RAP-2WG Wireless Remote Access Point

Installation Guide

About the RAP-2WG

The Aruba RAP-2WG is part of a comprehensive wireless network solution. This device works in conjunction with other Aruba products, such as Aruba Mobility Controllers, and provides the following capabilities:

- Remote Access Point (RAP)
- Protocol-independent networking functionality
- IEEE 802.11 b/g operation as a wireless Access Point
- Central management, configuration, and upgrade through an Aruba Mobility Controller
- Wireless Transceiver

Package Contents

- 1 x RAP-2WG Remote Access Point
- 1 x Installation Guide (this document)
- 1 x RJ-45 Ethernet Cable
- 1 x Power Adapter

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

Before You Begin

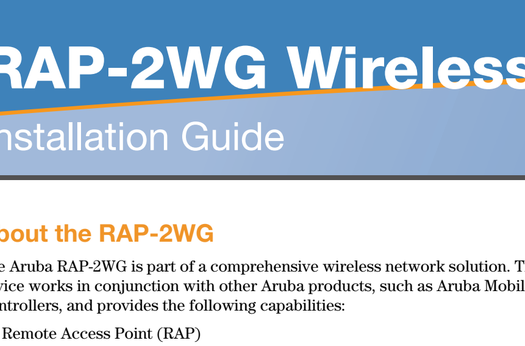
Before installing your RAP-2WG Remote Wireless Access Point, please ensure you have the following:

- 1 x RJ-45 Ethernet Cable (included)
- 1 x Power Adapter (included)
- RAP-2WG (included)
- 1x Additional RJ-45 Cable (require for Provisioning at Home, not included)

RAP-2WG Overview

Rear View

Figure 1 *Rear View*



10/100Base-T Ethernet Ports

The RAP-2WG has two 10/100Base-T (RJ-45) Ethernet ports for wired network connectivity.

- E0: Uplink port
- E1: LAN port

DC IN (Power Socket)

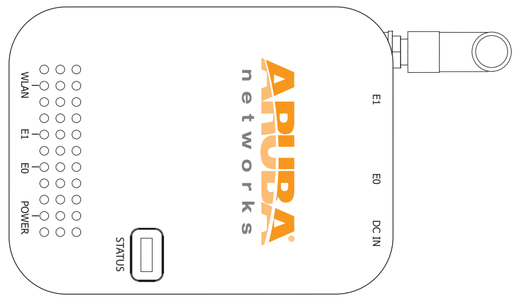
The RAP-2WG power adapter (included) connects to the DC IN port. The RAP-2WG does not have an On/Off switch. The device turns on when the power adapter is attached and plugged into a power outlet. The device turns off when you disconnect the power adapter from the power source (outlet).

Antenna

The antenna allows client devices to connect to the RAP-2WG wirelessly.

Top View

Figure 2 *Top View*



LEDs

The RAP-2WG has five LED indicators that display the status of the device.

- WLAN: Indicates wireless status and activity.
- E1:Indicates activity and/or status on this port.
- E0: Indicates activity and/or status on this port
- POWER: When lit, the RAP-2WG is powered on.
- Status: Reports the RAP-2WG's current status.

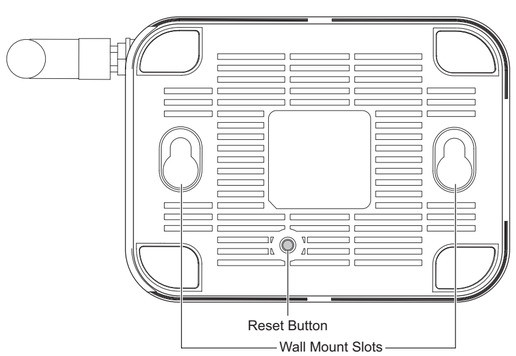
LED	Color(s)	Activity	Action
PWR	Green	On	Power on
		Off	No power
WLAN	Green	Off	Wireless is inactive
		On	Wireless is active
		Flashing	Radio mode
Ports (E0, E1)	Green	Off	No link
		On	Link established
		Flashing	Ethernet activity
Status	Green	Off	Device booting, not ready
		On	Device ready
		Flashing	No connection with controller

NOTE

You can remove the plastic scratch protector at anytime.

Bottom View

Figure 3 *Bottom View*



Reset Button

To reset the RAP-2WG, insert a small, narrow object, such as a pin or paperclip, into the hole indicated in Figure 3 and press the button for 5 seconds, while powering on the RAP-2WG. This returns the RAP-2WG to factory defaults.

Wall Mount Slots

The wall mount slots illustrated in Figure 3 accommodate mounting the RAP-2WG on the wall or other vertical surfaces. Mounting hardware is not included.

RAP-2WG Installation

Tabletop Mounting

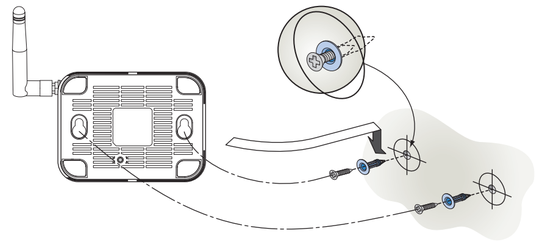
The RAP-2WG is equipped with four rubber feet designed to support the device on a flat surface without damaging it. Install the RAP-2WG on a flat level surface.

Wall Mounting

The wall mount slots, on the back of the RAP-2WG, accommodate wall mounting or mounting to other vertical surfaces.

1. Install two screws in the wall or vertical surface. If attaching the device to drywall, Aruba recommends using appropriate wall anchors (not included).
2. Align the AP mounting slots to capture the surface screws (see Figure 4).

Figure 4 *Built-in Wall Mount Slots*



Connecting the Required Cables

The RAP-2WG must be connected to a network device that has access to the Internet, such as a router or modem. To complete the installation of the RAP-2WG:

1. Connect one end of the provided RJ-45 cable to port E0 on the RAP-2WG.
2. Connect the other end of the RJ-45 cable to a free RJ-45 port on your modem or router.
3. Attach the provided power adapter to the DC IN port on the RAP-2WG.
4. Connect the other end of the power adapter to a power outlet.

The RAP-2WG is now powered on. To verify this, ensure that the PWR LED is solid green.

Verifying Successful Installation

Once the RAP-2WG's PWR LED has come up, the device will take 2 to 3 minutes to complete the boot cycle. Once the boot cycle is complete, you can connect to your company or corporate network.

NOTE

See the Provisioning at Home section if you are unable to connect successfully.

Provisioning at Home

If your IT administrator instructed you to provision your RAP-2WG, complete the following steps after the RAP-2WG has been powered.

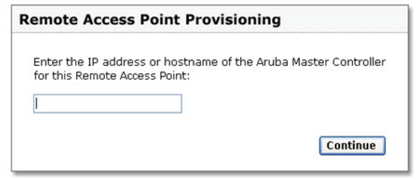
1. Connect one end of a second RJ-45 cable to port E1 on the RAP-2WG and the other end to your computer.
2. Open a web browser and navigate to any URL.
3. An Aruba web page will appear (see Figure 5), requesting the IP address of the master controller. Enter the IP address provided to you by your IT administrator.

   The RAP-2WG will connect to the designated master controller and download the necessary provisioning information. When the RAP-2WG comes back up, it is ready to use.

NOTE

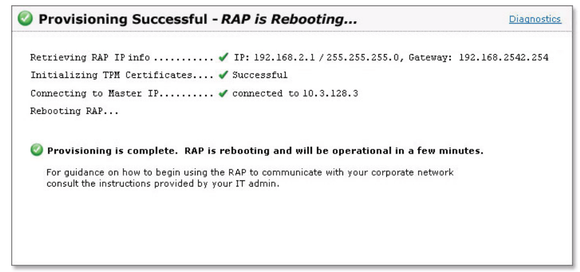
Contact your IT administrator if you are still unable to connect successfully.

Figure 5 *Manual Provisioning Page*



When the RAP-2WG has been successfully provisioned, a screen (Figure 6) appears. This screen displays network information pertaining to the connection between the RAP-2WG and its controller.

Figure 6 *Provisioning Successful*

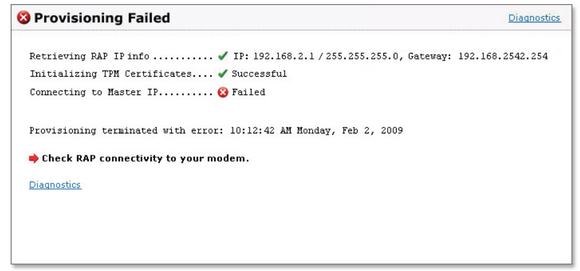


It takes approximately 5 minutes provisioning process to be completed.

4. Once completed successfully, disconnect the RJ-45 cable from your computer and the E1 port on the RAP-2WG.
5. Restart your browser.

If your RAP-2WG does not provision successfully, the screen indicates where the failure occurred, as shown in Figure 7. If this (or a similar) screen appears, contact your IT administrator.

Figure 7 *Unable to Complete Provisioning Process*



Local Debugging

The RAP-2WG includes built-in local debugging capabilities that allow you to report information about the RAP-2WG to your IT administrator. To access this tool, please contact your IT administrator.

Troubleshooting

If your computer is to obtain an IP from the RAP-2WG, try the following trouble shooting steps. If the procedure is not successful, contact your IT administrator.

1. Unplug the Power and Ethernet cables.
2. Reset the RAP-2WG to its factory default setting by holding down the reset button (use a pin or paperclip to hold down the button).
3. Power on the RAP-2WG (plug-in the power cord) while still holding down the reset button.
4. Wait for the status LED to start blinking (about 5 seconds) then release the reset button.
5. Plug-in your WAN connection to port 0.
6. Connect your laptop to port 1 using the RJ-45 cable.

Specifications

Mechanical

Device Dimensions (antenna stowed) (HxWxD):

- 100mm x 70mm x 26mm
- 3.9" x 2.8" x 1.0"

Device Weight:

- 0.2 lbs / 90 grams

Temperature:

- Operating: 0ºC to 40ºC (32ºF to 104ºF)
- Storage: -40ºC to 70ºC (-40ºF to 158ºF)

Relative Humidity:

- 15% to 95% non-condensing

Mounting:

- Built-in Wall Mount Slots
- Tabletop

Antenna:

- Integrated, detachable articulating tri-band antenna

Visual Status Indicators (LEDs):

- PWR: Power
- WLAN: Wireless LAN
- E0 (WAN/uplink)
- E1 (LAN/downlink)
- STATUS: Reports the RAP's status

Electrical

Ethernet:

- 2 x 10/100 Base-T auto-sensing Ethernet RJ-45 Interface, MDI/MDX
- IEEE 802.3, IEEE 802.3u

Wireless LAN

Network Standards:

- IEEE 802.11b and IEEE 802.11g

Antenna Type:

- Screw-on, 802.11b/g omni-directional antenna

Antenna Gain:

- 1.5 dBi at 2.4GHz

Radio Technology:

- Orthogonal Frequency Division Multiplexing (OFDM)
- Direct Sequence Spread Spectrum (DSSS)

Radio Modulation Type:

- 802.11b - CCK, BPSK, QPSK
- 802.11g - CCK, BPSK, QPSK, OFDM

Media Access Control:

- CSMA/CA with ACK

Supported Frequency Bands 2.4GHz:

- 2.400 ~ 2.4835 GHz (Global), channels country specific

Supported Operating Channels:

802.11b	802.11g
• US, Canada, Taiwan 11 • ETSI up to 13	• US, Canada, Taiwan 11 • ETSI up to 13 • Japan 13

Data Rates:

- 802.11b - 1, 2, 5.5, 11 Mbps per channel
- 802.11g - 6, 9, 12, 18, 24, 36, 48 and 54 Mbps per channel

Output Transmit Power:

- 802.11b: 18 dBm
- 802.11g: 17 dBm at 6 Mbps; 14 dBm at 54 Mbps

Miscellaneous Functionality

Maximum Clients:

- 128 concurrent client sessions

Radio Band Selection:

- Via Mobility Controller in software

Manageability:

- Management of all 802.11 parameters
- Network Wide AP Management via CLI, WEB GUI and SNMPv3
- Access Point Profiles, managed by Geographical Location, BSSID and Radio Type

Encryption (AP and Mobility Controller):

- 40 bit / 64 bit / 128 bit / 152 bit WEP, TKIP, AES

Compliance

Aruba provides a multi-language document containing country-specific restrictions and additional safety and regulatory information for all Aruba hardware products. You can read or download this document, on our website at www.arubanetworks.com/safety_addendum.

European Union RoHS

The Restriction on Hazardous Substances Directive (RoHS) (2002/95/EC), which accompanies the WEEE Directive, bans the use of heavy metals and brominated flame-retardants in the manufacture of electrical and electronic equipment. Specifically, restricted materials under the RoHS Directive are Lead (Including Solder used in PCB's), Cadmium, Mercury, Hexavalent Chromium, and Bromine.

Aruba declares compliance with the European Union (EU) WEEE Directive (2002/96/EC). For more information on WEEE, refer to: http://www.dti.gov.uk/sustainability/weee

China RoHS

Aruba products comply with China environmental declaration requirements and are labeled with the "EFUP 50" label shown at the left.

有毒有害物质声明

Hazardous Materials Declaration

部件名称 (Parts)	有毒有害物质或元素 (Hazardous Substances)					
	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Chromium VI Compounds (Cr^{6+})	多溴联苯 Polybrominated Biphenyls (PBB)	多溴二苯醚 Polybrominated Diphenyl Ether (PBDE)
电路板 PCA Board	X	O	O	O	O	O
机械组件 Mechanical Subassembly	X	O	O	O	O	O

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下。
This component does not contain this hazardous substance above the maximum concentration values in homogeneous materials specified in the SJ/T11363-2006 Industry Standard.

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。
This component does contain this hazardous substance above the maximum concentration values in homogeneous materials specified in the SJ/T11363-2006 Industry Standard.

对销售之日的所售产品, 本表显示, 供应链的电子信息产品可能包含这些物质。
This table shows where these substances may be found in the supply chain of electronic information products, as of the date of sale of the enclosed product.

此标志为针对所涉及产品的环保使用期标志。
某些零部件会有一个不同的环保使用期(例如, 电池单元模块)贴在其产品上.
此环保使用期限只适用于产品是在产品手册中所规定的条件下工作.
The Environment- Friendly Use Period (EFUP) for all enclosed products and their parts are per the symbol shown here. The Environment- Friendly Use Period is valid only when the product is operated under the conditions defined in the product manual.

Part Number: 0510303-01

Disposal of the RAP-2WG

For the most current information about Global Environmental Compliance and Aruba products, see our website at www.arubanetworks.com/safety_addendum.

This product at end of life is subject to separate collection and treatment in the EU Member States, Norway, and Switzerland, and therefore is marked with the symbol shown at the left (crossed out wheelie bin). The treatment applied at end of life of these products in these countries shall comply with the applicable national laws implementing Directive 2002/96EC on Waste of Electrical and Electronic Equipment (WEEE).

The WEEE Directive 2002/96/EC and RoHS (Restriction of Hazardous Substances) Directive 2002/95/EC sets collection, recycling and recovery targets for various categories of electrical products and their waste.

Federal Communication Commission Interference Statement

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 the instructions, may cause harmful interference to radio communications. However, there is no guarantee that 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 of the following measures:

- Reorient or relocate 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.

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

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.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

WARNING

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

NOTE

Note to US model owner: To comply with US FCC regulation, the country selection function has been completely removed from all US models. The above function is for non-US models only.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

Industry Canada Statement

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

1. This device may not cause interference and
2. This device must accept any interference, including interference that may cause undesired operation of the device

This device has been designed to operate with an antenna having a maximum gain of 1.5 dBi.

Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the EIRP is not more than required for successful communication.

NOTE

IC Radiation Exposure Statement:
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance 20 cm between the radiator & your body.

Warranty

Standard warranty - 1 year return to manufacturer

RAP-2WG Wireless Remote Access Point

Installation Guide

ARUBA networks

Contacting Aruba Networks

Web Site Support	
Main Site	http://www.arubanetworks.com
Support Site	https://support.arubanetworks.com
Software Licensing Site	https://licensing.arubanetworks.com/login.php
Wireless Security Incident Response Team (WSIRT)	http://www.arubanetworks.com/support/wsirt.php
Americas and APAC Support Email	support@arubanetworks.com
EMEA Support Email	emea.support@arubanetworks.com
WSIRT Email Please email details of any security problem found in an Aruba product.	wsirt@arubanetworks.com

Telephone Support	
Aruba Corporate	+1 (408) 227-4500
FAX	+1 (408) 227-4550
Support	
United States	800-WI-FI-LAN (800-943-4526)
Universal Free Phone Service Number (UIFN): Australia, Canada, China, France, Germany, Hong Kong, Ireland, Israel, Japan, Korea, Singapore, South Africa, Taiwan, and the UK	+800-4WIFI-LAN (+800-49434-526)
All Other Countries	+1 (408) 754-1200

Copyright

Open Source Code

Certain Aruba products include Open Source software code developed by third parties, including software code subject to the GNU General Public License ("GPL"), GNU Lesser General Public License ("LGPL"), or other Open Source Licenses. The Open Source code used can be found at this site:

http://www.arubanetworks.com/open_source

Legal Notice

The use of Aruba Networks, Inc. switching platforms and software, by all individuals or corporations, to terminate other vendors' VPN client devices constitutes complete acceptance of liability by that individual or corporation for this action and indemnifies, in full, Aruba Networks, Inc. from any and all legal actions that might be taken against it with respect to infringement of copyright on behalf of those vendors.

Warranty

This hardware product is protected by the standard Aruba warranty of one year parts/labor. For more information, refer to the ARUBACARE SERVICE AND SUPPORT TERMS AND CONDITIONS.

Altering this device (such as painting it) voids the warranty.

ARUBA networks

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