

- 4 When prompted, log in to the Aruba WLAN Switch as the administrator:

```
user: admin
password: <administrator password (not displayed)>
```

This will present you with the Aruba WLAN Switch SOE console prompt (soe>).

- 5 Specify the physical Aruba WLAN Switch port to which the new Aruba 50 is connected:

```
soe> connect <slot number>/<port number>
```

This will present you with the Aruba 50 console prompt (#). Once connected to the console, follow the instruction on page 12 to configure Aruba 50.

Direct Terminal Connection

Use this procedure when connecting the Aruba 50 through the LAN or to a non-SPOE network port on the Aruba WLAN Switch. Under these topologies, a direct terminal connection is required for initial setup.

NOTE—If connecting the Aruba 50 directly to a SPOE network port on the Aruba WLAN Switch, see the instructions on page 10.

- 1 Set up your local terminal.

This procedure requires a terminal or computer running terminal emulation software with the following settings:

TABLE 2-1 Console Terminal Settings

Baud Rate	Data Bits	Parity	Stop Bits	Flow Control
9600	8	None	1	None

- 2 Connect the terminal directly to the Aruba 50.

Use a standard serial cable to connect the Aruba 50 console port to a serial port on your terminal (see Appendix B for port specification).

- 3 Establish console communication.

Press <Enter> a few times to establish communication between the terminal and the Aruba 50. You will be presented the Aruba 50 console prompt (#).

Once connected to the Aruba 50 console, follow the instruction on page 12 to configure the device.

Configure the Aruba 50

- 1 From the Aruba 50 console, access the boot prompt.

Reboot the Aruba 50 and then immediately (within three seconds as the device is booting) press any key to interrupt the process:

```
# boot
<Any key (while booting)>
```

This will present you with the Aruba 50 boot prompt (apboot>).

- 2 Set the intended location for the Aruba 50:

```
apboot> setenv location <building number>.<floor number>.<device number>
```

If you performed the recommended site survey using the Aruba WLAN Switch's built-in planning tools, the location data for all access points and air monitors can be found on the tool's deployment screen (see the *Aruba AirOS Software Guide*).

If you plan to manually generate the location data, record the following information for each access point and air monitor. It will be required when configuring the Aruba WLAN Switch.

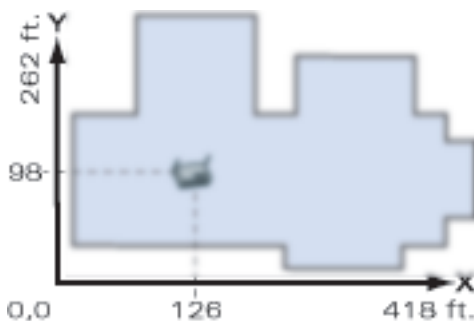
Building Number A unique number (1-255) is required for each building in your campus.

Floor Number Within any building, a unique number (1-255) is required for each floor.

Device Number Within any floor, a unique number (1-65536) is required for each access point or air monitor.

Device Description Note the intended function of the device (access point or dedicated air monitor) and a brief description of its service location.

X, Y Coordinates For each access point and air monitor, measure its X and Y position (in feet) relative to the bottom-left corner of the building plan as seen from overhead. For example:



Use the same fixed point and orientation for all floors in a building.

3 Specify host information, if necessary.

The Aruba 50 uses the default host name `aruba-master` to find the host Aruba WLAN Switch. This assumes that your DNS has been configured to resolve `aruba-master` to the master Aruba WLAN Switch IP address.

- If you are not using DNS, you must manually configure the Aruba 50 with the IP address of the master Aruba WLAN Switch:

```
apboot> setenv serverip <switch IP address>
```

- If you are using DNS but wish to specify a different host name, use the following commands:

```
apboot> setenv master <switch host name>  
apboot> setenv serverip <switch host name>
```

4 Save the configuration and reboot the Aruba 50.

```
apboot> save  
apboot> boot
```

Once the Aruba 50 boots, disconnect it and mount it in its intended service location (see instructions on page 14).

Mount the Aruba 50

When initial setup is complete, mount the Aruba 50 in its intended service location.

Select a location as close as possible to the center of the intended coverage area. If necessary, use the Aruba WLAN Switch's built-in site survey software to determine the optimum locations for your access points and air monitors (see your *Aruba AirOS Software Guide*).

The service location should be free from obstructions or obvious sources of interference. Normally, the higher you place an access point or air monitor, the better its performance.

The Aruba 50 can be mounted in the following ways:



FIGURE 2-2 Aruba 50 Mounting Options

- 1 Flat on a table or shelf (with the LEDs on top) either free-standing or using the included mounting kit
- 2 Upright on a wall (with the port connectors on top) using the included mounting kit
- 3 Suspended from above (with the LEDs on bottom) using the included mounting kit



CAUTION—For safety purposes, do not mount the Aruba 50 sideways (with the air vents on top and bottom).

Free-Standing Placement



CAUTION—Do not place the Aruba 50 in any place where it could fall on people or equipment. For more secure installation, use the included mounting kit.

To place the Aruba 50 on a flat table or shelf, first attach the included non-skid foot-pads to the bottom of the chassis.

Using the Mounting Kit

Use the included mounting kit to attach the Aruba 50 to a wall, shelf, or ceiling.

NOTE—Do not attach the rubber foot-pads to the Aruba 50 when using the mounting kit.

- 1 Attach the mounting cradle to a solid mounting surface.

Place the flat side of the cradle against the mounting surface. If attaching the cradle to a wall, orient it so that the cable tie anchors are positioned at the top. If attaching the cradle to a table, shelf, or ceiling, orient the cable tie anchors toward the cable route.

Use the four included #6 screws (or equivalent) to secure the mounting cradle. If attaching the cradle to drywall, we recommend using appropriate wall anchors (not included) as show in Figure 2-3:



FIGURE 2-3 Attaching the Mounting Cradle

- 2 Place the Aruba 50 into the mounting cradle as shown in Figure 2-4.

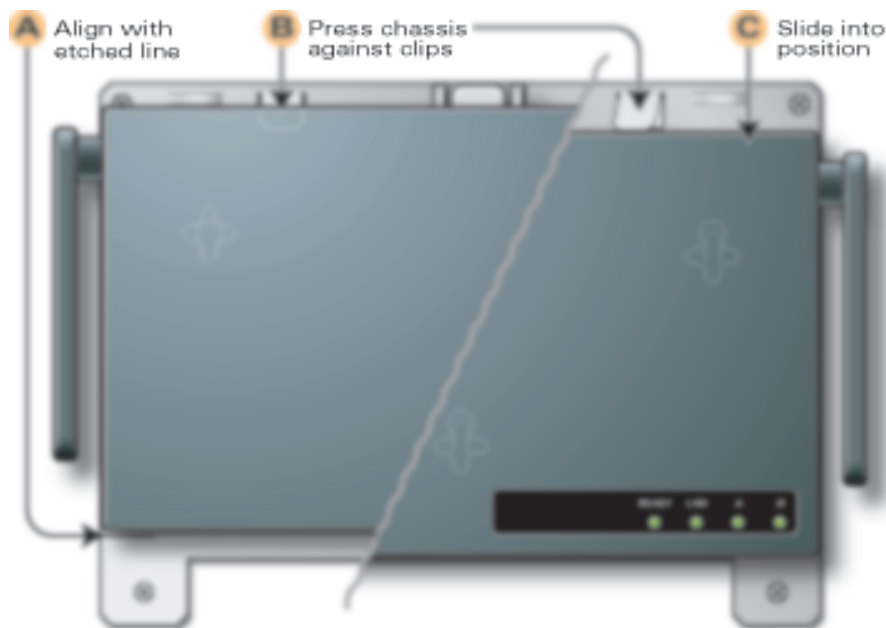


FIGURE 2-4 Placing the Aruba 50 into the Cradle

- Ⓐ Align the front edge of the chassis with the etched line on the mounting cradle. This will fit the Aruba 50 mounting slots over the matching cradle posts.
- Ⓑ Press and hold the Aruba 50 chassis against the retaining clips on the cradle.
- Ⓒ Slide the Aruba 50 into place. When properly positioned, the retaining clips will spring up to hold the chassis firmly in place.

NOTE—To remove the Aruba 50 from the cradle, press down on both retaining clips and slide the chassis free of the mounting posts.

- 3 **Secure the Aruba 50, if desired.**

To prevent the unauthorized removal of the Aruba 50 from its installed location, use a Kensington MicroSaver Security Cable (not included). Wrap the security cable around an immovable object, insert the cable's lock into the Kensington Security Slot on the back of the Aruba 50, and turn the key.

- 4 **Orient the antennas.**

For best performance, swivel the antennas so that they are oriented vertically (see Figure 2-2 on page 14).

Once mounting is complete, connect the required cables (see instructions on page 18).

Connect Required Cables

The cables required for operating the Aruba 50 depend on your intended network topology (see Figure 2-1 on page 8) and on the physical location.

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 19.

- 1 **Connect the included SPOE adapter to the Aruba 50.**
 - A Connect the adapter’s 9-pin serial connector to the Console port on the back of the Aruba 50.
 - B 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).

Any FE cable installed in an air-handling space, as described in NEC (2002) Article 300.22(C), should be suitable under NEC Article 800.50 and marked accordingly for use in plenums and air-handling spaces with regard to smoke propagation, such as CL2-P, CL3-P, MPP or CMP. Install cables in accordance with all applicable local regulations and practices.

- A 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.
- B 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.

LAN or POE Connection

Use this procedure when connecting the Aruba 50 through the LAN or to a non-SPOE network port on the Aruba WLAN Switch.

NOTE—If connecting the Aruba 50 directly to a SPOE network port on the Aruba WLAN Switch, see the instructions on page 18.

1 Connect the Aruba 50 to the network.

- Ⓐ Connect one end of an FE cable to a network hub, router, or switch that has a routable path to the Aruba WLAN Switch.
 - If the connecting device supports POE (see “Power Over Ethernet” on page 2), use an 8- or 4-conductor, Category 5 UTP, straight-through FE cable.
 - If the connecting device does not support POE, use a 4- or 8-conductor, Category 5 UTP, straight-through or crossover FE cable.

Any FE cable installed in an air-handling space, as described in NEC (2002) Article 300.22(C), should be suitable under NEC Article 800.50 and marked for use in plenums and air-handling spaces with regard to smoke propagation, such as CL2-P, CL3-P, MPP or CMP. Install cables in accordance with all applicable local regulations and practices.

For port and cable details, see Appendix B.

- Ⓑ Connect the other end of the FE cable to the FE port on the back of the Aruba 50.

2 Connect power.

The Aruba 50 can receive electrical power using the following options:

- POE—If connecting the Aruba 50 to a device that supplies IEEE 802.3af compliant POE (see “Power Over Ethernet” on page 2), no additional power connection is necessary.
- Power Outlet

NOTE—When the Aruba 50 is installed in an air-handling space, as described in NEC (2002) Article 300.22(C), POE must be used instead of a power outlet.

If local regulations and practices permit, connect the included AC power adapter cable to the DC power socket on the rear panel of the Aruba 50 and plug it into an appropriate power outlet.



CAUTION—Use only the AC power adapter supplied with this device. Otherwise, the product may be damaged.

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APPENDIX A

Troubleshooting

*Information Pending

APPENDIX B

Port Specifications

Console Port

The console port is located on the back of the Aruba 50 and has a DB-9 female connector. Port pin-outs are shown in Figure B-1:

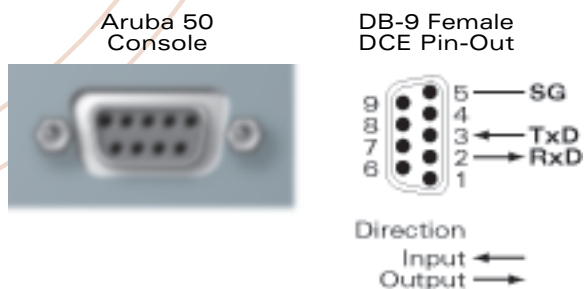


Figure B-1 Aruba 50 Console Port

Communication settings for the console port are specified in Table B-1:

Table B-1 Console Terminal Settings

Baud Rate	Data Bits	Parity	Stop Bits	Flow Control
9600	8	None	1	None

FE Port

The 10/100 Mbps Ethernet (FE) port is located on the back of the Aruba 50 and has an RJ-45 female connector. Port pin-outs are shown in Figure B-2:

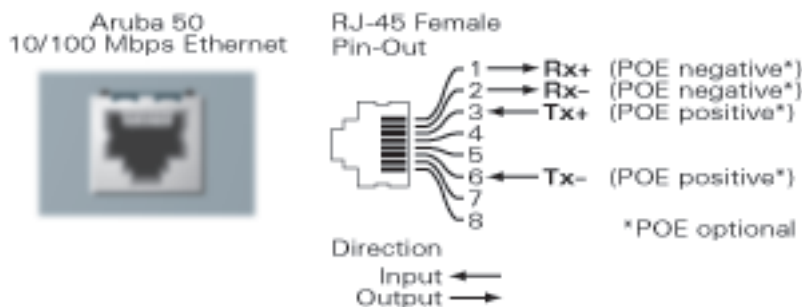


Figure B-2 Aruba 50 FE Port

The port accepts a 4- or 8-conductor Category 5 UTP FE cable with an RJ-45 male connector.

The FE port detects MDI/MDX and automatically adjusts for straight-through or crossover cables. However, if Power Over Ethernet (POE) is used, a straight-through cable is required.

The maximum length for FE cables is 100 meters (325 feet).

When the Aruba 50 is installed in an air-handling space, as described in NEC (2002) Article 300.22(C), POE is required. Also, any FE cable installed in such spaces should be suitable under NEC Article 800.50 and marked accordingly for use in plenums and air-handling spaces with regard to smoke propagation, such as CL2-P, CL3-P, MPP or CMP.

Install cables in accordance with all applicable local regulations and practices.

SPOE Adapter

The Serial & Power Over Ethernet (SPOE) adapter pin-outs are shown in Figure B-3:

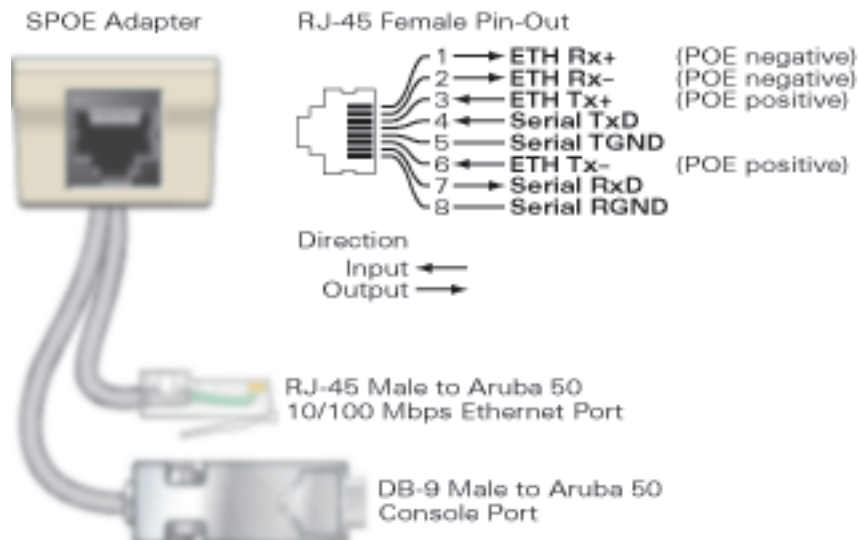


Figure B-3 Aruba SPOE Adapter

The adapter requires an 8-conductor Category 5 UTP, straight-through FE cable with RJ-45 male connectors. The cable must connect the SPOE adapter to an FE+SPOE port on the Aruba WLAN Switch, with no intervening hubs, routers, or other network equipment.

The maximum length for FE cables is 100 meters (325 feet).

The Aruba 50 and SPOE adapter are plenum rated. When installed in an air-handling space, as described in NEC (2002) Article 300.22(C), the connecting FE cable should be suitable under NEC Article 800.50 and marked accordingly for use in plenums and air-handling spaces with regard to smoke propagation, such as CL2-P, CL3-P, MPP or CMP.

Install cables in accordance with all applicable local regulations and practices.

APPENDIX C

Product Specifications

The following specifications apply to the Aruba 50 Wireless Access Point (model WAP-50).

Physical

TABLE C-1 Physical Specifications

Item	Measurement
Size	20.5 x 13.6 x 4 cm (8.07 x 5.35 x 1.58 in)
Weight	280 gram (9.9 oz.)

Environment

TABLE C-2 Environmental Specifications

Item	Measurement
Temperature	Operating: 0 to 50 °C (32 to 122 °F) Storage: 0 to 70 °C (32 to 158 °F)
Humidity	5% to 95% (non-condensing)

Operation

General

TABLE C-3 Operational Specifications

Item	Measurement
Maximum Channels	802.11b—US & Canada: 1-11, Europe: 1-13, France: 10-13, Japan: 1-14, Spain: 10-11
Maximum Clients	64
Operating Range	802.11b—Up to 396 m (1300 ft.)
Data Rate	802.11b—1, 2, 5.5, 11 Mbps per channel
Operating Frequency	802.11b— 2.412 ~ 2.452 GHz US/Canada, Japan 2.457 ~ 2.462 GHz US/Canada, Europe, France, Japan, Spain 2.467 ~ 2.472 GHz Europe, France, Japan 2.484 GHz Japan
Output Power	15 dBm minimum
Power	Adapter Input— 100-240 AC, 50-60 Hz Access Point Input— 3.3 VDC, 3 A (AC adapter), or 48 VDC, 150 mA (POE)
LED Indicators	Ready (Power), LAN (Ethernet Link/Activity), .A and .B (Access Point/Air Monitor Mode)
Standards	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.11a., IEEE 802.3af

Maximum Distance

Maximum distances posted below are the actual tested distance thresholds. However, there are many variables such as barrier composition and construction and local environmental interference that may impact your actual distances and cause you to experience distance thresholds far lower than those we post below:

TABLE C-4 IEEE 802.11b Maximum Distances

Condition	Speed (Mbps)			
	11	5.5	2	1
Outdoor Environment	152 m (500 ft.)	233 m (766 ft.)	315 m (1033 ft.)	396 m (1300 ft.)
Indoor Environment	23 m (75 ft.)	30 m (100 ft.)	61 m (200 ft.)	61 m (200 ft.)

An Outdoor Environment is a line-of-sight environment with no interference or obstruction between the access point and clients.

An Indoor Environment is a typical office or home environment with floor to ceiling obstructions between the access point and clients.

*Sensitivity and Modulation***TABLE C-5 IEEE 802.11b Sensitivity and Modulation**

Modulation/Rates	Sensitivity (dBm)	2.412-2.484GHZ (dBm)
DBPSK (1 Mbps)	-86	20
DQPSK (2 Mbps)	-85	17
PBCC (5.5 Mbps)	-85	15
CCK (5.5 Mbps)	-81	13
PBCC (11 Mbps)	-83	7
CCK (11 Mbps)	-81	0

Certifications

TABLE C-6 Certifications

Item	Measurement
Electromagnetic Compatibility	FCC Part 15 Class B, FCC Part 15 Class C 15.207/15.247, ICES-003, RSS 210 (CAN) IEC 61000-4-2/3/4/6/11 EN 55022, EN55024 (89/336/EEC), ETS 300 328 (89/336/EEC), ETS 301 489 (89/336/EEC), ETS 301 893 AS/NZS 3548, RFS 29 (NZ)
Safety	CSA/NTRL (CSA 22.2 No. 950 & UL 1950) EN60950 (TÜV/GS), IEC60950 (CB), UL 2043