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Welcome

1

Introducing ORiNOCO

Welcome to ORiNOCO, the easy way to wireless computing.

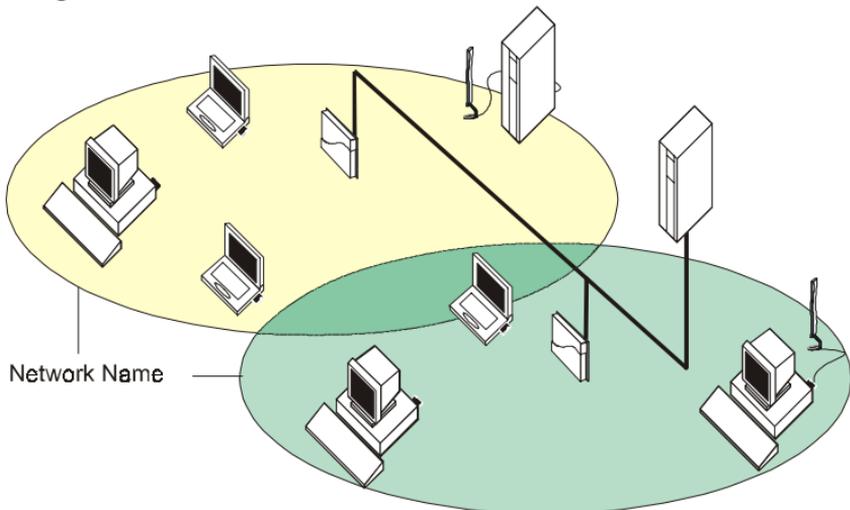
This booklet introduces you to the ORiNOCO Access Point 1000 (AP-1000), and will help you to get your network “on the air” within a snap. It describes the most common configurations and a quick start set-up.

To install and manage this ORiNOCO product, it is assumed that you have a working knowledge of installation procedures for network operating systems under Microsoft Windows.

About the ORiNOCO AP-1000

The AP-1000 is a wired to wireless bridge that you can use to connect wireless cells to one another or to a wired (Ethernet) Local Area Network (LAN). The AP-1000 can serve mobile wireless stations, roaming between various locations within a network premises.

Figure 1-1 ORiNOCO AP-1000



The AP-1000 is a modular unit with an integrated Ethernet interface, and two PC Card slots for using your access point with one or two ORiNOCO PC Cards. With two PC Cards the unit can transmit at different channels. This allows you to load balance a heavily used access point and increase the scalability of the wireless LAN.

To install the ORiNOCO AP-1000, you will need at least one ORiNOCO PC Card. This card is not included with your kit, but must be ordered as an additional item. For more information about the various card types available please refer to the ORiNOCO website at: <http://www.lucent.com/orinoco>.

Finding Information

In this booklet you will find the most important information to install your AP-1000, and get it up and running. Alternatively you can consult the “ORiNOCO Manager - User’s Guide”, and the on-line help information of the AP Manager program. These are provided on the CD-ROM that comes with your product.

The “ORiNOCO Manager - User’s Guide”

This guide describes:

- Examples of various configuration scenarios.
- How to setup an LAN administrator’s station to configure AP-1000(s).
- How to view and modify the access point start-up configuration.
- How to monitor and optimize the performance of your wireless LAN.
- Troubleshooting.

On-line Help Information

When you install the AP Manager program, you can display context-sensitive help with each screen by:

- Clicking the or ‘?’ button on your screen, or
- Pressing the **F1** key on your keyboard.

Install the AP-1000

2

Overview

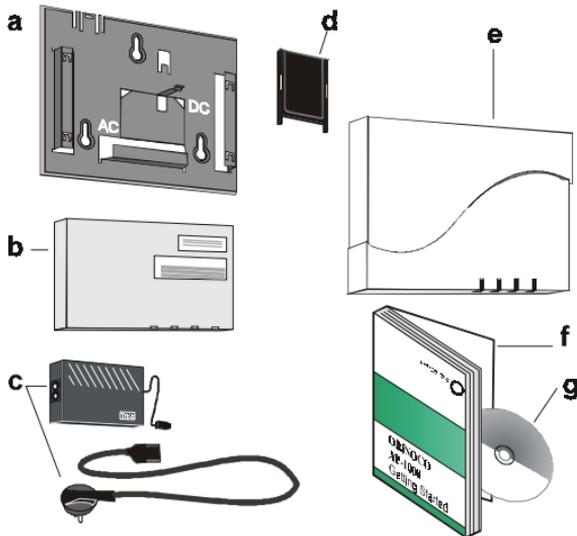
Installing the ORiNOCO AP-1000 is easy. Follow the quick steps below to power up your wireless network:

1. Verify Kit Contents.
2. Write Down Product Identification.
3. Fix Mounting Plate and Power Supply.
4. Mount the Processor Module.
5. Connect the Network Interfaces.
6. Mount the Cover Plate.
7. Power-up the Device.
8. Install the AP Manager Software.

Verify Kit Contents

Unpack the ORiNOCO AP-1000 and verify that all items are present as pictured in Figure 2-1 on page 2-2.

Figure 2-1 AP-1000 Kit Contents



- a. Mounting plate to mount the AP-1000 to a wall (see page 2-4).
- b. ORiNOCO AP-1000 processor module (see page 2-6).
- c. Power supply & AC power cord (see page 2-4).
- d. Slot Protector Card (see page 2-8).
- e. Cover plate (see page 2-9).
- f. "ORiNOCO AP-1000 - Getting Started" guide (this document).
- g. ORiNOCO CD-ROM containing:
 - AP-1000 software
 - AP Manager software (for configuration, management and diagnostics).
 - "ORiNOCO Manager - User's Guide" (see page 1-4).

Write Down Product Identification

Before you proceed, write down the following AP-1000 information on the Configuration Record form that you can find in Appendix B:

- Serial Number
- MAC address

This information is printed on a small label (see Figure 2-2), located at the top right side of the processor module. You will need these numbers later to identify the unit when running the AP Manager program.

Figure 2-2 AP-1000 Identification Label



You are also advised to write down the Serial Number and MAC address of the ORiNOCO PC Card(s) that you use with your AP-1000 (the information is printed on a small label at the back side of the PC Card).

Fix Mounting Plate and Power Supply

You can mount the AP-1000 on a vertical surface like a wall or place the unit on a flat surface such as a table or cabinet.

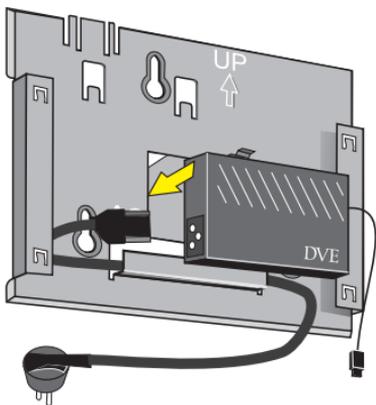
Prior to mounting it to a fixed location, consider performing a site survey to determine optimal and safe placement for your AP-1000 unit(s). See also “Installation Requirements” on page 3-1, and “Best Place for the AP-1000” on page 3-2.



WARNING:

The mounting plate of the ORiNOCO AP-1000 has not been designed for ceiling mounting. In environments where the unit will be exposed to vibrations, ceiling mounting might cause the processor module to slide off the mounting plate, causing severe personal injury and/or damage to your ORiNOCO equipment.

1. Fix the mounting plate of the ORiNOCO AP-1000 as pictured in Figure 2-3 on page 2-5 (with the marked arrow pointing upwards). Use the screws and plugs provided.

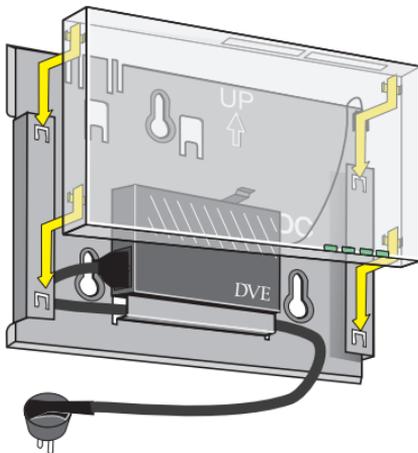
Figure 2-3 Mounting the Power Supply

2. Connect the AC power cord to the power supply unit.
3. Place the power supply unit at the mid section of the mounting plate as pictured in Figure 2-3.
4. Use tie-wraps to secure the power cord to the small loops on the mounting plate at the position where the cords will leave the unit.

Mount the Processor Module

1. Connect the DC power cable to the DC power inlet of the processor module.
 2. Sliding the four recesses of the processor module over the corresponding tabs on the mounting plate (see Figure 2-4 on page 2-6).
 3. Press firmly to assure the processor module is properly attached.
-

Figure 2-4 Attaching the Processor Module





CAUTION:

Before you proceed: Verify that all four recesses are fitted correctly onto the corresponding tabs of the mounting plate. If the processor module is not properly seated, it may drop causing severe personal injury and/or causing serious damage to the AP-1000 unit.

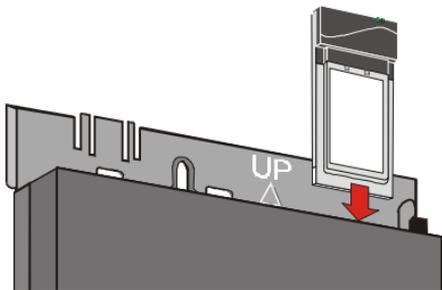
Connect the Network Interfaces

1. Insert your ORiNOCO PC Card(s) into the processor module.

One PC Card slot of the ORiNOCO AP-1000 is equipped with a plastic Slot Protector Card. The purpose of this card is to protect the AP-1000 unit from dust when it is used with a single ORiNOCO PC Card only.

Only when you intend to install two ORiNOCO PC Cards, take out the Slot Protector Card. You are advised to keep the Slot Protector Card for situations when you would like to change the AP-1000 hardware configuration in the future.

Figure 2-5 **Inserting ORiNOCO PC Card**

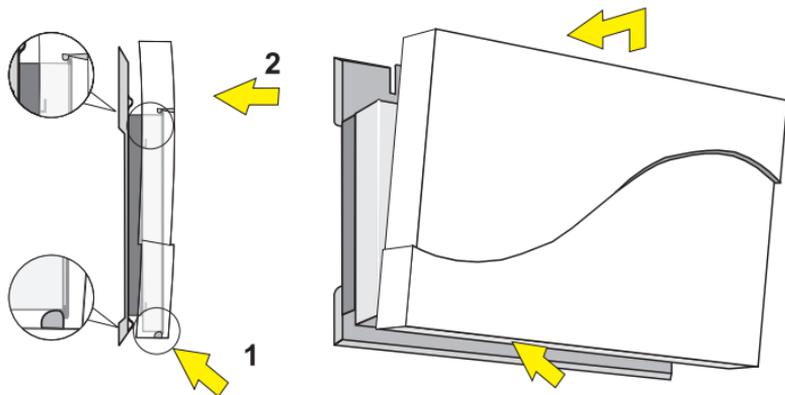


2. (Optional) Connect your Ethernet cable to the 10/100 Base-T Ethernet interface. Use tie-wraps to secure the Ethernet cable to the small loops on the mounting plate at the position where the cable will leave the unit.

Mount the Cover Plate

1. Position the latches at the inside of the cover underneath the rim at the bottom of the processor module (see arrow-1 in Figure 2-6).

Figure 2-6 Mounting the AP-1000 Cover Plate



2. Gently press the top of the cover plate towards the unit until it clicks (see arrow-2 in Figure 2-6).
3. Verify that the unit is properly seated.
4. Power-up the device as described on page 2-10.

Power-up the Device

To power-up the AP-1000, connect the device to an AC wall-outlet with the provided AC power cord.



WARNING:

Placement of AP-1000s must satisfy the following installation requirements:

- a. *Connect the unit to a grounding type AC wall outlet (100-240 VAC) using the standard power cord as supplied with the unit.*
- b. *Placement must allow for easily disconnecting the access point unit from the AC wall-outlet.*

When powered on, the AP-1000 unit will perform start-up diagnostics characterized by a LED sequence. The LEDs will change color in the range Amber, Red and Green. When finished (after about 60 seconds), the AP-1000 will start bridging operation characterized by the LED activity as listed in Table 2-1 on page 2-11.

If the AP-1000 does not switch to normal operation within two minutes, please consult the troubleshooting section of the “ORiNOCO Manager - User’s Guide” (see “Finding Information” on page 1-4).

Table 2-1 AP-1000 LED Activity Table

LED Definition	Activity	Description
 Power	Green	Power enabled
 Ethernet	Flicker Green ¹	Ethernet LAN activity
 Wireless interface A	Flicker Green ¹	Wireless LAN activity
 Wireless interface B	Flicker Green ¹	Wireless LAN activity

- 1 LED activity will only occur when there is network activity on the corresponding AP-1000 network interface. When there is no activity, the LED is off.

Install the AP Manager Software

Your AP-1000 is ready for use. Optionally you can configure the AP-1000 using the ORiNOCO AP Manager software (see also “Customizing your AP-1000” on page 3-4).

To install the ORiNOCO AP Manager software, proceed as follows:

1. select a network computer that satisfies the following requirements:
 - A 80486 or later processor.
 - Free disk space of 4 Mb.
 - 8 Mb RAM (16 Mb or more recommended).
 - Microsoft Windows 95 / 98 / 2000 or Windows NT (v.4.0) operating system.
 - Ethernet interface card, or ORiNOCO PC Card.
 - CD-ROM player.
 - TCP/IP protocol installed.

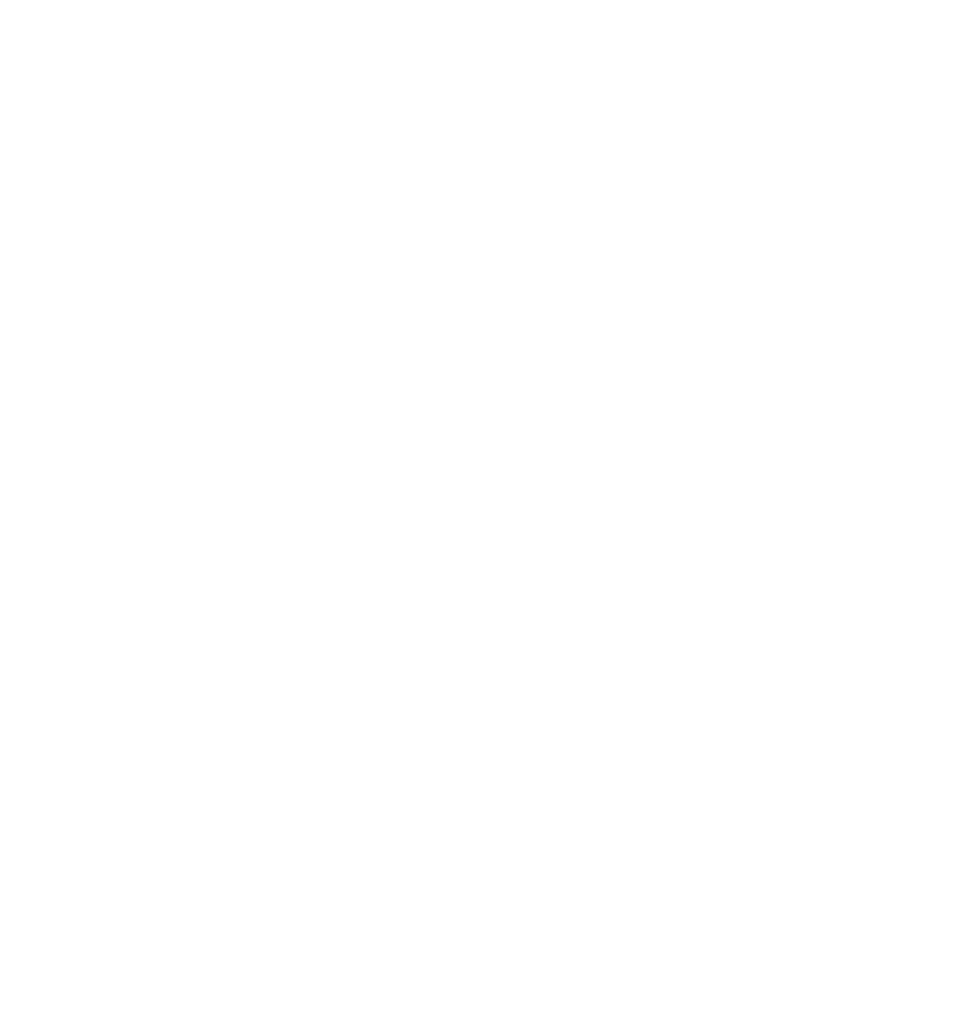
The computer you select would typically be the computer used by the LAN administrator. This computer can be any wired or wireless desktop and/or laptop computer (see the “ORiNOCO Manager - User’s Guide” for more information).

2. Insert the ORiNOCO CD-ROM in the CD-ROM player of your station.

- When the ORiNOCO CD Browser automatically starts you can proceed with the next step. If not:
 - Click the **Start** button on the Windows task bar, then select **Run**.
 - Click the **Browse** button in the *Run* window.
 - Select the drive letter of your CD-ROM player in the *Browse* window, then select the file **setup.exe**, and click the **Open** button.
 - Click the **OK** button in the *Run* window. The ORiNOCO CD Browser will start-up.
- From the ORiNOCO CD Browser main menu, select the **Install Software** button, then select the **Install AP Manager** button.
- Follow the instructions on your screen. If not available yet, a special ORiNOCO group in the Windows Programs menu will be created. This group will provide access to the AP Manager software to configure your AP-1000.

**NOTE:**

Previously installed versions of the ORiNOCO AP Manager program will automatically be replaced, without affecting any other file that you might have saved into the program's directory. For example if you saved back-ups of AP-1000 configuration files which you created with the previous version in the AP-1000 program folders, these files will not be deleted or overwritten.



Installation Requirements

Placement of the AP-1000s must satisfy the following installation requirements:

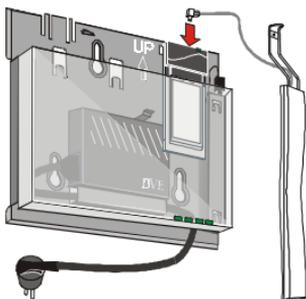
- a. *Connect the unit to a grounding type AC wall outlet (100-240 VAC) using the standard power cord as supplied with the unit.*
- b. *Placement must allow for easily disconnecting the access point unit from the AC wall-outlet.*
- c. *Do not cover the unit, or block the airflow to the unit with any other objects. Keep the unit away from excessive heat and humidity and keep the unit free from vibration and dust.*
- d. *Installation must at all times conform to local regulations.*
- e. *When the AP-1000 will be connected to an outdoor antenna system, consult the documentation that came with the outdoor antenna kit for additional regulatory information, safety instructions and installation requirements.*

Best Place for the AP-1000

The integrated antennas of ORiNOCO PC Cards perform best in an open environment with as few obstructions as possible. In most situations, mounting the access point as pictured in Figure 2-3 on page 2-5 will provide satisfactory performance results. To ensure the best performance:

- Place the AP-1000 as high and as centrally as possible (relative to the ORiNOCO stations in the vicinity).
- Do not conceal the integrated antennas of the ORiNOCO PC Card(s).
- (Optional) Use the AP-1000 in combination with an ORiNOCO Range Extender Antenna, an omni-directional antenna for indoor use. It enables you to extend the wireless range of the AP-1000 when connected to a ORiNOCO PC Card (see Figure 3-1).

Figure 3-1 Using a Range Extender Antenna



Connecting Stations to your AP-1000

To connect to an AP-1000, the parameters of each wireless station should always be configured to match the values as configured for the AP-1000. To allow for starting up your network, the AP-1000 has been loaded with a factory-set configuration (see Table B-1 on page B-2).

To connect stations to a brand new AP-1000 in access point mode:

- Set PC Card Profile settings to “Access Point”.
- Set the Network Name to “ANY” or specify an existing Network Name.

For more information read the user documentation that comes with your ORiNOCO PC Card, and the “ORiNOCO Manager - User’s Guide” (see also “Finding Information” on page 1-4).

Customizing your AP-1000

You can configure the AP-1000 by using one of the following management software tools that come with your product.

- **ORiNOCO AP Manager:** A dedicated application for MS-Windows operating systems, that allows you to configure and/or monitor your AP-1000.
- **ORiNOCO PRO Manager:** A plug-in for the “Network Node Manager” of “HP OpenView” network management systems.
The ORiNOCO PRO Manager allows you to configure and/or monitor multiple AP-1000s simultaneously, requiring the HP OpenView system¹.

¹ HP OpenView is a registered trademark of Hewlett Packard Company

Removing the Cover Plate

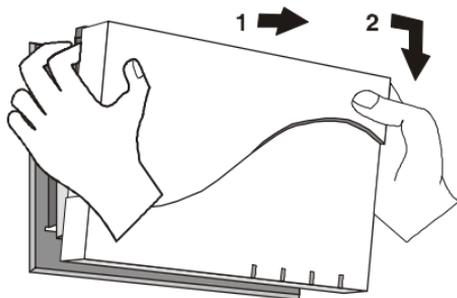
Removing the cover plate of the AP-1000 may be required in the following situations:

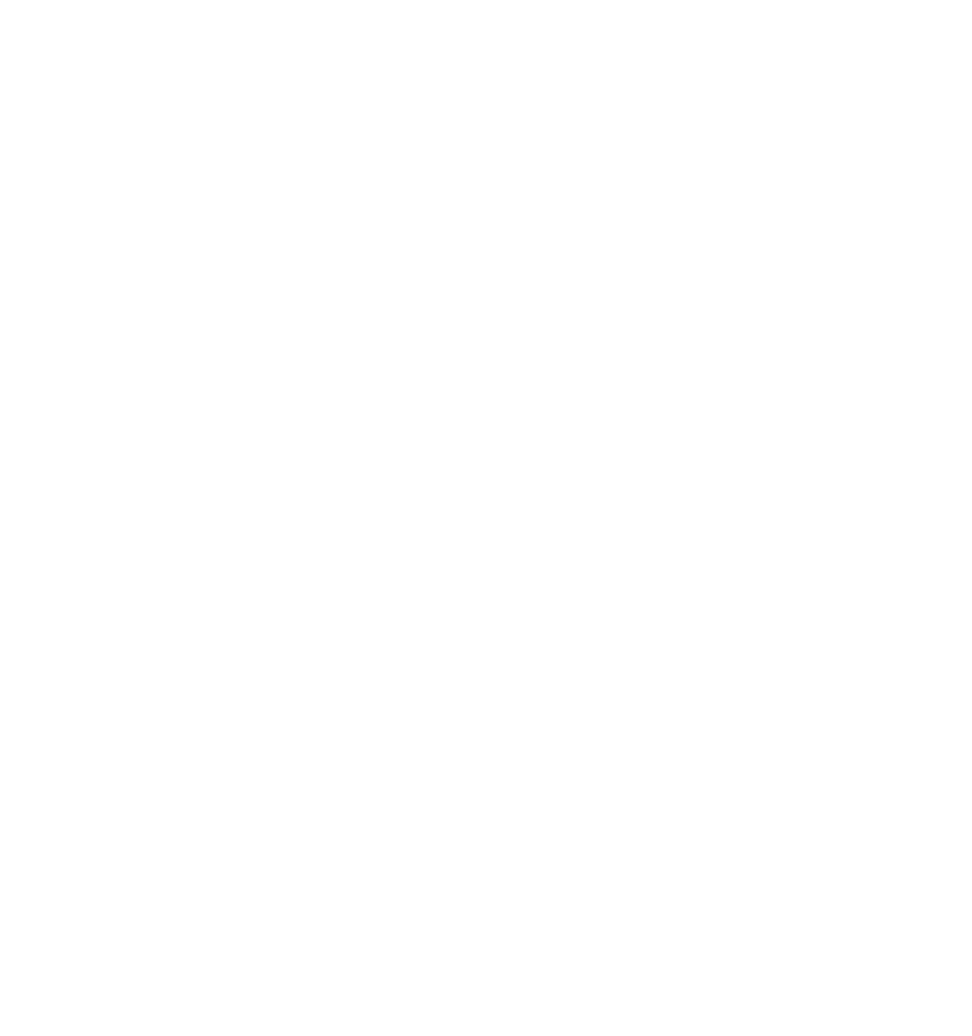
- changing or replacing the ORiNOCO PC Card(s), or
- getting access to the 'Reboot' and/or 'Forced Reload' buttons on the processor module.

To remove the AP-1000 cover plate:

1. Place your hands on the cover as pictured Figure 3-2.
2. Gently pull the top of the cover towards you to release the latches (located inside the cover).
3. Lower the cover to remove it from the processor module.

Figure 3-2 Removing the AP-1000 Cover Plate





AP-1000 Specifications



Hardware

Physical specifications		
Dimensions (hwxw)l	5x18.5x26 cm	
Weight	1.75 kg	
Power cord length	2.5 meter	
Electrical specifications		
Voltage	100-240 V AC, (47-63 Hz)	
Current	0.2 A	
Power consumption	20 Watt	
Environmental specifications		
	Temperature	Humidity
Operating	0° to 40° C	20 to 80% (relative humidity)
Transit	-40° to 60° C	15 to 95% (no condensation allowed)
Storage	-10° to 60° C	10 to 90% (no condensation allowed)
Ethernet interface		
	10/100 Base-T	RJ 45 female socket, 10/100 Mbit/s Ethernet
Wireless interface		
	2 x PC Card Type II slot	
Serial interface		
	RS-232 (will be supported in a future release)	

Software

ORiNOCO AP-1000 operating software	
wpntxxx.bin	<p>Factory installed operating software for the ORiNOCO AP-1000. This software, that is loaded into the FlashROM of the access point, controls its features and functions.</p> <p>The 'xxx' in the file name refer to the version level of the software. When new features and functionality become available, you can upgrade the ORiNOCO AP-1000 by uploading the latest software as described in the "ORiNOCO Manager - User's Guide".</p>
ORiNOCO AP Manager	
wman_ap.exe	<p>Configuration and management software for ORiNOCO AP-1000s. This software runs on Windows 95/98/2000 and Windows NT (v4.0) platforms.</p>

AP-1000 Start-up Configuration

B

To connect to an AP-1000, the parameters of each wireless station should always be configured to match the values as configured for the AP-1000. To allow for starting up your network, the AP-1000 has been loaded with a factory-set configuration (see page B-2).



NOTE:

The factory-set configuration should not be confused with a 'default' configuration. For example when performing a 'reboot' or 'forced reload' (described in the "ORiNOCO Manager - User's Guide" provided on the CD-ROM), the device will NOT return to the 'factory-set' configuration.

This appendix also includes a form that you can use to record the common parameters and unique identifiers of your AP-1000s (see page B-3). To keep your network secure, you are advised to keep the form in a safe place.

Table B-1 Factory-set Start-up Configuration**ORiNOCO AP-1000 identifiers**

IP Address	153.69.254.254 ¹
Subnet Mask	255.255.0.0
Read Password	'public'
Read/Write Password	'public'

Access Point settings

Network Name	WaveLAN network ²
Encryption	Disabled
RTS/CTS Medium	Disabled
Reservation	
Multicast Rate	Auto select 1-2 Mbit/s

- 1 When using IP networks, change this IP address to a unique address in the range assigned to your organization. In environments with DHCP or BOOTP services, this address will be assigned automatically when the MAC address of the unit was added to the IP Configuration table of the DHCP or BOOTP server system.
- 2 When your network includes MS-DOS stations using the ORiNOCO DOS ODI driver, you are advised to change the value to a name that consists of "UPPER CASE" characters only.

Figure B-1 Access Point Configuration Record

Access Point Configuration Record								
Common Parameters	Wireless Network Network Name: _____ _____		Access Control Access Control <input type="checkbox"/> Enabled Table File Name: _____ RADIUS server <input type="checkbox"/> Enabled			SNMP System Location: _____ IP Subnet Mask: _____ Read Password: _____ Read/Write Password: _____		
	Access Point Unique Identifiers	Serial Number	MAC Address	IP Address	IF	Frequency	Device Location	Date Installed
				<input type="checkbox"/> E				
				<input type="checkbox"/> A				
				<input type="checkbox"/> B				
				<input type="checkbox"/> E				
				<input type="checkbox"/> A				
				<input type="checkbox"/> B				
				<input type="checkbox"/> E				
				<input type="checkbox"/> A				
				<input type="checkbox"/> B				
				<input type="checkbox"/> E				
				<input type="checkbox"/> A				
				<input type="checkbox"/> B				
			<input type="checkbox"/> E					
			<input type="checkbox"/> A					
			<input type="checkbox"/> B					
			<input type="checkbox"/> E					
			<input type="checkbox"/> A					
			<input type="checkbox"/> B					



Technical Support

If you encounter problems when installing or using this product, please consult the ORiNOCO website at: <http://www.lucent.com/orinoco> for:

- the latest software, user documentation and product updates
- Frequently Asked Questions (FAQ)

Alternatively please contact your local authorized ORiNOCO reseller for Technical Support.

Help us helping you by completing the ORiNOCO problem report form, and include it with your e-mail or fax when contacting your local authorized ORiNOCO reseller. You can find the problem report form (**report.txt**) on the ORiNOCO CD-ROM.

Addresses of authorized ORiNOCO resellers are listed in the “Contact & Ordering” section of the ORiNOCO website.



Warranty Repair Card



Warranty Repairs:

If it appears that your unit needs a repair or replacement return to your Dealer/Distributor in its original packaging

When returning a defective product for Warranty, always include the following documents:

- The Warranty Repair card (last page of this appendix), and
- A copy of the invoice/proof of purchase
- Problem Report Form (see Chapter “Technical Support”).

You are advised to read the Information about “Limited Warranty”.

Limited Warranty

Lucent Technologies extends a limited warranty from date of purchase of:

- Thirty-six (36) months for ORiNOCO hardware products
- Twelve (12) months for the ORiNOCO AP-1000
- Twelve (12) months for the media on which the software is furnished and the reproduction of the software on the media.

Upon proof-of-purchase Lucent Technologies shall at its option, repair or replace the defective item at no cost to the buyer.

Defective items shall be returned to the dealer/distributor:

- Freight prepaid.
- Accompanied by a copy of proof-of-purchase.
- Accompanied by a filled out Warranty/Repair card.

This warranty is contingent upon proper use in the application for which the products are intended and does not cover products which have been modified without the seller's approval or which have been subjected to unusual physical or electrical demands or damaged in any way.

This Warranty constitutes the sole and exclusive remedy of any buyer or seller's equipment and the sole and exclusive liability of Lucent Technologies in connection with the products and is in lieu of all other warranties, express, implied or statutory, including, but not limited to, any implied warranty of merchantability of fitness for a particular use and all other obligations or liabilities of Lucent Technologies.

In no event will Lucent Technologies Inc. or any other party or person be liable to you or anyone else for any damages, including lost profits, lost savings or other incidental or consequential damages, or inability to use the software provided on the software media even if Lucent Technologies or the other party person has been advised of the possibility of such damages.

Warranty Repair Card**To be filled out by the User:**

Product Description:
COMCODE (Product ID):
Serial Number:
Invoice Date: (dd/mm/yyyy)
Name:
Title:
Company:
Address:
City/State/Zipcode:
Country:
Telephone:
Fax:
Email:

To be filled out by the Dealer/Distributor:

Dealer Name:	
Address:	
City/State/Zipcode:	
Country:	
Telephone:	
Fax:	
Warranty	Comment
<input type="checkbox"/> Yes	
<input type="checkbox"/> No	

Return Approval Reference:

--

Reported Problem:	Problem Description:
<input type="checkbox"/> Out-of-Box Failure	
<input type="checkbox"/> Other	