

Overview

Aruba 501 Wireless Client Bridge Series

Models

Aruba 501 Wireless Client Bridge

J9835A

Highlights

- Link up to 15 Ethernet devices or an RS232 serial device to a wireless network at Gigabit speeds
- One dual-band three spatial-stream MIMO radio running up to 1.3 Gbps
- Support for IEEE 802.11b/g/n and 802.11a/n/ac WLAN networks
- Fast roaming between access points
- Web-based configuration

Product overview

The Aruba 501 Wireless Client Bridge enables you to easily integrate devices with no native wireless support into a wireless LAN (WLAN). It provides strong enterprise-class layered security features, including an IEEE 802.1X supplicant, to protect the network from intrusions.

The 501 Wireless Client Bridge can bridge up to 15 Ethernet client devices running a legacy networking protocol to the WLAN – extending wireless network access to a wide range of protocols. An integrated serial to TCP/IP converter enables a RS-232 asynchronous terminal device to communicate with a compatible station on the network. Hardware-accelerated encryption provides higher performance when using WPA2/AES security.

This bridge provides the benefits of wireless mobility for devices like electronic cash registers, scales, servers, printers, medical equipment and other devices. It can be deployed in any location where a WLAN signal is available – saving the time and expense of installing Ethernet cables for wired network access.

The 501 Wireless Client Bridge integrates into the Aruba Mobile First solution architecture and is interoperable with the IEEE 802.11a/b/g/n/ac wireless network infrastructure in a multi-vendor environment.



Features and benefits

Quality of Service (QoS)

Overview

- **Network management**
 - Support for DSCP and WMM
 - SNMP v2c, SNMP v3, MIB-II with traps, and RADIUS authentication client MIB (RFC 2618)
 - Embedded HTML management tool with secure access
 - Scheduled configuration and firmware upgrades via a network management station
- **Diagnostic**
 - RSSI logging
 - Email alert tool

Connectivity

- **IEEE 802.3af PoE support**
 - Simplifies deployment and dramatically reduces installation costs by helping eliminate the time and cost involved in supplying local power at each client bridge
- **Auto-MDIX**
 - Provides automatic adjustments for straight-through or crossover cables on all 10/100/1000 ports
- **IEEE 802.11h with International-Telecommunication-Union (ITU) compliance**
 - Selects the channel automatically, based on the access point it connects to; and avoids DFS (Dynamic-Frequency-Selection) issues by following the access point to a clear channel

Mobility

- **Anywhere, anytime wireless coverage**
 - Provides single IEEE 802.11a/b/g/n/ac radio client bridge
 - Offers radio software-selectable configuration of frequency bands
 - Utilizes IEEE 802.3af PoE or local power supply
- **Interoperability**
 - Meets Wi-Fi Alliance Certification standards, including IEEE 802.11a/b/g/n/ac and WPA2—to ensure multivendor interoperability
- **Supported devices**
 - Support Windows-based PCs equipped with Ethernet cards; includes point-of-sale devices, scales, network printers, thin clients Mac/Apple machines, Linux/Unix workstations, Ethernet-enabled appliances, medical equipment, or manufacturing machinery
 - Connects RS232 asynchronous terminal devices to the wireless network
- **Multiple devices**
 - Connects up to 15 Ethernet-enabled devices via a multiport switch

Security

- **IEEE 802.1X support**
 - Provides user authentication with support for EAP-TLS and PEAP—with choice of Advanced Encryption Standard (AES), Temporal Key Integrity Protocol (TKIP), and Wired Equivalent Privacy (WEP) encryption for protecting wireless traffic between authenticated clients and the access point
- **Choice of IEEE WPA2, WPA or WEP**
 - Secures the data integrity of wireless traffic, using robust AES or TKIP encryption

Warranty and support

- **Limited Lifetime Warranty**
- **Software releases**

To find software for your product, visit [Aruba Support](#)

Configuration

Build To Order: BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.

Aruba 501 Wireless Client Bridge J9835A

- 1 RJ-45 autosensing 10/100/1000 port

Remarks: [OCA Only Model Selection Form - HPE Offering > Aruba > Client Bridge: Aruba 501 Wireless Client Bridge](#)

Antennas

Dual-Band Antennas

Std (Min 0 // max 1) User Selection (min 0 // max 1)

AP-ANT-20W 2.4-2.5GHz (2dBi)/4.9-5.875GHz (2dBi) Compact Omni-Dir DMt Indr White Antenna	JW011A See Configuration NOTE: 1
AP-ANT-1W 2.4-2.5GHz (4dBi)/4.9-5.875GHz (6dBi) Hi Gain Dual-band Omni-Dir Indoor Antenna	JW009A See Configuration NOTE: 1
AP-ANT-13B 2.4-2.5GHz (2.3dBi)/4.9-5.9GHz (4.0dBi) Downtilt Smallest Omni-Dir Single Ant	JW001A See Configuration NOTE: 1
AP-ANT-16 2.4-2.5Ghz (3.9dBi)/4.9-5.9GHz (4.7dBi) 3 Elmt MIMO Ant w/Downtilt Omni-Dir Antenna	JW003A
AP-ANT-19 2.4/5G Dual Band Omni-Dir 3dBi/6dBi Indr/Otdr RPSMA Cnctr Ant w/36in Intgrtd Cable	JW004A See Configuration NOTE: 1
AP-ANT-32 Dual Band 2/4dBi Omni RPSMA Low Profile 3-pk Omni Antenna	JW014A
AP-ANT-35A Dual Band 90x90deg 5dBi +/- 45 and V Pol 3 Element MIMO 3xRPSMA Pigtail Antenna	JW015A
AP-ANT-38 Dual Band 60x60deg 8dBi +/- 45 and V Pol 3 Element MIMO 3xRPSMA Pigtail Antenna	JW016A

Configuration Rules:

Note 1 **Must select Qty 0 or Qty 3**

Remarks: [OCA Blue Note:](#)
AP-ANT-1W, and AP-ANT-20W are usually direct connect to the chassis

Configuration

AP-ANT-35A,-38 ship with hardware for flush mount to a flat surface

2.4 GHz Antennas

Std (Min 0 // max 1) User Selection (min 0 // max 1)

ANT-2x2-2314 2.4 GHz 14dBi 30x30deg Dual Pol MIMO High Gain Dir N-Type Outdoor Antenna JW024A

5.0 GHz Antennas

Std (Min 0 // max 1) User Selection (min 0 // max 1)

ANT-3x3-5712 4.9-5.9GHz 12.0dBi 75x25deg +/- 45deg and V Pol 3 MIMO High Gain Dir Antenna JW033A

ANT-4x4-5314 5.15-5.9GHz 14dBi 30x30deg Dual Pol MIMO Hi Gain Dir N-Type Outdoor Antenna JX988A

Antenna Mount Kits

Std (Min 0 // max 1) User Selection (min 0 // max 1)

AP-ANT-MNT-3 AP-ANT-25A/28/35A/38 Azimuth and Elevation Adjustable Mount Kit JW020A

- AP-ANT-MNT-3 AP-ANT-35A/38 Azimuth and Elevation Adjustable Mount Kit See Configuration **NOTE: 1**

Configuration Rules:

Note 1 Only compatible with the following Antennae:
JW015A
JW016A

Power Options

Power Options

Aruba 501 Client Bridge 5V Power Supply JW0405B
See Configuration **NOTE: 1**

No Power Cord J9405B#AC3
• No Localized Power Cord Selected

Aruba PD-3510G-AC 15.4W 802.3af PoE 10/100/1000Base-T Ethernet Midspan Injector JW627A
See Configuration **NOTE: 2**

Configuration Rules:

Note 1 Localization required. (See Localization Menu)

Note 2 If this Power Supply is selected, bring in (Min 1 // Max 1) Localized power cord based on the Aruba Localization Menu

Lightning Surge Arrestor

Configuration

AP-LAR-1 Nm to Nf Outdoor DC to 6 GHz In-line Coaxial Lightning Arrestor

JW061A

Cables

RF Jumper Cables

Std (Min 0 // max 3) User Selection (min 0 // max 3)

AFCSJMTM-00 Indoor AP RPSMAm to Nm 60cm Flexible Indoor Rated RF Cable

JW067A

- AFCSJMTM-00 Indoor AP RPSMAm to Nm 60cm Flexible Indoor Rated RF Cable

See Configuration

NOTE: 1

Configuration Rules:

Note 1 Only compatible with the following Antennae:
JW024A
JW033A

Remarks: OCA Blue Note - Not usually required
If needed each radio (2.4 and 5 GHz) requires 3 RF connections
3rd port on radio needs to be terminated if using ANT-2x2-xxxx
No cables required for direct connect omnis or antennas with pigtails
AFC2DL60-00 used to adapt from RPSMA to Nf for connection to longer Nm to Nm jumpers
AFCSJMTM-00 used to adapt from RPSMA to Nm for connection to antennas with Nf connectors

Technical Specifications

Aruba 501 Wireless Client Bridge (J9835A)

I/O ports and slots	1 RJ-45 autosensing 10/100/1000 port; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) 1 RS-232C serial console port	
Characteristics	Radios (built-in)	802.11 a/b/g/n/ac
	Radio operation modes	Client bridge
	Wi-Fi Alliance Certification	a/b/g/n/ac Wi-Fi Certified
	Antenna connector	Three RP-SMA
	Antenna	2 dBi dual-band omnidirectional
	Number of external antennas	3
	Three spatial streams for up to 1.3 Gbps PHY rate	
	Three RP-SMA connectors for a range of antenna options	
	NOTE: when using outdoor antennas, customer must supply RP-SMA to Type N adapter	
Physical characteristics	Dimensions	5.5 (w) x 1.3 (d) x 5.0 (h) in (13.97 x 3.3 x 12.7 cm)
	Weight	2.01 lb (0.91 kg)
Environment	Operating temperature	32°F to 122°F (0°C to 50°C)
	Operating relative humidity	5% to 95%, non-condensing
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	5% to 95%, non-condensing
	Shock and vibration	EN 61373
	Altitude	10,000 feet (3,048 meters)
Electrical characteristics	Description	IEEE 802.3af PoE compliant or 5-15 VDC from external DC power source
	Maximum power rating	9 W from external DC power source 11 W from PoE power source

Wireless Radio Specifications

- Indoor, single radio, 5 GHz 802.11ac / 2.4 GHz 802.11n
- Software automatically searches for AP on 5 GHz and 2.4 GHz
- 3x3 MIMO with three spatial streams and up to 1.3 Gbps wireless data rate
- Supported frequency bands (country-specific restrictions apply):
 - --2.4000 GHz to 2.4835 GHz
 - --5.150 GHz to 5.250 GHz
 - --5.250 GHz to 5.350 GHz
 - --5.470 GHz to 5.725 GHz
 - --5.725 GHz to 5.850 GHz
- Available channels: Dependent upon configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Maximum transmit power varies by country
- Supported radio technologies:
 - 802.11b: Direct-sequence spread-spectrum (DSSS)
 - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)

Technical Specifications

- 802.11n/ac: 3x3 MIMO with up to three spatial streams
- Supported modulation types:
 - 802.11b: BPSK, QPSK, CCK
 - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
 - 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power data is per chain and includes the dipole antenna that ships with the Aruba 501 Wireless Client Bridge. The receiver sensitivity also includes the dipole antenna gain.
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay diversity (CDD) for improved downlink RF performance
- Short guard interval for 20-MHz, 40-MHz and 80-MHz channels
- Space-time block coding (STBC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Supported data rates (Mbps):
 - 802.11b: 1, 2, 5.5, 11
 - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
 - 802.11n: 6.5 to 450 (MCS0 to MCS23)
 - 802.11ac: 6.5 to 1,300 (MCS0 to MCS9, NSS = 1 to 3)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

Regulatory

I/O ports and slots	FCC Part 15.247; EN 300 328; FCC Part 15.407; MIC Notice No. 88, App. 43 & 45; EN 301 893; RSS-210
Safety	UL 2043; UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1
RF Exposure	FCC Bulletin OET-65C; RSS-102; EN 62311
Emissions	EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15, VCCI Class B

Regulatory model numbers MRLBB-1302

Security

IEEE 802.1X support	Provides user authentication with support for EAP-TLS and PEAP—with choice of Advanced Encryption Standard (AES), Temporal Key Integrity Protocol (TKIP), and Wired Equivalent Privacy (WEP) encryption for protecting wireless traffic between authenticated clients and the access point
Choice of IEEE, WPA2, WPA, or WEP	Secures the data integrity of wireless traffic, using robust AES or TKIP encryption

Warranty and Support

Limited Lifetime Warranty

Software Releases

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Technical Specifications

RF Performance Table

	Maximum transmit power (dBm) per transmit chain and includes the 2dBi dipole antenna that ships with the bridge	Receiver sensitivity (dBm) per receive chain and includes the 2dBi dipole antenna that ships with the bridge
802.11b 2.4 GHz		
1 Mbps	21	-96
11 Mbps	21	-88
802.11g 2.4 GHz and 802.11a 5 GHz		
6 Mbps	20 (21 at 2.4 GHz)	-92 (-93 at 2.4 GHz)
54 Mbps	19	-75
802.11n HT20 2.4 GHz and 5 GHz		
MCS0/8/16	18 (21 at 2.4 GHz)	-90 (-93 at 2.4 GHz)
MCS7/15/23	15 (16 at 2.4 GHz)	-71
802.11n HT40 2.4 GHz and 5 GHz		
MCS0/8/16	20 (14 at 2.4 GHz)	-90
MCS7/15/23	15 (14 at 2.4 GHz)	-68
802.11ac VHT80 5 GHz		
MCS0	20	-86
MCS9	13	-59

Maximum capability of the hardware provided. Maximum transmit power is limited by local regulatory settings.

Summary of Changes

Date	Version History	Action	Description of Change:
04-Sep-2018	Version 8	Changed	Configuration section added with the updated information
10-Mar-2017	Version 7	Changed	Document name and content updated with Aruba information
01-Aug-2016	Version 6	Changed	Adding #AC3 Option on Configuration Menu
10-Jun-2016	Version 5	Changed	Changes made on Technical Specifications
01-Dec-2015	Version 4	Changed	Overview and Technical Specifications updated
01-Dec-2014	Version 3	Changed	Warranty and support updated
20-Dec-2013	Version 2	Added	Configuration was added.
09-Dec-2013	Version 1	Created	Document creation



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