete** dialog box appears after installation is complete.
- 4 Click **Finish**.
 - ★ To uninstall a specific software application, deselect the application you want to uninstall.
 - ★ Before you proceed the process, close the Wireless LAN Utility.

Uninstalling the software

To uninstall the software when using Windows® 98 Edition, proceed as follows:

- 1 From the **Start** menu, click **Settings**, and then click **Control Panel**.
The **Control Panel** window appears.
 - 2 Double-click the **Add/Remove Programs** icon.
The **Add/Remove Programs Properties** dialog box appears.
 - 3 Select Wireless LAN Utility from the list of automatically removable software, and then click **Add/Remove**.
The **Wireless LAN Utility Setup** dialog box appears.
 - 4 Select **Remove**, and then click **Next**.
The **Confirm File Deletion** dialog box appears.
 - 5 Click **OK**.
When the **Locked file detected** dialog box appears, click **Reboot**. The computer restarts once uninstallation is complete and all previously used files are deleted.
If the **Shared file detected** dialog box appears, it is recommended that you click **No** to keep the shared files.
-  Before you continue the process, close the Wireless LAN Utility.
 - ★ To uninstall a specific software application, select **Modify** and click **Next**. See the Modifying the installed software ([page 40](#)) section for more information.

To uninstall the software when using Windows® Millennium Edition, proceed as follows:

- 1 From the **Start** menu, click **Settings**, and then click **Control Panel**.
The **Control Panel** window appears.
- 2 Double-click the **Add/Remove Programs** icon. If all of the Control Panel options are not displayed, select **View all Control Panel options**, then double-click **Add/Remove Programs**.
The **Add/Remove Programs Properties** dialog box appears.
- 3 Select **Wireless LAN Utility** from the list of automatically removable software, and then click **Add/Remove**.
The **Wireless LAN Utility Setup** dialog box appears.
- 4 Select **Remove**, and then click **Next**.
The **Confirm File Deletion** dialog box appears.
- 5 Click **OK**.
When the **Locked file detected** dialog box appears, click **Reboot**. The computer restarts once uninstallation is complete and all previously used files are deleted.
If the **Shared file detected** dialog box appears, it is recommended that you click **No** to keep the shared files.

 Before you continue the process, close the Wireless LAN Utility.

- ★ To uninstall a specific software application, select **Modify** and click **Next**. See the Modifying the installed software ([page 40](#)) section for more information.

To uninstall the software when using Windows® 2000 Professional, proceed as follows:

- 1 From the **Start** menu, click **Settings**, and then click **Control Panel**.
The **Control Panel** window appears.
- 2 Double-click the **Add/Remove Programs** icon.
The **Add/Remove Programs** dialog box appears.
- 3 Select **Wireless LAN Utility** from the list of currently installed programs, then click **Change/Remove**.
The **Wireless LAN Utility Setup** dialog box appears.

- 4 Select **Remove**, and then click **Next**.
The **Confirm File Deletion** dialog box appears.
 - 5 Click **OK**.
When the **Locked file detected** dialog box appears, click **Reboot**. The computer restarts once uninstallation is completed and all previously used files are deleted.
 - 6 If the **Shared file detected** dialog box appears, it is recommended that you click **No** to keep shared files.
-  Before you continue the process, close the Wireless LAN Utility.
- ★ To uninstall a specific software application, select **Modify** and click **Next**. See the Modifying the installed software ([page 40](#)) section for more information.

Wireless LAN connection

Setting up the connection environment

This section explains how to set up the software for building a wireless LAN environment with the Access Point.

To set up the connection environment, proceed as follows:

- 1 Use the Wireless Palette software to register the Access Point to every computer that you want to connect in a wireless LAN.
See Establishing communication with the Access Point (page 44) and Verifying communication with the Access Point (page 48) for more information.
If you made settings by means of the **Initial Wireless Network Registration Wizard** when you installed the Wireless LAN Utility, basic setup has already been done.
- 2 Use the **Basic Setup Utility** to set up the Access Point on one of the wireless LAN computers.
See the Setting up the Access Point (page 48) section for more information.

Establishing communication with the Access Point

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

If you made settings by means of the **Initial Wireless Network Registration Wizard** when you installed the Wireless LAN Utility, basic setup has already been done. In that case, skip the steps below and proceed directly to the Verifying communication with the Access Point (page 48) section.

Before attempting to establish a wireless LAN environment:

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

ID:123456	SN:00UT12345678
	PN:012756

- ❑ Install and connect the Access Point. (Refer to the **Access Point Operating Instructions**.)
- ❑ Insert the Wireless LAN PC Card into the computer.

To establish the communication with the Access Point, proceed as follows:

- 1 Double-click the **Reception level indicator**  icon on the taskbar. If the icon is not on the taskbar, select **Programs, Wireless LAN**, then **Wireless Palette** from the **Start** menu. The **Wireless Palette status** window appears.
- 2 Click the **Tool Box**  button. The **Tool Box** window appears.
- 3 Click **Add**. The **Add New Network Name (SSID)** dialog box appears.
- 4 Enter the **Nickname, Network Name (SSID)**, and **Encryption Key**.
- 5 If the Access Point is already installed, your network administrator may have changed the Encryption Key or Network Name (SSID) using the Custom Setup Utility. Contact your network administrator for instructions.
- 6 If the Encryption Key is specified, wireless communications are encrypted for protection against unauthorized reception.
- 7 You can also identify Access Points within the range of communication range by opening the Network Name (SSID) drop-down menu.
- 8 Click **Connect**. The information is saved and a connection is made to the selected Access Point. The Nickname of the selected Access Point is displayed in the Wireless Palette. If an error message is displayed, the information you entered contains an error. Go back and repeat steps 3 to 5.

 The roaming function allows the creation of a wireless network using several Access Points. With this function when a wireless LAN client moves away from the currently connected Access Point, it will automatically switch its connection to a nearby Access Point, thus maintaining connection to the network. By using roaming, you can construct a wider wireless LAN environment. When using the roaming function, make sure to set the same Network Name (SSID) in all the Access Points in the Custom Access Point Setup Utility. For details, see the Establishing a wireless LAN environment without using the Access Point (Peer to Peer mode) [\(page 47\)](#) section.

Select Peer to Peer mode to establish wireless communications between computers without an Access Point. For more information, see Establishing a wireless LAN environment without using the Access Point (Peer to Peer mode) [\(page 47\)](#) section.

Nickname

A name to distinguish the different Access Points. You may enter up to 16 characters of the ASCII character set (letters, numbers, and symbols). If there are several Access Points, be sure to assign a unique name to each one. A nickname is not used to change the name of the Access Point itself. It is used only to display information on the Wireless Palette of your computer.

Network name (SSID)

Enter the registering Network Name (SSID). If you click and open the drop-down menu and search for moving Access Points within the communication range, all the Network Names (SSID) of the Access Points found, will be displayed in the drop-down list. However, if Peer to Peer has been selected, a search procedure cannot be executed. In this case, you must enter numeric characters. You may enter up to 32 numeric characters.

Encryption key (WEP Key)

An encryption key is used to encode wireless transmitted data so that you can avoid outside interception. You may enter five characters sets (letters, numbers, and symbols) or 40 bits of the hexadecimal representation. The factory-default Encryption Key is set to the last five digits of the Access Point ID, however you should change it for security purposes (The Access Point ID is printed on the ID Label on the bottom of the Access Point). When using the hexadecimal representation, you must put 0x at the front. For hexadecimal digits, you may use capital letters A to F or lowercase letters a to f, as well as the numbers 0 to 9.

Establishing a wireless LAN environment without using the Access Point (Peer to Peer mode)

To establish a wireless LAN environment without using the Access Point, follow the steps in this section on only one of the computers of the wireless LAN. On the other computers, perform the procedure described in the Establishing communication with the Access Point (page 44) section.

Proceed as follows:

- 1 Follow steps 1 to 3 in the Establishing communication with the Access Point (page 44) section.
- 2 Select **Peer to Peer** and specify the channel.
Select a channel you want to use for wireless communications.
- 3 Enter the nickname, the network name (SSID) and the encryption key. You may enter any character string for the nickname, network name (SSID) and encryption key. For the nickname, you may enter up to 16 numeric characters. For the network name (SSID), you may enter up to 32 numeric characters. For the encryption key, you may enter five characters of the ASCII character set (letters, numbers, and symbols) or 40 bits of the hexadecimal representation. When using the hexadecimal representation for the encryption key, you must put 0x at the front. For hexadecimal digits, you may use capital letters A to F or lowercase letters a to f, as well as the numbers 0 to 9.
- 4 Click **Connect**.
The Peer to Peer mode takes effect.

★ A wireless LAN environment between multiple computers may also be established in the Peer to Peer mode.

 Select Peer to Peer on only one computer to establish the wireless LAN.

If other Access Points are close together and problems occur, try another channel.

Enter the same Network Name (SSID) and Encryption Key on all computers on the same wireless LAN.

It takes some time for the Peer to Peer mode to activate. Clicking **Connect** causes Windows to search the DHCP server in the wireless LAN environment to obtain an IP address. It will take longer without a DHCP server. If no DHCP server is found, an unused IP address is assigned (using the Windows Auto IP feature).

Verifying communication with the Access Point

To verify communication with the Access Point, proceed as follows:

- 1 Double-click the **Reception level indicator**  icon on the taskbar. The **Wireless Palette status** window appears.
- 2 Verify the Nickname.
The Nickname identifies the Access Point with which the computer has a connection. Verify that the Nickname you entered, is displayed.
- 3 Verify the reception level.
The **Reception level indicator** ( /  / ) indicates the condition of the communications with the Access Point.  Indicates the optimum communication. When  or  is displayed, no communications are taking place between the Access Point and the computer. Check the Access Point configuration. For more information, consult the online help.
- 4 Verify the Computer Name.
The computer name is the name that you specified.

 The reception level indicator icon may also appear as  or  . If  or  appears, no communications are taking place with the Access Point. Check the Access Point's configuration. For further information, refer to the Wireless Palette Help file.

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.

- To launch the Custom Setup Utility, click the **Start** button and select **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**. Please use **the Custom Access Point Setup Utility**. For information on the usage of the **Custom Access Point Setup Utility**, see its Help.

To set up the Access Point, proceed as follows:

- 1 From the **Start** menu, select **Programs, Wireless LAN**, and then **Basic Access Point Setup Utility**. The **Basic Setup Utility** starts.
- 2 Make sure that the displayed Access Point ID is the one belonging to the Access Point that you want to configure, then enter the **Setup Password** and click **Scan**. By default, **public** appears as the **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 displayed Access Point ID is different from the one on the label, enter the correct ID.

ID:123456	SN:00UT12345678
	PN:012756

- 3 If an error message appears, click **OK** and make sure that:
 - ❑ 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 up to 100 m (330 feet).
- 4 Repeat step 2.
- 5 In **Common Parameters**, select the Channel Number and enter the Encryption Key.
Select the channel that the Access Point uses for wireless communications. You can use Channel 1, 4, 7, or 10.
Enter any 5 characters of the ASCII character set (letters, numbers, and symbols) for the Encryption Key. Using the Wireless Palette, enter the same Encryption Key on every computer in the wireless LAN, as specified for the Access Point.

- ❑ If there are two or more Access Points close together, assign a unique channel number to avoid radio interference.
 - ❑ The factory-default 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 write down the new Encryption Key so that you will not forget it.
- 6** Select the access method to the Internet, and then click **Next**.
Select a destination to connect the Access Point. Available options are Cable Modem, LAN, DSL (PPPoE) Modem and Local Only. The dialog box that appears next, depends on your selection.
If you have accidentally selected a wrong access method, click **Back** and select the correct one.
In order to make a 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 modems.
-  If you are using the Access Point and are connecting within an existing LAN that already has a DHCP server, do not use the Local Only connection modes. Select Cable Modem or LAN connection modes instead.
When the Wireless LAN Access Point is using 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 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.

Cable modem, LAN and local only:

When the Confirmation dialog box appears, proceed as follows:

- 1** Confirm that the Access Point connection mode is correct and click **Next**.
Notes are displayed regarding the selected mode. Read them carefully.

2 Click **Upload**.

The settings are uploaded to the Access Point. Please wait until the **Access Point's Power** indicator turns green.

3 When the confirmation dialog box appears, click **Finish** to exit.

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

DSL Modem (PPPoE) mode:

When the Enter DSL Modem (PPPoE) Connection Parameters dialog box appears, proceed as follows:

1 Enter the Account ID and Password provided by your Internet service provider, then choose the **Connection Mode** option from the drop-down list.

- 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 connecting to the Internet. If you choose **Always Connected**, the Access Point will connect to the Internet and stay connected. If you choose **Auto Connect**, the Access Point 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. The time before disconnection can be set in Hanguap After.
- Some Internet service providers specify a service name. In that case, enter the service name using the Custom Access Point Setup Utility.

2 Click **Next**.

The settings made in the **Enter DSL Modem (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. Read them carefully.

4 Click **Upload**.

When the confirmation dialog box appears, click **Finish** to exit. This completes the software setup. The Wireless LAN environment is complete. Now you can copy a file from another computer on the Wireless LAN or connect to the Internet.

Copying a file from another computer

Once you have verified the network connection using the Wireless Palette, you can copy a file from another computer on the LAN.

To copy a file from another computer on the LAN, proceed as follows:

- 1 Double-click the **Network Neighborhood** icon (Windows[®] 98 Second Edition) or the **My Network Places** icon (Windows[®] Millennium Edition/Windows[®] 2000 Professional) on the desktop.
- 2 Double-click the computer.
The drives enabled for file sharing are displayed.
- 3 Double-click the drive.
Files in the drive are displayed and available for copying.

 To copy a file from another computer, you must enable file sharing on the computer containing the file.

In order to access drives and folders of Windows[®] 2000 Professional, you need to log-on to that computer. To allow log-on, you need to register the user name and the password in Users and Passwords in the Control Panel of Windows[®] 2000 Professional. Here, the user name and the password must be set to the user name (log-on name) and the password of the accessing computer. For details, refer to the Windows[®] manual or the Help.

With the standard configuration, you can copy files on the computer from which you are working.

You can use the Wireless Palette to transfer files easily between PCs. See the Transferring files using drag and drop (WirelessCapsule) ([page 53](#)) section.

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 them on the Wireless Palette. This function is called the **WirelessCapsule**.

To transfer files to other computers connected to the Wireless LAN, proceed as follows:

Right-click the **Reception level indicator** icon  on the taskbar, click on **Capsule Setup** to view the **WirelessCapsule Setup** screen and make sure that **Enable the WirelessCapsule** is selected (The icon may also appear as  or .)

For the operations on the sending computer, proceed as follows:

- 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
- 2 If the WirelessCapsule is disabled, all computers are displayed in blue.
- 3 If the destination computer of the transfer does not appear, click  to display it.
- 4 Drag the file you want to transfer on the name of the computer to which you want to transfer it.
The **Transmission confirmation** screen is displayed.
 - If the **Confirm before sending** check box is not selected in the **WirelessCapsule Setup** screen, the file will be transferred as it is without displaying the confirmation screen.
 - If you drag and drop a file on 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 on the Access Point, **Broadcast** is displayed on the destination.

- 5 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 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 175 MB.
 - ❑ File transfer is not possible if files are named using double-byte characters (such as those used in Japanese and Chinese.)
- 6 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 on the Access Point.

For the operations on the receiving computer, proceed as follows:

- 1 When a file is received, the name of the sending computer changes to yellow.
- 2 Double-click the name of the computer on the Wireless Palette.
File reception begins. When necessary, move the file to the appropriate location or copy it.
 - ★ Files that are received are transferred to 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 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, that file is overwritten by default. However, if you select **Save with different** option, that file will be saved under a different name.

Connecting to the Internet

When you are through with all settings described in Setting up the connection environment (page 44), you can connect to the Internet.

LAN (ISDN Router):

To connect to the Internet, proceed as follows:

- 1 Start your browser and make the connection through your ISDN router (For details, see the ISDN router manual). The connection is made to your provider.
- 2 Launch your Web browser.
A Web site is displayed.

Cable modem/DSL modem (PPPoE):

To connect to the Internet, proceed as follows:

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

Additional information

Confirming your software version

When the Wireless Palette is already installed on the computer you are using, confirm the version by using the following procedure, and upgrade the version if necessary.

- ❑ Access Point Firmware version (indicated by **Wireless Access Point Version**)
- ❑ Wireless LAN Utility version installed on your computer (indicated by **Wireless Palette Version**)

To confirm the version, proceed as follows:

- 1 Use the **Wireless Palette** to establish communications with the Access Point.
- 2 Right-click the **Wireless Palette** icon in the taskbar.
- 3 Click on **Version** from the menu that is displayed, be sure to upgrade them according to the steps described below.

- ★ The Wireless LAN Utility refers to the four pieces of software of the Wireless Palette, Basic Access Point Setup Utility,
- ★ Custom Access Point Setup Utility and the Access Point Firmware Upgrade Utility.

To upgrade the software, proceed as follows:

- 1 Uninstall the software that is currently installed. See the Uninstalling the software ([page 41](#)) section.
- 2 Install the new version of the software from the accessory CD-ROM. See the Installing software ([page 39](#)) section.

 If you continue to use the old versions, 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.

Recommended upgrade of the PCWA-C100 Wireless LAN PC Card driver

The latest version of the PC Card Driver is bundled with this software. If you are using an older version, it is recommended that you upgrade the driver. PC Card indicates the PC Card Driver version.

To upgrade the PC Card Driver, see the **Upgrade Manual** (Access Point Firmware Upgrade Utility Help). If you start the **Access Point Firmware Upgrade Utility** and click **Help**, the **Upgrade Manual** is displayed.

Notice on connecting the Access Point to a Local Area Network (LAN)

You must select **LAN** or **Cable Modem** connection mode using one of the Access Point Setup Utilities before connecting the Access Point to a network that has a DHCP server.

Always consult your network administrator before connecting the Access Point to your LAN.

Caution:

If an Access Point with Local Only connection mode is connected to a LAN that is using a DHCP server, the following problems may occur:

- A client computer within the LAN may not be able to obtain an IP address
- You may not be able to access the network

 When Local Only mode is selected, the Access Point gives a private IP address (10.0.1.2 - 17, by default) to your computer, which is connected to the same Ethernet network.

Releasing and obtaining an IP address

To release and obtain an IP address when using Windows[®] 98 Second Edition or Windows[®] Millennium Edition, proceed as follows:

- 1 Remove the Access Point from a LAN.
- 2 From the **Start** menu, select **Run** and enter **winipcfg**.
- 3 Click **OK**.

- 4 Select **Sony PCWA-C100 Wireless Card**.
- 5 Click **Release**.
- 6 Click **Renew**.
Verify that the IP address obtained is suitable for your network environment.

To release and obtain an IP address when using Windows® 2000 Professional, proceed as follows:

- 1 Remove the Access Point from a LAN.
- 2 From the **Start** menu, select **Programs, Accessories**, then **Command Prompt**.
- 3 Enter **ipconfig /release** and press the **<Enter>** key.
- 4 Enter **ipconfig /renew** and press the **<Enter>** key.
The IP address appears.
- 5 Enter **ipconfig /all**.
Verify that the IP address obtained is suitable for your network environment.

Precautions

- Do not drop or cause mechanical shock to the Wireless LAN PC Card, as this may damage the unit.
- Do not place the Wireless LAN PC Card where it will be exposed 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 transmissions of radio waves may be obstructed by metal or concrete walls.
- ❑ If the Wireless LAN PC Card is moved directly from a cold location to a warm location, or if it is placed in a very damp environment, moisture may condense on the parts inside. The Wireless LAN PC Card may not operate properly if moisture condensation occurs.
- ❑ 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.

Getting Help

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

Sony's support options

Sony provides several support options for your computer.

Documentation supplied with your product

- ❑ Getting Started booklet;
- ❑ PCWA-C100 Wireless LAN PC Card Operating Instructions (CD-ROM) (this document);
- ❑ PCWA-A200 Wireless LAN Access Point Operating Instructions (CD-ROM);
- ❑ Safety regulations flyer.

Other sources of information

- ❑ Online Help files;
- ❑ VAIO-Link website: if you have any problem with your wireless LAN products, you can access the VAIO-Link website. Go to: <http://www.vaio-link.com>.

Troubleshooting

Read the Troubleshooting section of this guide before contacting VAIO-Link. Also, in **Wireless Palette Help and Custom Access Point Setup Utility Help**, there is a troubleshooting section where frequently asked questions are summarized. If you still cannot resolve the problem, go to : <http://www.vaio-link.com>.

Accessing the Wireless Palette Help and Custom Access Point Setup Utility Help:

Troubleshooting is provided in the **Additional Information** section of the Help files.

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

On the overall wireless communications

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 on the **LAN**.
- ❑ The Windows[®]-based environment is not properly set up.
- ❑ No other computers are logged on 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 in 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.
- ❑ 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)]. 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 the Access Point. Try later.

I cannot remember the Encryption Key.

Proceed as follows:

- 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 after performing a software reset.

To reset the Access Point, proceed as follows:

- 1 Use the Access Point Firmware Upgrade Utility to restore the factory configuration of the Access Point. In order 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 on.
- 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. Click the Nickname of the Access Point in the **Tool Box** window of the Wireless Palette, then click **Select**. If the correct information is displayed, click **OK**.

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 reduction of 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 data transfer speed is 11 Mbps (maximum) but may fall to 5.5 Mbps, 2 Mbps, or 1 Mbps in certain conditions.

Specifications

<i>Protocol support</i>	TCP/IP
<i>Standard</i>	IEEE802.11b/IEEE802.11
<i>Radio frequency</i>	2.4 GHz
<i>Modulation method</i>	DS-SS (IEEE802.11 compliant)
<i>Encryption (WEP)</i>	64-bit encryption (40-bit shared key)
<i>Power requirements</i>	5 V AC (supplied from the computer through the PC card adapter)
<i>Current</i>	Peak current at transmission: 280 mA Peak current at reception: 180 mA
<i>Connector</i>	PC card slot Type-II
<i>Dimensions (approx.)</i>	Approx. 118 · 5 · 54 mm (Antenna height: 8.7 mm)
<i>Mass</i>	Approx. 55 g (approx. 2 oz)
<i>Operating temperature</i>	5°C to 35°C (41°F to 95°F) (not condensed)
<i>Environment temperature</i>	-20°C to 60°C (-4°F to 140°F) (not condensed)
<i>Supplied accessories</i>	See Unpacking your wireless LAN PC Card (page 12) section

Glossary

<i>Channel number</i>	The frequency used for wireless communications. Wireless communications are available only among client computers and Access Points that use the same channel.
<i>Client</i>	A computer connected to a LAN (Local Area Network). Is also called a client computer.
<i>DHCP (Dynamic Host Configuration Protocol)</i>	DHCP allows network administrators centrally manage and automate assignment of IP addresses within a network environment.
<i>DNS (Domain Name System)</i>	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.
<i>Encryption Key</i>	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 on to the same wireless LAN for file sharing.
<i>LAN (Local Area Network)</i>	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.
<i>NetBEUI (NetBIOS Extended User Interface)</i>	NetBEUI is part of the transport layer, not the NetBIOS programming interface. NetBEUI cannot be routed, so it is most appropriate in single subnet (continuous) networks.

<i>PPPoE (PPP over Ethernet)</i>	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.
<i>Protocol</i>	The formal specifications that define the procedures for computers to follow when transmitting and receiving data.
<i>TCP/IP (Transmission Control Protocol/Internet Protocol)</i>	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.
<i>WAN (Wide Area Network)</i>	A network that interconnects remote LANs through the Internet or telephone lines.