

# *Wireless LAN Access Point*



**SONY®**



## Notice

### Owner's Record

The model and serial numbers are located on the bottom of the device.

Record the serial number in the space below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. PCWA-A200

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).



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.

## Safety information

### Warning

- ❑ Opening the unit, for whatever reason, could lead to damage not covered by the guarantee.
- ❑ To prevent fire or shock hazard, do not expose your Sony Wireless LAN Access Point to rain or moisture.
- ❑ Use only the supplied AC adapter with your Sony Wireless LAN Access Point. To disconnect your Wireless LAN Access Point from the power supply, unplug the AC adapter.
- ❑ Make sure the power outlet is easily accessible.

### About the supplied software

Supplied software is supplied pursuant to the applicable end user license agreement.

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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.

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MMX and Pentium are registered trademarks of Intel Corporation.

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## Overview

### *What you can do with your Wireless LAN Access Point*

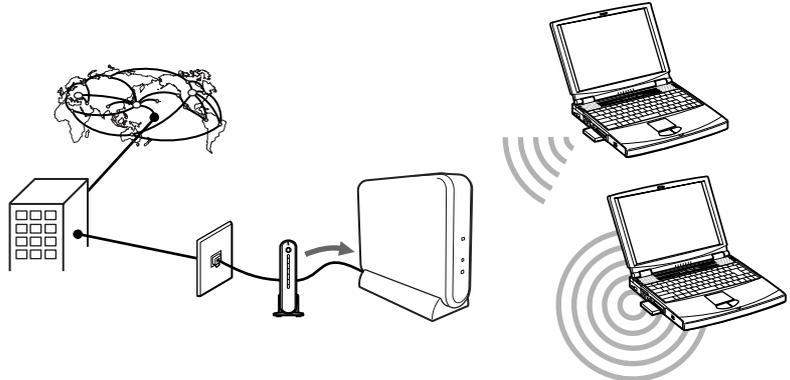
The Wireless LAN Access Point PCWA-A200 (hereinafter referred to as the Access Point) is designed for building a wireless LAN (Local Area Network) environment. Connect your Access Point to a power outlet, insert the Wireless LAN PC Card PCWA-C100 into your computer, and use the software supplied with your Wireless LAN Access Point to build a wireless LAN environment (additional cards may be purchased separately).

Using the wireless LAN for connecting computers requires no wiring, which allows you to operate multiple computers more freely than ever. The Access Point is capable of building a wireless LAN environment including a maximum of 49 client computers (16 or fewer is recommended).

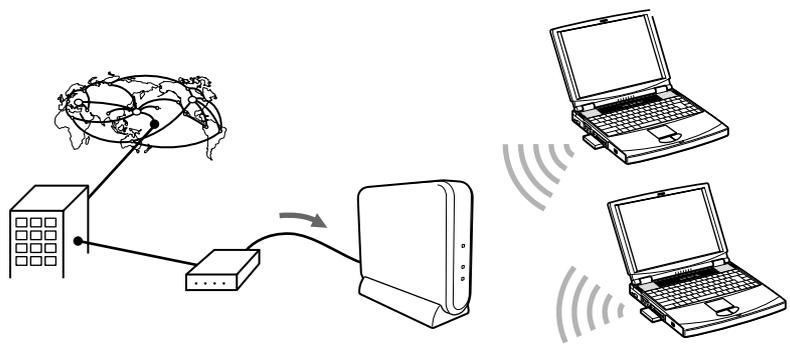
You can connect to an Integrated Services Digital Network (ISDN) router, cable modem, and DSL modem to share access to the Internet among multiple computers, or just use the Access Point as the hub of your LAN without Internet access (hereafter referred to as a local network).

In a LAN environment, you can share files on other client computers and let others share files on your computer. On the next pages, you will see four diagrams depicting the various configurations you can implement (Connecting to an ISDN router, Connecting to a cable modem, Connecting to a DSL modem and Using the hub of your local network).

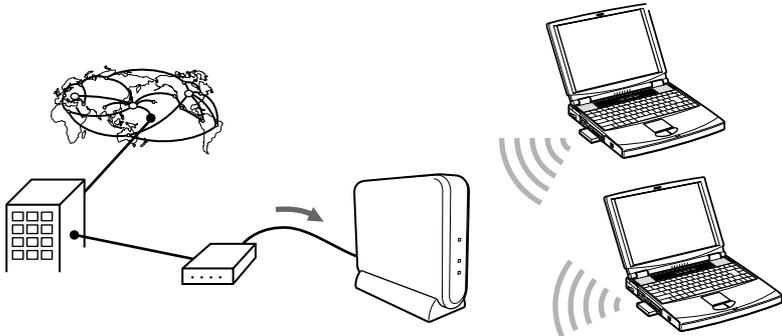
Connecting to an ISDN router



Connecting to a cable modem

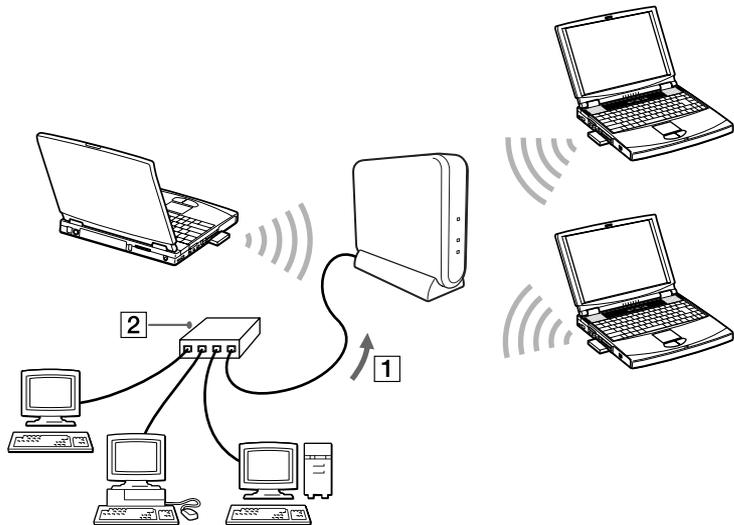


Connecting to a DSL modem





*Using the hub of your local network*



1	To 10BASE-T CONNECTOR
2	HUB

## System requirements

Minimal system requirements:

- ❑ CPU: Pentium® 233 MHz with MMX® technology or more
- ❑ RAM: 64 MB or more with Microsoft® Windows® 98 Second Edition, Microsoft® Windows® Millennium Edition or Microsoft® Windows® 2000 Professional Edition
- ❑ RAM: 128 MB or more with Microsoft® Windows® Home/Professional Edition
- ❑ CD-ROM drive
- ❑ Default built-in PCMCIA Type II slot

Operating system: For best results, use a computer with one of the following 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
- ❑ Microsoft® Windows® XP Home Edition
- ❑ (Does not operate under the Microsoft® Windows® 98, 95 or 3.1 versions or under the Microsoft® Windows® NT version. Also, operation is not guaranteed under all upgraded environments.)

Display: SVGA (800 x 600 pixels) and above, SVGA supports High Color (16 bit) and above

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

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



## *About the supplied manuals*

The Access Point and the Wireless LAN PC Card are shipped with the following manuals. Please read them in the indicated order.

- ❑ The Getting Started Guide where you find an overview of what is in the packaging, how to set up your PC Card;
- ❑ The Wireless LAN Access Point Operating Instructions (this document) explains how to connect and install the Access Point;
- ❑ The Wireless LAN PC Card Operating Instructions explains how to insert the Wireless LAN PC Card and how to install and set up its software. This software setup is required to establish the communication between the Access Point and computers equipped with a Wireless LAN PC Card. This manual also explains how to set up the Access Point using the Basic Access Point Setup Utility;
- ❑ Wireless LAN regulation flyer details regulatory information and explains the restrictions on the uses that are applicable in some countries;
- ❑ Consult the Online Help files of the software you are using for detailed information on features and troubleshooting.

## *Wireless Palette Help*

The online help explains how to set up and use the Wireless Palette software, monitor the connection status between the Access Point and the Wireless LAN PC Card. Furthermore, the online help explains how a client computer switches Access Points, when multiple Access Points are present.

### *Custom Access Point Setup Utility Help*

This help file explains how to use the advanced settings on the Access Point.

### *Upgrade Manual*

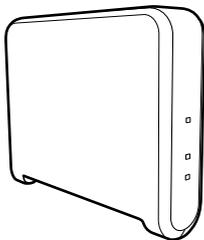
This help file explains procedures for updating the Access Point's firmware, the Wireless LAN PC Card Driver, and the Basic/Custom Access Point Setup Utility. If you are already using our Wireless LAN product, please read this manual.

## Getting started

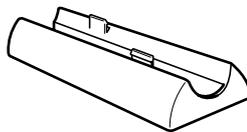
### Unpacking your Access Point

Your Access Point comes with the following items:

1



2



3

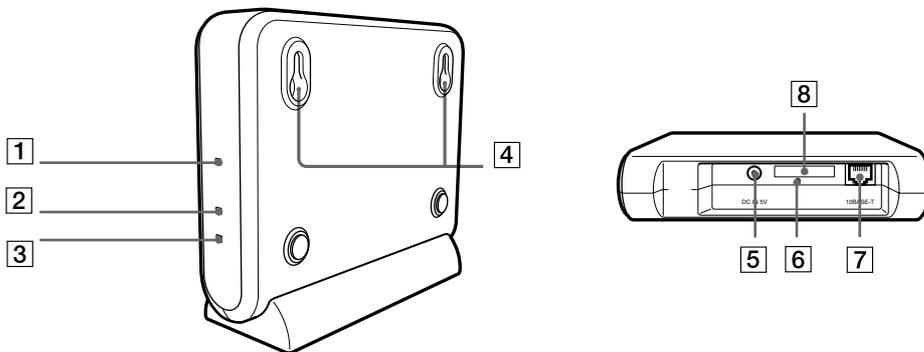


4



1	Wireless LAN Access Point
2	Unit stand
3	AC power adapter
4	Documentation pack

## Locating parts and indicators (Wireless LAN Access Point)



1	POWER indicator	Lights while power is supplied.
2	WIRELESS indicator	Lights up when data is exchanged on the wireless LAN.
3	ETHERNET indicator	Lights up when data is exchanged through the 10BASE-T connector.
4	Wall-mounting holes	
5	DC IN 5V jack	AC power adapter input.
6	Reset switch	
7	10BASE-T connector (RJ-45)	Connects for a cable modem, DSL modem, ISDN router, or hub through an Ethernet cable.
8	ID label	The Access Point ID and other information are printed on this label.

## Connecting the Access Point to the Internet

Connection to the Internet varies depending on your Internet environment. If you are using the Access Point for your local network only, and you do not need it to connect to the Internet, read the **Using the Access Point for your local network only** section.

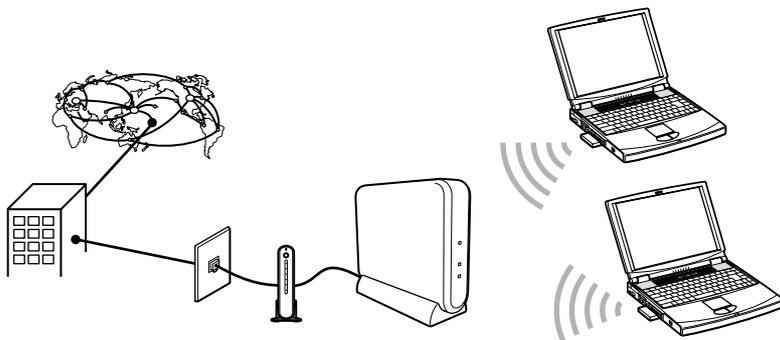
 You must select Cable Modem or LAN connection mode before connecting the Access Point to a LAN that has a DHCP server. See the Wireless LAN PC Card Operating Instructions to configure the connection mode.

Under no circumstances should connection be made to a LAN that includes an active DHCP server if Local Only has been selected as the connection mode.

You cannot connect the PCWA-A200 to an analog telephone line.

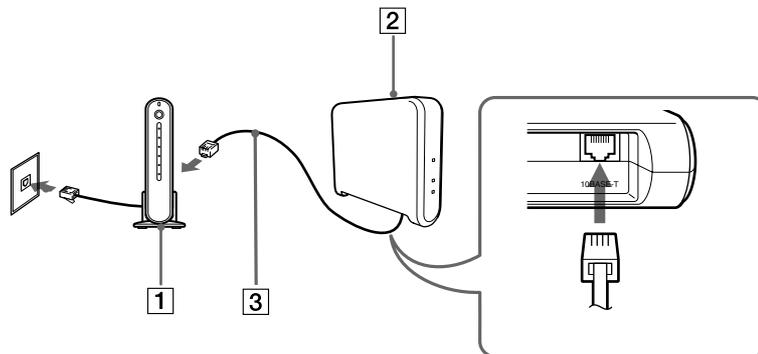
## Connecting the Access Point to the ISDN router

Connecting the Access Point to an ISDN router provides Internet access via the Access Point for multiple computers, each equipped with a Wireless LAN PC Card. No connection is required between the computer(s) and the router.



To connect the Access Point to the ISDN router, proceed as follows:

- 1 Connect the ISDN router (1) and the Access Point (2) with an Ethernet cable (3).



- 2 Connect the AC power adapter.

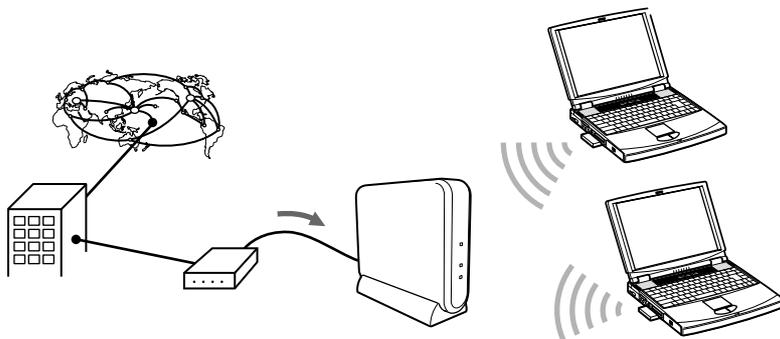
 For ISDN router setup, refer to the manual supplied with your ISDN router.

A category 5 Ethernet cable is recommended.

Use a flexible Ethernet cable when attaching a unit stand to the Access Point. Using an inflexible cable will not allow you to attach the unit stand.

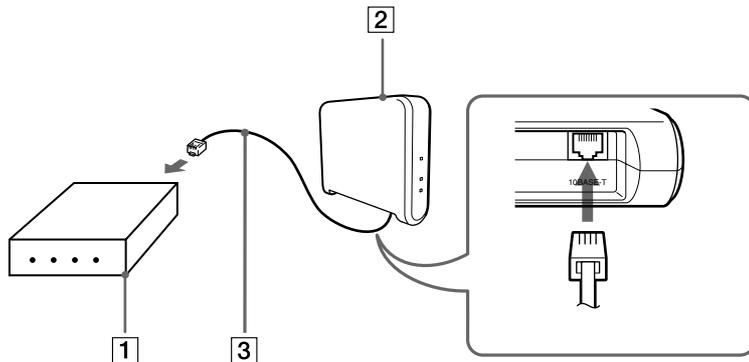
## Connecting the Access Point to the cable modem

Connecting the Access Point to a cable modem provides Internet access via the Access Point for multiple computers, each equipped with a Wireless LAN PC Card.



To connect the Access Point to the cable modem, proceed as follows:

- 1 Connect the cable modem (1) and the Access Point (2) with an Ethernet cable (3).





**2** Connect the AC power adapter.

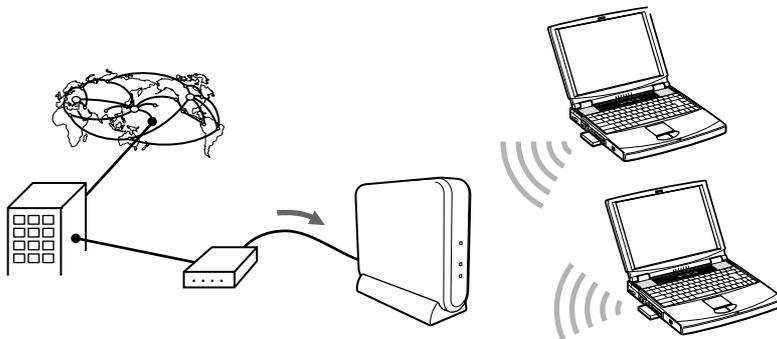
 For cable modem setup, refer to the manual supplied with your device.

A category 5 Ethernet cable is recommended.

Use a flexible Ethernet cable when attaching a unit stand to the Access Point. Using an inflexible cable will not allow you to attach the unit stand.

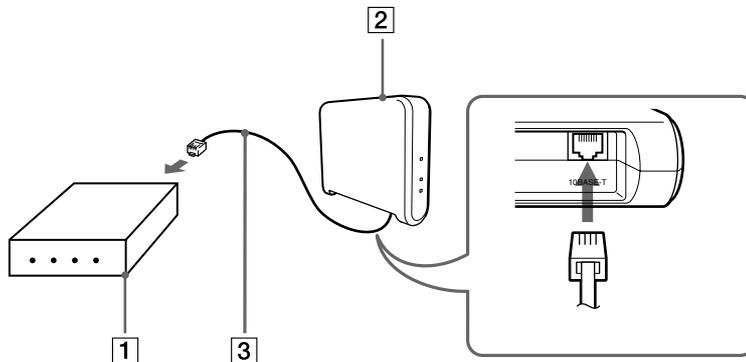
## Connecting the Access Point to a DSL modem

Connecting the Access Point to a DSL modem provides Internet access via the Access Point for multiple computers, each equipped with a Wireless LAN PC Card.



To connect the Access Point to a DSL modem, proceed as follows:

- 1 Connect the DSL modem (1) and the Access Point (2) with an Ethernet cable (3).





## 2 Connect the AC power adapter.

 For DSL modem setup, refer to the manual supplied with your device.

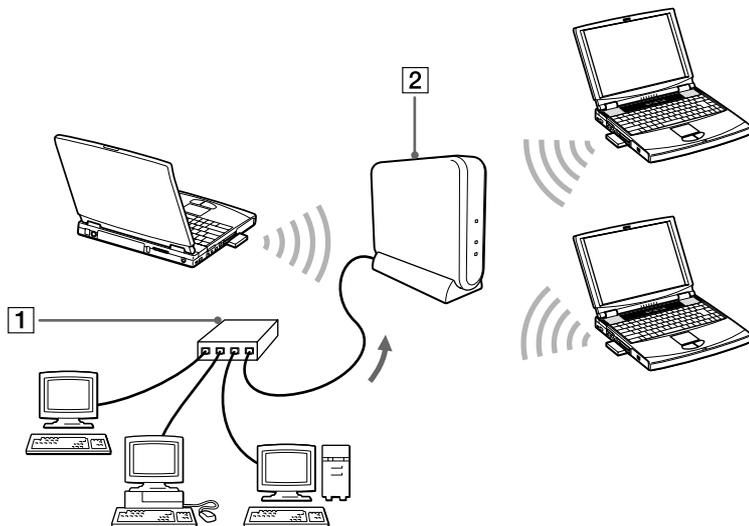
A category 5 Ethernet cable is recommended.

Use a flexible Ethernet cable when attaching a unit stand to the Access Point. Using an inflexible cable will not allow you to attach the unit stand.

## Using the Access Point for your local network only

The Access Point may be used as a hub for wireless computing on a local network without Internet access. Using the Access Point in this way, file sharing among client computers is enabled. In this case, a power connection is the only requirement.

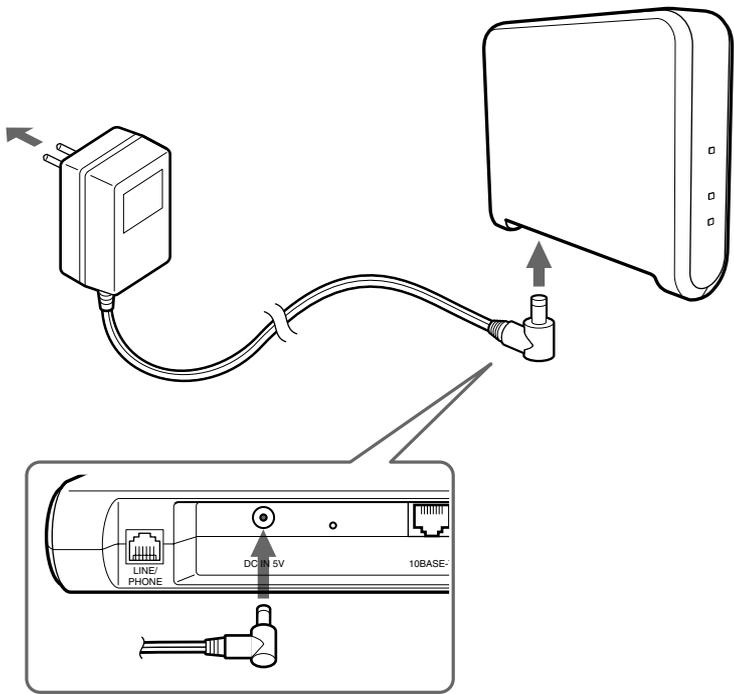
You may also connect a HUB (1) to the Access Point (2), using the 10BASE-T connector. The computers connected to the HUB are then able to use the Wireless LAN resources. This is referred to as **bridging**.



-  To connect a hub to the 10BASE-T connector on the Access Point, use a straight-through Ethernet cable (same order color code when side by side).  
To connect a computer directly to the 10BASE-T connector on the Access Point, use a crossover Ethernet cable.  
A category 5 Ethernet cable is recommended.

### Connecting the Access Point to a power source

Use the supplied AC power adapter to connect to a power outlet.



## *Powering on/off the Access Point*

The Access Point is not equipped with a power switch.

To power on/off the Access Point, proceed as follows:

- 1 Plug/unplug the AC power adapter.
- 2 Leave the AC power adapter plugged into the power outlet under normal use.

## *Attaching the unit stand*

The unit stand allows you to place your Access Point in an upright position.

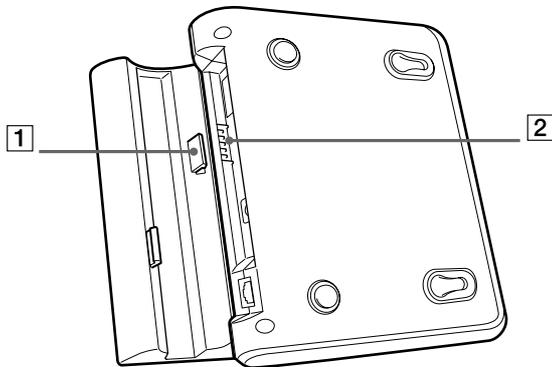
When the unit stand is attached, cables are routed through the recessed groove.

**Before attaching the unit stand, make sure to write down the six-digit Access Point ID on the label attached on the bottom surface of the Access Point.**

ID:123456	SN:00UT12345678
	PN:012756

To attach the unit stand to the Access Point, proceed as follows:

- 1 Engage Joint A (1) with Joint B (2).
- 2 Slide the Access Point in the direction indicated by the arrow until it clicks.



 Depending on the type of Ethernet cable used, it may be impossible to install the stand.

The unit stand may be attached in either direction.

To remove the unit stand, slide the Access Point and unit stand in opposite directions.

## Setting up the Access Point

When you have connected and installed your Access Point, you should insert the PC Card into the computer, install and set up its software, and install the software needed to set up the Access Point. For more information, consult the Wireless LAN PC Card Operating Instructions manual.

## Factory-default configuration of the Access Point

The Access Point is configured in the factory as follows:

- ❑ Connection mode
  - ❑ Cable Modem (Router Mode)
- ❑ IP settings
  - ❑ IP address in the WAN: automatically obtained (the Access Point serves as a DHCP client)
  - ❑ IP address in the wireless LAN: 10.0.1.1
- ❑ Wireless settings
  - ❑ Network name (SSID): Access Point ID
  - ❑ Encryption key: the last five digits of the Access Point ID
  - ❑ The Access Point serves as the DHCP server for client computers on the LAN.
  - ❑ The number of IP addresses in the pool is set to 16.
  - ❑ The IP addresses to be assigned are 10.0.1.2 through 10.0.1.17.
  - ❑ The above settings can be changed using the Custom Access Point Setup Utility that is included on the provided CD-ROM. For further instructions, refer to the Custom Access Point Setup Utility Help.

## Verifying the ethernet MAC address

To verify the Ethernet MAC Address, follow the steps below:

- 1 Right-click the **Wireless Palette** icon on the Microsoft® Windows® taskbar.
- 2 Click **Version** in the menu.
- 3 Verify the number shown for the Wireless Access Point Ethernet Address.

If you forget the Access Point settings, so that you can no longer connect to the Access Point, use the following procedure to define the settings again.

When a static IP address is set to the Access Point, you cannot change the settings as in the following procedure. In this case, return the Access Point to the factory default using the Access Point Firmware Upgrade Utility. For details on how to upgrade the Access Point, refer to the Access Point Firmware Upgrade Utility Help.

To define the Access Point settings again, proceed as follows:

- 1 Hold the reset switch using the tip of a paper clip for approximately one second while the power to the Access Point is ON. For more information on the reset switch, read the Locating parts and indicators section.  
The Power indicator lights orange. The encryption key will be disabled for approximately five minutes and the password for the Access Point Setup Utility will also be disabled (Software Reset mode).
- 2 **With Microsoft® Windows® 98 Second Edition, Microsoft® Windows® Millennium Edition and Microsoft® Windows® 2000 Professional:**
  - Select this Access Point using the Wireless Palette, delete the value of the encryption key on the **Setting** menu and click **Connect**.  
This can require some time.

**With Microsoft® Windows® XP Home Edition or Professional:**

- From the **Start** menu, Select **Connect To**, then click the **Wireless Network Connection**.  
The **Wireless Network Connection Status** dialog box appears.
  - Select **Properties**.  
The **Wireless Network Connection Properties** dialog box appears.
  - Select the **Wireless Networks** tab.
  - From **Preferred Networks**, select an Access Point and click **Properties**.
  - Deselect the **Data encryption (WEP enable)** check box and click **OK**.  
The **Wireless Network Connection Properties** dialog box appears.
  - Click **OK**.
- 3 Start either the Custom Access Point Setup Utility or the Basic Access Point Setup Utility.  
The software reset automatically sets the password to its factory default setting ('public'). Now you can change the password.
  - 4 Click **Scan**.  
A dialog box appears in which you can select the communication mode and define the common parameters.
  - 5 Delete '\*\*\*\*\*' in the **Encryption Key** text box and retype it, then click **Next**.  
The **Information for Encryption Key** dialog box appears.
  - 6 Click **OK**.  
The **Setup of the connection mode** dialog box appears.
  - 7 Click **Next**.  
The **Connection Setup** dialog box appears.
  - 8 Click **Upload**.  
The settings are uploaded to the Access Point. Please wait until the Access Point power indicator turns green. It takes about thirty seconds.

- 9 Click **Finish** to exit.  
This completes the procedures with Microsoft® Windows® 98 Second Edition, Microsoft® Windows® Millennium Edition and Microsoft® Windows® 2000 Professional Edition.
- 10 With Microsoft® Windows® XP Home Edition or Professional, you must go on to re-establish the connection with the Access Point as follows:
  - From the **Start** menu, select **Connect to**, then click the **Wireless Network Connection**.  
The **Wireless Network Connection Status** dialog box appears.
  - Select **Properties**.  
The **Wireless Network Connection Properties** dialog box appears.
  - Select the **Wireless Networks** tab.
  - From **Preferred Networks**, select the Access Point and click **Properties**.
  - Select the **Data encryption (WEP enabled)** check box and enter the changed encryption key in the Network key.
  - Click **OK**.  
The **Wireless Network Connection** dialog box appears.
  - Click **OK**.

### *If you forget the Access Point settings*

If you forget the Access Point settings, so that you can no longer connect to the Access Point, use the following procedure to define the settings again.

When a static IP address is set to the Access Point, you cannot change the settings as in the following procedure. In this case, return the Access Point to the factory default using the Access Point Firmware Upgrade Utility. For details on how to upgrade the Access Point, refer to the Access Point Firmware Upgrade Utility Help.

To define the Access Point settings again, proceed as follows:

- 1 Hold the reset switch using the tip of a paper clip for approximately one second while the power to the Access Point is ON. For more information on the reset switch, read the Locating parts and indicators section.

The Power indicator lights orange. The encryption key will be disabled for approximately five minutes and the password for the Access Point Setup Utility will also be disabled (Software Reset mode).

- 2 **With Microsoft® Windows® 98 Second Edition, Microsoft® Windows® Millennium Edition and Microsoft® Windows® 2000 Professional:**

- Select this Access Point using the Wireless Palette, delete the value of the encryption key on the **Setting** menu and click **Connect**.  
This can require some time.

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- From the **Start** menu, Select **Connect To**, then click the **Wireless Network Connection**.  
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  - Select the **Wireless Networks** tab.
  - From **Preferred Networks**, select the Access Point and click **Properties**.
  - Select the **Data encryption (WEP enabled)** check box and enter the changed encryption key in the Network key.



- ❑ Click **OK**.  
The **Wireless Network Connection** dialog box appears.
- ❑ Click **OK**.

## Additional information

### Precautions

- ❑ Make sure you use the supplied AC power adapter. Other AC power adapters may cause Access Point failures.
- ❑ Do not drop the Access Point. To prevent any damage, handle the device carefully.
- ❑ Do not place the Access Point where it will be exposed to one or more of the following conditions:
  - ❑ Unstable surfaces
  - ❑ High humidity or poor ventilation
  - ❑ Excessive dust
  - ❑ Direct sunlight or extreme heat
  - ❑ Closed cars
  - ❑ Magnetized locations (near magnets, speakers, or televisions)
  - ❑ Locations exposed to frequent vibration
  - ❑ Locations where the transmission of radio waves may be obstructed by metal plates or concrete walls.
- ❑ Exposure to cold-to-hot temperature extremes or very damp environments may cause moisture to condense on internal parts. This may prevent the Access Point from operating properly. If this should happen, unplug the AC power adapter from the power outlet and do not touch the Access Point for two to three hours or until the moisture evaporates.
- ❑ 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 benzine. This 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 Access Point.

### *Sony's Support Options*

Sony provides several support options for your product.

#### *Documentation supplied with your product*

- Getting Started booklet
- PCWA-C100 Wireless LAN PC Card Operating Instructions (CD-ROM)
- 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

If you experience any of the following difficulties while using the Access Point, this troubleshooting guide may help you solve the problem. Should a problem persist, go to: <http://www.vaio-link.com>



*The Access Point is not working properly*

- ❑ The Access Point is not supplied with power.  
Connect the Access Point to a power outlet with the supplied AC power adapter.
- ❑ There is an obstacle between the Access Point and the computer containing the Wireless LAN PC Card, or they are too far apart from each other.  
Remove the obstacle between them, or place them up to 100 m (approx. 330 feet) of each other. (The communicable distance depends on the environment)
- ❑ The Access Point and the ISDN router/ Cable modem/DSL modem, are not connected to each other with a proper cable.  
Make sure to use the cable described in this manual.

*The indicators do not light up*

- ❑ Cables are not properly connected.  
Check the cables for validity.

## Specifications

<i>Communication distance</i>	Up to 100 m (approximately 330 feet) with no obstacles (The communicable distance depends on the environment)
<i>Maximum number of units connected</i>	49 units (number of clients) (Recommended number of clients is 16 or less)
<i>Protocol support</i>	TCP/IP, NetBEUI
<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>	100 to 240 V AC, 50/60 Hz
<i>Power consumption</i>	Approx. 5 W
<i>Dimensions</i>	With stand: Approx. 156 × 134.5 × 53 mm (approx. 6 1/4 × 5 3/8 × 2 1/8 inches) (w/h/d) Without stand: Approx. 156 × 125 × 35 mm (approx. 6 1/4 × 5 × 1 7/16 inches) (w/h/d)
<i>Mass</i>	Approx. 450 g (approx. 16 oz) (excluding the unit stand and the AC power adapter)
<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)

 Design and specifications are subject to change without notice.

## Glossary

<i>ADSL</i>	A technology that dramatically increases the digital capacity of ordinary telephone lines (the local loops) into the home or office. DSL speeds are tied to the distance between the customer and the Telco central office. DSL is geared to two types of usage. Asymmetric DSL (ADSL) is for Internet access, where fast downstream is required, but slow upstream is acceptable.
<i>Client</i>	A computer connected to a server. This is done through some kind of network, for example the LAN or Local Area Network. A client is a workstation or personal computer in a client/server environment. Also called a client computer.
<i>ISDN</i>	ISDN (Integrated Services Digital Network) is a set of standards for digital transmission over ordinary telephone copper wire and other media. Home and business users who install ISDN routers can access graphic-intensive Web pages much more rapidly than modem users. ISDN requires routers at both ends. Your Internet Service Provider (ISP) also needs an ISDN router.
<i>LAN</i>	Unlike the internet, which is a network that is used by unlimited number of people, LAN (Local Area Network) is a network that is used by limited number of people. For example, there is the LAN used only by those belonging to a company or a division, and there is the LAN constructed at home by interconnected computers.