4/1/03 Accton Draft—CONFIDENTIAL

Aruba 50™

WLAN Access Point

Model Name :
MP-50-B

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Compliance

FCC - Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION STATEMENT: FCC RF Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters (8 inches) between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Industry Canada - Class B

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled “Digital Apparatus,” ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques,” NMB-003 édictée par le ministère des Communications.

Contents

Preface

The preface includes the following information:

- A list of related documentation for further reading
- A key to the various text conventions used throughout this manual
- Aruba Wireless Networks support and service information

Related Documents

The following items are part of the complete documentation for the Aruba system:

- *Aruba 50 Installation Guide* (Part No. 050007A, May 2003)
- *Aruba 5000 Installation Guide* (Part No. 0500001A, May 2003)
- *Aruba AirOS v1.0 User's Guide* (Part No. 050002A, May 2003)

Text Conventions

The following conventions are used throughout this manual to emphasize important concepts:

TABLE 1 Text Conventions

Type Style	Description
Italics	This style is used to emphasize important terms and to mark the titles of books.
`System items`	This fixed-width font depicts the following: ● Sample screen output ● System prompts ● Filenames, software devices, and certain commands when mentioned in the text.
`Commands`	In the command examples, this bold font depicts text that the user must type exactly as shown.
<*Arguments*>	In the command examples, italicized text within angle brackets represents items that the user should replace with information appropriate to their specific situation. For example: # **send** <*text message*> In this example, the user would type "send" at the system prompt exactly as shown, followed by the text of the message they wish to send. Do not type the angle brackets.
[Optional]	In the command examples, items enclosed in brackets are optional. Do not type the brackets.
{ Item A | Item B }	In the command examples, items within curled braces and separated by a vertical bar represent the available choices. Enter only one choice. Do not type the braces or bars.

Contacting Aruba Wireless Networks

**Information Pending

CHAPTER 1

Introduction

The Aruba 50 is part of a comprehensive wireless network solution. The device works in conjunction with the Aruba 5000 WLAN Switch and can act as a wireless access point or air monitor.

As a wireless access point, the Aruba 50 provides transparent, secure, high-speed data communications between wireless network devices (fixed, portable, or mobile computers **IEEE 802.11b wireless adapters) and the wired LAN.**

As a wireless air monitor, a uniquely Aruba feature, the Aruba 50 enhances wireless networks by collecting statistics, monitoring traffic, detecting intrusions, enforcing security policies, balancing wireless traffic load, self-healing coverage gaps, and more.

Product Features

- Wireless **transceiver**
- Dual, omnidirectional antennas for reception diversity
- Protocol-independent networking functionality
- **802.11b – 11 Mbps data rate per channel: provides an alternative to wired LANs that can dramatically cut costs**
- **Compatible with IEEE 802.3af Power Over Ethernet (POE)**
- **Seamless connectivity to wired LANs augment existing networks quickly and easily**
- **Can be centrally managed, configured, and upgraded through the Aruba WLAN Switch to take advantage of network changes and security improvements**

Ethernet Compatibility

The Aruba 50 attaches to 10/100 Mbps Ethernet (FE) LAN segments that utilize 10Base-T/100Base-TX (twisted-pair) wiring. The device appears as an Ethernet node and performs a routing function by moving packets between the wired LAN and remote workstations on the wireless infrastructure.

Power Over Ethernet

The Aruba 50 supports the IEEE 802.3af standard for Power Over Ethernet (POE). With this feature, the Aruba 50 can accept electrical power from a compatible POE-capable device to which it is connected, directly over the FE cable. POE eliminates the need to provide separate power outlets in environments that are difficult or undesirable to wire for electricity.
The Aruba 50 supports POE only when the FE port is connected to an IEEE 802.3af compliant device (such as the Aruba 5000 WS-5032 Line Card).

Physical Description

Package Checklist

The Aruba 50 package includes:

- One Aruba 50 wireless access point
- One mounting kit
- One Serial & Power Over Ethernet (SPOE) adapter
- One AC power adapter (3.3 VDC, 4 A)
- Non-slip rubber foot-pads
- Assorted documentation

Inform your supplier if there are any incorrect, missing or damaged parts. If possible, retain the carton, including the original packing materials. Use them again to repack the product in case there is a need to return it.

Top Panel

FIGURE 1-1 Aruba 50 Top Panel

1 Dual, omnidirectional Antennas for Wireless Communications (on sides)

The antennas swivel and should be oriented vertically (straight up and down) away from the chassis for best performance.

2 Air Vents (on sides)

These vents promote proper air circulation for cooling the device. Do not allow these vents to be obstructed by mounting equipment, network cables, or any other material.

3 Indicator LEDs

During operation, the Aruba 50 LEDs provide the following information:

TABLE 1-1 Aruba 50 LEDs

LED	State	Description
Ready	Off	The device is off or initializing.
	Green	The device has passed self-test and is operating.
	Flashing	The device is running a self-test or loading new software. If the condition persists for more than one minute, refer to the troubleshooting information in Appendix A.
LAN	Off	No link on the FE port on back of the device.
	Green	Link detected on the FE port.
	Flashing	Transmitting or receiving data across the FE port. Flashing rate is proportional to your network activity.
.B	**Off**	**The 802.11b wireless interface is disabled or down.**
	Green	**The device is operating as an 802.11b access point.**
	Flashing	**The device is operating as an 802.11b air monitor.**

Rear Panel

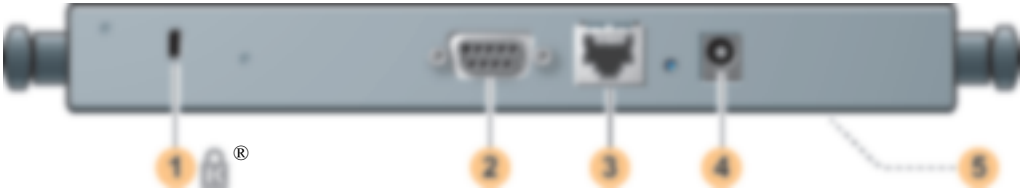

FIGURE 1-2 Aruba 50 Rear Panel

1 Kensington Security Slot

This slot is compatible with a Kensington MicroSaver Security Cable (not included) which can be used to prevent the unauthorized removal of the Aruba 50 from its installed location. To secure the Aruba 50, wrap a security cable around an immovable object, insert the cable's lock into the Kensington Security Slot, and turn the key.

2 Console Port

This port has a 9-pin, female serial connector. It is used primarily to connect a terminal during initial setup of the Aruba 50. See Appendix B for port details.

Using the included SPOE adapter, this port can also be connected directly to an FE port on an Aruba WLAN Switch that supports SPOE (see "Power Over Ethernet" on page 2). This direct connection provides extra maintenance options during normal operation.

3 FE Port

This port attaches the Aruba 50 to 10Base-T/100Base-TX (twisted-pair) Ethernet LAN segments. The port automatically adjusts MDI/MDX to accept either straight-through or crossover cables. See Appendix B for port details.

This port also supports POE (see "Power Over Ethernet" on page 2). When POE is used, a straight-through cable is required.

4 DC Power Socket

This socket is used to connect the included AC power adapter. If POE is being used to supply power to the Aruba 50, the power adapter is not necessary.

5 Mounting Slots (on bottom)

The keyhole-shaped slots on the bottom of the chassis are used to mount the Aruba 50.

CHAPTER 2

Setup & Installation

This chapter covers the following topics:

- Requirements for installing the Aruba 50
- Supported network topology options
- Initial setup of the Aruba 50
- Physical mounting of the device
- Connecting the required cables
- Testing the installation

Requirements

Before you install the Aruba 50, you must have the following:

- An operational Aruba WLAN Switch with a valid IP route to the LAN segment to which the access point or air monitor will be connected.
- An appropriate physical location for the new access point or air monitor.

  We recommend an up-to-date site survey to help determine the optimal location for your Aruba 50. See your *Aruba AirOS Software Guide* for instructions on using the Aruba WLAN Switch's built-in planning tools.
- Client devices **802.11b compliant wireless Ethernet adapters with** TCP/IP compatible protocol installed.

- One of the following power sources for the access point or air monitor:
  - An AC power outlet rated at 100~240 V, 50~60 Hz.
  - Power Over Ethernet (POE) capability on the device to which the Aruba 50 is connected (see “Power Over Ethernet” on page 2).

NOTE—When installing the Aruba 50 in plenums or air-handling spaces, as described in NEC (2002) Article 300.22(C), the device must be powered using POE, and not the included AC power adapter.

Select a Network Topology

The Aruba 50 can be installed in your network using the following topologies:

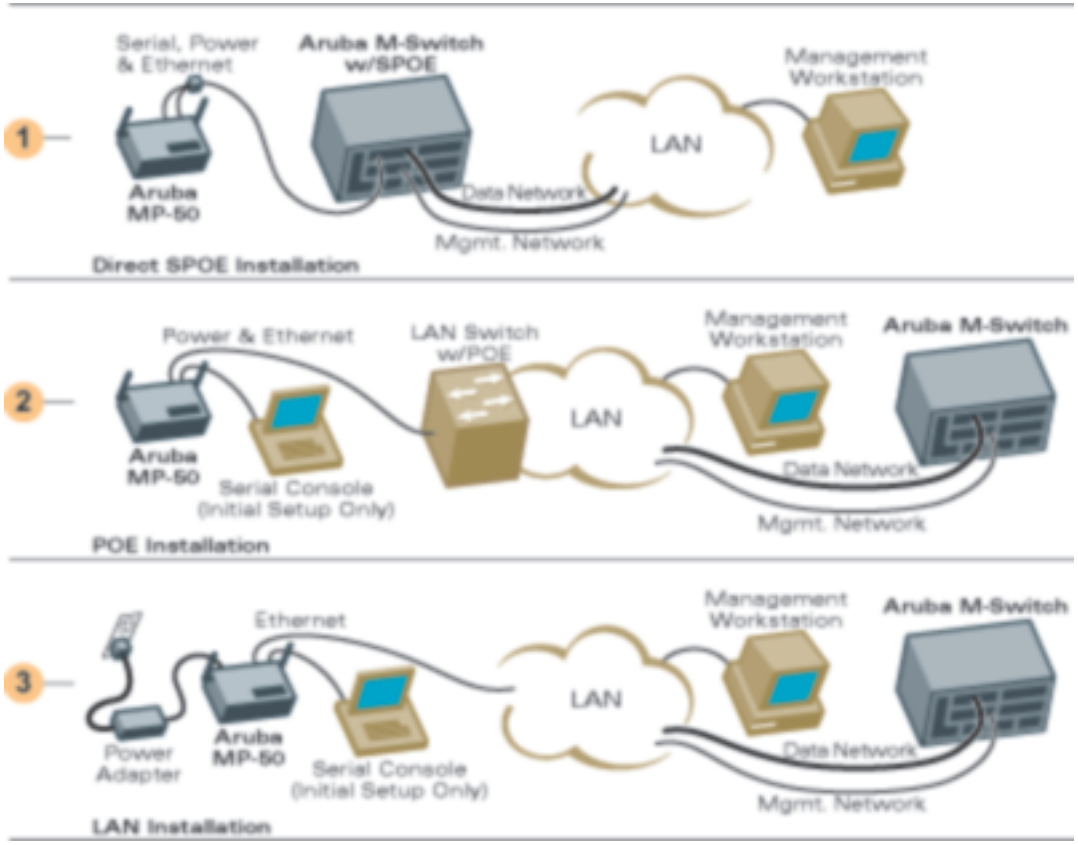

FIGURE 2-1 Aruba 50 Topology Options

1 Direct Serial & Power Over Ethernet (SPOE) to the Aruba WLAN Switch (recommended)

In this topology, both the console and 10/100 Mbps Ethernet (FE) ports on the Aruba 50 are connected to the included SPOE adapter. An 8-conductor, Category 5 UTP, straight-through FE cable connects the adapter directly to the Aruba WLAN Switch with no intervening hubs, routers, or other network equipment. The network port on the Aruba WLAN Switch must include optional SPOE capability (see "Power Over Ethernet" on page 2).

This topology provides the following features:

- 10/100 Mbps Ethernet connectivity
- Electrical power through the FE cable
- Serial console connectivity through the FE cable
- Convenient initial setup through the Aruba WLAN Switch management interface either before or after physical installation of the Aruba 50
- Extra console maintenance options during normal operation

2 POE connection through the LAN

In this topology, the Aruba 50 is connected to the LAN through a hub or switch that is POE compatible (see "Power Over Ethernet" on page 2). An 8- or 4-conductor, Category 5 UTP, straight-through FE cable is required. Initial setup requires a local serial console.

This topology provides the following features:

- 10/100 Mbps Ethernet connectivity (depending on the connecting port)
- Electrical power through the FE cable
- Versatile placement of the Aruba WLAN Switch and Aruba 50s within the network

3 Connection to a non-POE network port on the Aruba WLAN Switch or other network device

In this topology, the Aruba 50 is connected to the Aruba WLAN Switch either directly or through the LAN. An 8- or 4-conductor, Category 5 UTP, straight-through or crossover FE cable may be used. Initial setup requires a local serial console. Electrical power is supplied using the included AC power adapter.

This topology provides the following features:

- 10/100 Mbps Ethernet connectivity (depending on the connecting port)
- Versatile placement of the Aruba WLAN Switch and Aruba 50s within the network

Perform Initial Setup

The Aruba 50 requires some initial configuration before it will operate. The method used for connecting to the Aruba 50 for initial setup depends on your intended network topology (see Figure 2-1 on page 8).

Direct SPOE to the Aruba WLAN Switch

Use this procedure when connecting the Aruba 50 directly to an SPOE-compatible network port on the Aruba WLAN Switch (see "Power Over Ethernet" on page 2). SPOE provides 10/100 Mbps Ethernet, serial connection, and power over one cable.

NOTE—If connecting the Aruba 50 through the LAN or to a non-SPOE network port on the Aruba WLAN Switch, see the instructions on page 11.

1. **Connect the included SPOE adapter to the Aruba 50.**

   Ⓐ Connect the adapter's 9-pin serial connector to the Console port on the back of the Aruba 50.

   Ⓑ Connect the adapter's male RJ-45 plug to the FE port on the back of the Aruba 50.

2. **Connect the Aruba 50 to the Aruba WLAN Switch.**

   The connection between the Aruba 50 and the Aruba WLAN Switch requires an 8-conductor, Category 5 UTP, straight-through FE cable with RJ-45 connectors (see Appendix B for port specifications).

   Ⓐ Connect one end of the FE cable directly to the RJ-45 socket on the SPOE adapter that was attached to the Aruba 50 in the previous step.

   Ⓑ Connect the other end of the FE cable directly to an available SPOE network port on the Aruba WLAN Switch.

   NOTE—The Aruba 50 must be connected to the Aruba WLAN Switch without any intervening hubs, routers, or other networking equipment.

3. **Telnet to the Aruba WLAN Switch Serial-Over-Ethernet (SOE) interface.**

   Run the Telnet client on your management workstation and connect to theAruba WLAN Switch management IP address using logical port 2300. The connection command may vary depending on the specific software used, but commonly appears as follows:

   `telnet` <*switch management IP address*> **`2300`**