

# AIRMesh MSR1200 INDOOR WIRELESS MESH ROUTER



The Aruba AirMesh™ MSR1200 delivers high-performance wireless mesh routing to indoor environments where wired connectivity is impractical or unavailable.

Ensuring seamless mobility with Aruba outdoor wireless mesh networks, the MSR1200 is ideal for indoor deployments where backhaul cabling is difficult to deploy, such as in large retail centers, convention sites, warehouses or when a temporary network is needed.

A multi-radio, multi-frequency architecture and adaptive Layer 3 routing using the Aruba MeshOS™ operating system make the MSR1200 unique. Together, they provide unparalleled speed, reliability, low latency and seamless handoffs for voice, HD-quality video and other real-time applications across long-distance outdoor wireless mesh networks.

## FLEXIBLE, HIGH-PERFORMANCE ARCHITECTURE

The MSR1200 consists of two independent 802.11n radios for flexible indoor wireless mesh deployments using the 2.4-GHz and 5-GHz bands and 4.9-GHz U.S. public safety band. Each radio is capable of providing a maximum aggregate transmit power of up to 23 dBm.

Each radio may be configured to operate as a Wi-Fi access point (AP) and provide full mesh backhaul. This dual-radio architecture separates client access and mesh backbone data while optimizing radio resources for both types of traffic to ensure high throughput and low latency.

## INTELLIGENT WIRELESS MESH ROUTING

Integrated with Aruba MeshOS, Adaptive Wireless Routing™ (AWR™) technology automatically optimizes traffic routes between wireless mesh routers and creates a truly adaptive mesh infrastructure.

With AWR, the mesh infrastructure adjusts dynamically to traffic levels and RF signal strength to ensure high availability and zero performance degradation across multiple network hops.

Aruba's MobileMatrix™, another key MeshOS Layer 3 technology, allows Wi-Fi clients to move between wireless mesh routers in less than 50 milliseconds, maintaining a seamless connection for latency-sensitive applications, such as video and voice.

## HD-QUALITY VIDEO

For HD-quality video from mobile and fixed surveillance cameras, monitors and recording systems, the Active Video Transport™ (AVT™) technology in MeshOS provides traffic shaping and load balancing across long-range directional links.

AVT uses deep packet inspection, MAC protocol optimization, in-network retransmission protocol and adaptive video jitter removal to deliver enhanced video at up to 30 frames per second across the distributed wireless mesh.

## REDUCED CAPITAL AND OPERATING COSTS

In addition to reducing capital and operating expenses by simplifying deployment, the MSR1200 eliminates the high cost of installing copper or fiber-optic cabling, as well as monthly fees for leased lines, digital subscriber line (DSL) and metro Ethernet services.

## APPLICATION

- Dual-radio indoor wireless mesh router designed for high-performance, latency-sensitive applications

## OPERATING MODE

- Each radio may be configured to operate in the following modes:
  - 802.11a/b/g/n access point for client access
  - 802.11a/b/g/n mesh router for backhaul

## RADIOS

- Two multifunction radios capable of 2.4-GHz or 5-GHz operation
- Radios implement 2x2 MIMO with two spatial streams, providing up to 300 Mbps data rate per radio
- Maximum aggregate transmit power per radio: Up to 23 dBm
- Dual receiver chain maximal ratio combining (MRC) for improved receiver performance

## RF MANAGEMENT

- RF interference detection and avoidance
- Four BSSIDs, 16 SSIDs
- Flexible baud rate control

## WIRELESS RADIO SPECIFICATIONS

- AP type: indoor, two radio, dual band plus 4.9-GHz U.S. public safety band
- Supported frequency bands (country-specific restrictions apply)
  - 2.400 to 2.483 GHz
  - 5.150 to 5.250 GHz
  - 5.250 to 5.350 GHz
  - 5.470 to 5.725 GHz
  - 5.725 to 5.850 GHz
- Available channels: Dependent on configured regulatory domain
- Maximum transmit power: 23 dBm (limited by local regulatory requirements)
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n: Orthogonal frequency division multiplexing (OFDM)
  - 802.11n: 2x2 MIMO with two spatial streams
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- Association Rates
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 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

- Four RP-SMA type interfaces for external antenna support
- Feeder cable used for external antenna deployments

## 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

### 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 LAN over Mesh (VPLN) 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
  - 12-48 V DC (AC models, AC adapter available separately)
  - 802.3af PoE input (PoE models)
- Power consumption: 10 watts max

## INTERFACES

- 1x 10/100/1000BASE-T
- USB console interface
- Four RP-SMA type antenna connectors

## MOUNTING

- Mounting kit:
  - Wall mounting

## MECHANICAL

- Dimensions/weight (unit)
  - 260 mm x 160 mm x 48 mm (10.1" x 6.2" x 1.9")
  - 1.6 kg (3.5 lbs)

## ENVIRONMENTAL

- Operating:
  - Temperature: 0° C to 50° C (32° F to 122° F)
  - Humidity: 10% to 95% non-condensing
- Storage and transportation temperature range:
  - -30° C to 70° C (-22° F to 158° F)
- Shock and vibration: ETSI 300-19-2-4 spec T41.E class 4M3
- Transportation: ISTA 2A

## REGULATORY

- Regulatory Model Numbers
  - MSR1200: MSR1K2SNO
- Safety
  - EN 60950-1
  - IEC60950-1
  - UL 60950-1
  - CAN/CSA-C22.2 No.60950-1
- EMC
  - EN301 48
  - EN55022
  - EN61000
  - FCC Part 15
  - RSS-Gen

**REGULATORY (CONTINUED)**

- RF
  - CFR47 FCC Part 15
  - RSS-21
  - EN 300 328
  - EN 301 893
- Certification
  - FCC
  - IC
  - CE
  - CB
  - cTUVus
  - RoHS
  - SRRC (China)

**Ordering Information**

Part Number	Description
MSR1K2	MSR1200, dual 2x2 802.11n radios; New Boot Loader; rest of world
MSR1K2-JP	MSR1200, dual 2x2 802.11n radio; New Boot Loader; Japan only
MSR1K2-US	MSR1200, dual 2x2 802.11n radio; New Boot Loader; US only
MSR1K2SN0-US	MSR1200, dual 2x2 802.11n radios, US only
MSR1K2SN0-JP	MSR1200, dual 2x2 802.11n radios, Japan only
MSR1K2SN0	MSR1200, dual 2x2 802.11n radios, rest of world

**ACCESSORIES**

Refer to Aruba MSR1200 [Configuration Guide](#).



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