ARUBA 501 WIRELESS CLIENT BRIDGE

Extending Your Wireless Network Access

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)

- 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

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

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

SPECIFICATIONS

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: 2dBi 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

Physical Characteristics

- Size: 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%, noncondensing
- Nonoperating/Storage temperature: -40°F to 158°F (-40°C to 70°C)
- Nonoperating/Storage relative humidity: 5% to 95%, noncondensing
- 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)
  - 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

Radio
- 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
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WARRANTY AND SUPPORT
- Limited Lifetime Warranty

SOFTWARE RELEASES

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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.

ORDERING INFORMATION

Part Number	Description	
J9835A	Aruba 501 Wireless Client Bridge	
POWER SUPPLY		
J9405C	Aruba 501 Client Bridge 5V PS	
R6P68A	AP-POE-AFGE 1-Port GbE 802.3af 15.4W midspan injector	
OPTIONAL ANTENNAS (UNIT SHIPS WITH THREE AP-ANT-20W ANTENNAS)		
Dual-band antennas		
JW011A	AP-ANT-20W 2.4-2.5GHz (2dBi)/4.9-5.875GHz (2dBi) Compact omni-dir DMt Indoor White Antenna	3 per unit
JW009A	AP-ANT-1W 2.4-2.5GHz (4dBi)/4.9-5.875GHz (6dBi) High-gain Dual-band Omni-dir Indoor Antenna	3 per unit
JW004A	AP-ANT-19 2.4/5G Dual-band omni-dir 3dBi/6dBi indoor/outdoor RPSMA Cnctr Ant w/36in integrated cable	3 per unit

Learn more at Aruba Networking.

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