Overview

Aruba Airmesh MST200 Series Outdoor Wireless Mesh Access Router

Delivers High-Performance Outdoor Wireless Mesh connectivity

Product overview

The Aruba AirMesh MST200 outdoor wireless mesh access router delivers high-performance outdoor wireless mesh connectivity for remote locations and devices such as IP video surveillance cameras and digital signage.

Ruggedized and hardened to withstand extreme environmental conditions, the MST200 is ideal for providing 802.11n connectivity in metropolitan and industrial areas, oilfields, mines, shipping ports, traffic corridors and large public areas. Supporting data rates up to 300 Mbps, the MST200 a reliable and cost-effective alternative to cabling or fiber.

Running the Aruba MeshOS operating system, the MST200 features a single 5-GHz 2x2 MIMO radio with dual spatial streams and patented Adaptive Wireless Routing (AWR) technology. Together, these features offer unparalleled speed, reliability, and low latency for voice, video and other real-time multimedia-grade applications.

Features and Benefits

Optimized for Long-Distance Transmission
With an integrated directional antenna, the MST200 provides a long-range backhaul link that connects to the AirMesh network or another MST200 up to 7.5 km away. Radio optimization enables the MST200 to preserve the integrity of applications over long distances.

Traffic Prioritization and Quality of Service
As part of the AirMesh wireless network, the MST200 enforces prioritization and quality of service (QoS) for latency-sensitive video and voice traffic. When multiple data streams enter the AirMesh network, the MST200 can automatically identify and tag specific latency-sensitive traffic to guarantee priority treatment across the mesh.

Video Optimization Technology
The MST200 also ensures the delivery Hd-quality video from surveillance cameras, monitors and recording systems using Active Video Transport (AVT) technology. Inherent in the Aruba MeshOS, AVT uses deep packet-inspection, MAc protocol optimization, in-network retransmission protocol and adaptive video jitter removal to provide enhanced   video at up to 30 frames per second across the distributed wireless mesh.

Application

- Single radio outdoor wireless mesh access router

Operating Mode

- 802.11a/n mesh router for backhaul

Overview

Radios

- Single 5-GHz radio
- Radio implements 2x2 MIMO with two spatial streams, providing up to 300 Mbps data rate
- Maximum aggregate transmit power per radio: up to 25 dBm
- dual receiver chain maximal ratio combining (MRc) for improved receiver performance

RF Management

- RF interference detection and avoidance

Wireless Radio Specifications

- AP type: outdoor, single radio, 802.11a/n 5 GHz
- Supported frequency bands (country-specific restrictions apply)
  - 5.470 to 5.725 GHz
  - 5.725 to 5.850 GHz

- Available channels: Dependent on configured regulatory domain
- Maximum transmit power: 25 dBm (325 mW) limited by local regulatory requirements
- Supported radio technologies:
  - 802.11a/n: Orthogonal frequency division multiplexing (OFDM)
  - 802.11n: 2x2 MIMO with two spatial streams

- Supported modulation types:
  - 802.11a/n: BPSK, QPSK, 16-QAM, 64-QAM

- Association Rates
  - 802.11a: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: McS0 – McS15 (6.5 Mbps to 300 Mbps)
  - 802.11n high-throughput (HT) support: HT 20/40
  - 802.11n packet aggregation: A-MPDU, A-MSDU

Antenna

- Built in antenna
- Frequency range and max gain:
  - 5.470 to 5.700 GHz: >11.5 dBi
  - 5.700 to 5.900 GHz: 13 dBi

- Beamwidth:
  - e-plane: 13 degrees
  - H-plane: 55 degrees

Aruba Meshos

Aruba MeshOS is a feature-rich operating system that is used across all MSR wireless mesh routers

Routing Features

- Adaptive Wireless Routing (AWR)
  - Layer 3 optimal route selection
  - Fast convergence and failover
  - Multiple concurrent gateways

- OSPF enables integration with existing routing topologies

Networking

- NAT/PAT
- DHCP server, relay, client
- 4,000 VLANs
- Support for HTTP, HTTPS, SSH, Telnet, SMNP, NTP and ICMP

Overview

Security

- end-to-end WPA/WPA2, TKIP (128 bit), PSK, AeS (128 bit)
- Authentication: 802.1X (RAdIuS), eAP methods
- MAC and IP address filtering
- Access control list (Acl)
- Digital certificates

Traffic Management

- Wi-Fi Multimedia (WMM), 802.11e
- IEEE 802.1p prioritization
- DSCP/DiffServ
- Bandwidth control

RF Management

- Automatic channel selection
- RF interference detection and avoidance
- 16 BSSIDS
- Adaptive baud rate control

Advanced Features

- Virtual Private IAN over Mesh (VPIN) provides native layer 2 over layer 3 interface to external networks
- Active Video Transport (AVT) technology performs deep packet inspection, adaptive jitter removal and corrects transmission packet loss
- MobileMatrix technology allows users to roam between mesh routers while maintaining their application sessions

Power

- Power
  - 802.3af Poe input (MST2HP)
  - 100-240 VAc 50/60 Hz (MST2HAc)
  - Ac unit support 802.3at power out on ethernet port

- Power consumption: 12.5 watts max (excludes power consumed by any Poe device connected to and powered by the MST200 Ac versions)

Interfaces

- Network:
  - 1 x 10/100/1000BASe-T ethernet (RJ45), auto-sensing link speed and MDI/MDX

- Power:
  - 1 x Ac power connector (MST2HAc model only)

- Other:
  - 1 x uSB console interface

Mounting

- Mounting kit:
  - Pole/mast mounting
  - Wall mounting

Mechanical

- dimensions/weight (unit)
  - 255 mm x 180 mm x 82 mm (10" x 7" x 3.3")
  - 1.8 kg (4.0 lb)

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Overview

- dimensions/weight (shipping)
    - 425 mm x 335 mm x 225 mm (16.7" x 13.2" x 8.8")
    - 4.5 kg (9.9 lb)

Environmental

- Operating:
    - Temperature: -40°c to 60° c (-40° F to 140° F) for Poe powered models; -40° c to 60° c (-40° F to 140° F) for Ac powered models
    - Humidity: 5% to 95% non-condensing

- Storage and transportation temperature range:
    - -40° c to 70° c (-40° F to 158° F)

- Weather rating: IP66
- Wind survivability: up to 165 mph
- Shock and vibration: ETSI 300-19-2-4 spec T41.e class 4M3
- Transportation: ISTA 2A

Regulatory

- Regulatory Model Numbers
    - MST200 Ac Powered: MST2H13N1
    - MST200 Poe Powered: MST2H13N0

- Safety
    - EN 60950-1
    - IEC60950-1
    - UL 60950-1
    - CAN/CSA-C22.2 No.60950-1 ANSI/IEEE C62.41 UL1449-2

- EMC
    - EN310 489
    - EN55022
    - EN61000
    - FCC Part 15
    - RSS-Gen

- RF
    - CFR47 Fcc Part 15
    - RSS-210
    - EN 300 328
    - EN 301 893

- Certification
    - FCC
    - IC
    - CE
    - CB
    - cTuVus
    - RoHS
    - SRRC (china)

Warranty

- 1 year parts/labor

Overview

Configuration

Ordering Guide

Step 1: Select MST200 Model and Country Variant

Description	Part Number	Configuration Impact
Pick one from the following:		
Aruba MST2HP (RW) MST200 Single 2x2 11N Radio 320mW Internal Antenna 5GHz PoE Outdoor Mesh AP	JW300A	Requires PoE power
Aruba MST2HP (US) MST200 Single 2x2 11N Radio 320mW Internal Antenna 5GHz PoE Outdoor Mesh AP	JW302A	Requires PoE power
Aruba MST2HP (JP) MST200 Single 2x2 11N Radio 320mW Internal Antenna 5GHz PoE Outdoor Mesh AP	JW301A	Requires PoE power
Aruba MST2HAC (RW) MST200 Single 2x2 11N Radio 320mW Internal Antenna 5GHz AC Power Otdr Mesh AP	JW303A	Power cord not included
Aruba MST2HAC (US) MST200 Single 2x2 11N Radio 320mW Internal Antenna 5GHz AC Power Otdr Mesh AP	JW305A	Power cord not included
Aruba MST2HAC (JP) MST200 Single 2x2 11N Radio 320mW Internal Antenna 5GHz AC Power Otdr Mesh AP	JW304A	Power cord not included

NOTE: the MST200 has no external RF interfaces.
NOTE: the MST200 ships with a mounting kit, as well as weather proof mating connectors for the Ethernet interface. **NOTE:** MST200 Supports 5.47 to 5.725 and 5.725 to 5.850 subject to regulatory restrictions.

Step 2: Add Outdoor AC Power Cable (Optional)

Description	Part Number
PC-OD-AC-P-NA MST2HAC and AP-27x Weatherized AC Power 5m North Amer Cable	JW081A
PC-OD-AC-P-INT MST2HAC and AP-27x Weatherized AC Power 5m International Cable	JW080A
CKIT-OD-AC-P MST2HAC and AP-27x Custom AC Power Cable Connector Assembly Kit	JW079A

NOTE: These power cables are unique to MST200 AC powered products.

Step 3: Add POE Powering Accessories (Optional)

Description	Part Number
PD-9001GR-AC 30W 802.3at PoE+ 10/100/1000 Ethernet Indoor Rated Midspan Injector	JW629A
PD-9001GO-DC 30W 802.3at PoE+ 10/100/1000 12-24V DC in Outdoor Surge Prot Midspan Injector	JW630A
PD-9001GO-NA 30W 802.3at PoE+ 10/100/1000 Otdr Surge Prot NA Power Cord Mdspan Injector	JW700A
PD-9001GO-INTL 30W 802.3at PoE+ 10/100/1000 Outdoor Surge Prot Intl Power Cord Injector	JW701A

Add mounting kit for outdoor PoE midspan injector (optional):

Configuration

PD-MOUNT-OD Outdoor PoE Midspan Injectors Pole/Mast Mount Kit	JW620A

Select 3-prong AC power cord for indoor PD-9001G PoE injector if required:

|	
PC-AC-ARG Argentina 220V AC 10A 2-meter AC Power Cord	JW113A
PC-AC-AUS Australian AC Power Cord	JW114A
PC-AC-BR Brazil AC Power Cord	JW115A
PC-AC-CHN China AC Power Cord	JW116A
PC-AC-DEN Denmark 220V AC 10A 2-meter AC Power Cord	JW117A
PC-AC-EC Continental European/Schuko AC Power Cord	JW118A
PC-AC-IN India AC Power Cord	JW119A
PC-AC-IL Israel 250V AC 10A 2-meter AC Power Cord	JW120A
PC-AC-IT Italian AC Power Cord	JW121A
PC-AC-JP Japanese AC Power Cord	JW122A
PC-AC-KOR Korea AC Power Cord	JW123A
PC-AC-NA North America AC Power Cord	JW124A
PC-AC-SWI Switzerland 220V AC 10A 2-meter AC Power Cord	JW125A
PC-AC-UK UK AC Power Cord	JW127A
PC-AC-ZA South Africa 250V AC 10A 2-meter AC Power Cord	JW128A

Step 4: Add Basic Accessories (Optional)

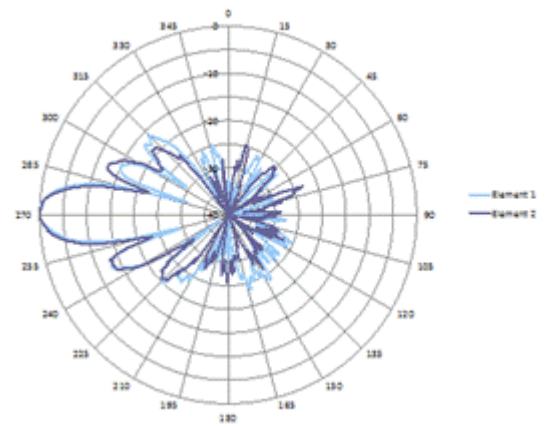| Description	Part Number
CKIT-RJ45-P IP67/8 RJ45 (Plastic) for MeshOS AP Models Weatherproof Connector Assembly	JW077A
CBL-USB-P for Plastic USB Interface on MeshOS AP Models Weatherproof 5m Cable Assembly	JW078A

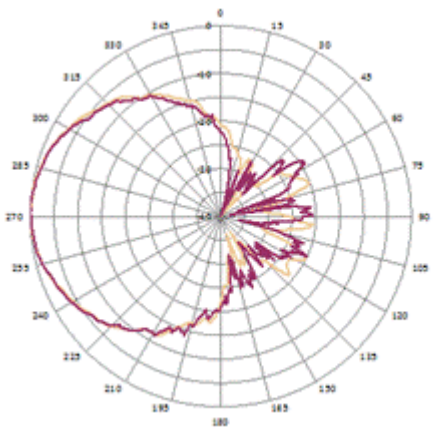Technical Specifications
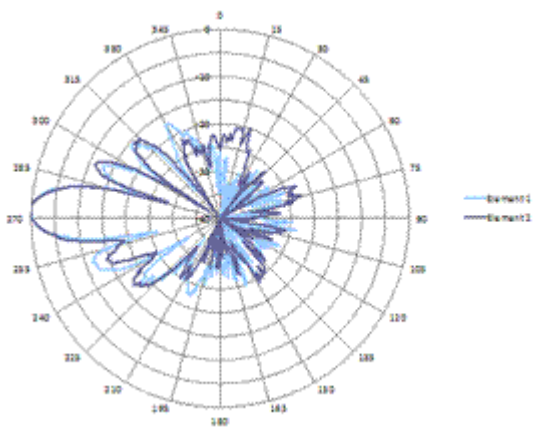
Antenna Pattern Plots (normalized)

5.500 GHz
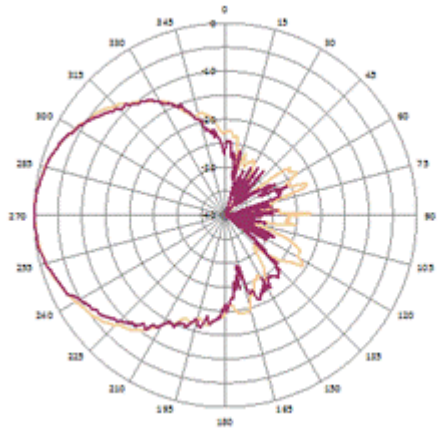
H-plane

E-plane

5.875 GHz

H-plane

E-plane

Summary of Changes

Date	Version History	Action	Description of Change
01-Nov-2016	Version 1	Created	Document creation.

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c05272707 - 15705 - Worldwide - V1 - 01-Nov-2016

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