

MSR4000

High Performance Outdoor Wireless Mesh Router



Azalea Advantages

- High-end wireless broadband delivery with unmatched quality in voice, video and data transmission
- Patent-pending Layer-3 technology delivers genuine mesh routing – AWR™ outperforms all other routing protocols by a large margin, especially under heavy traffic and complex topology conditions
- Designed by recognized experts in video compression, routing and roaming
- Seamless distributed cross IP subnet roaming
- Fast handoff to support voice, video and other real-time services
- Fastest hardware platform and most flexible architecture in the industry - delivers high throughput, low latency and excellent reliability

Key Markets

- Oil & Gas Exploration and Production
- Mining & Quarrying
- Airports
- Ports & Transportation Logistics
- Campus Settings (Colleges and Business)
- Construction
- Municipalities – Public Safety

Providing Superior Outdoor Coverage at the Core of the Network

Market Challenges

Typical mesh networks operate using both wireless and wired technologies. Many competitive solutions require costly gateways and/or controllers between the wired network and the wireless mesh, which impairs data transmission, and even prevents transmission of certain applications such as wireless video.

The MSR4000 — An Overview

Designed by recognized experts in routing, roaming, and video compression and transmission, the outstanding four-radio performance of the MSR4000 allows it to be used as a gateway to a wired network and as a key node in a mesh network. It is ideal for intensive voice, video and data transmission in harsh outdoor environments.

Combining Motrix™ distributed cross IP subnet roaming with patent-pending Layer-3 AWR™ routing technology, this mesh network router delivers unparalleled speed, low latency and smooth handoffs for seamless support of voice, video and other real-time services. All Azalea routers deliver genuine mesh topology comparable to wired networks versus the more typical tree topology found with most mesh equipment.

Features and Benefits

- Four independent radios all supporting 802.11 a/b/g and 4.9GHz

- Each radio is software-configurable for 802.11 a/b/g and 4.9GHz in either access or mesh backhaul mode
- Costs a fraction of wired networks to install and allows for self-configuring network moves and expansion

Wireless Broadband Access and Transmission

- End-to-end QoS guarantee from access to wireless backhaul and on to the wired network
- Acts as both wireless access point and intelligent router for data routing and switching
- Maintains multiple active connections with adjacent nodes with each data packet automatically choosing an optimal path
- Automatic topology and channel optimization, ensuring optimal network topology and maximum throughput
- Multipoint-to-multipoint connection ensures high reliability and usability
- Multi-hop networking, with no obvious attenuation over multiple hops with an average delay per hop of less than 2ms
- Automatic interference detection and avoidance

Continued on back >

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High Performance Outdoor Wireless Mesh Router



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Video Transmission

- Our patent-pending technology AVT™ automatically reduces the effects caused by instability of transmission bandwidth
- Unique adaptive jitter removal not only controls the video delivery rate, but also the timing to produce constant, stable video packets
- Video-optimized QoS network ensures high quality wireless video transmissions even with heavy data traffic
- Reliable and patent-pending multicast technology ensures bandwidth optimization allowing large numbers of terminals to be served simultaneously

Security

- Supports several enterprise-class data encryption algorithms, including TKIP (up to 128bit), PSK, AES, TLS and TTLS
- Fully supports 802.11i, MAC address filtering, Radius, WEP, WPA, WPA2 and 802.1x
- Multi-VLAN enables isolation of users and physical layer isolation of wireless terminals
- Access authentication for wireless nodes to prevent access by unapproved routers

Technical Specifications

Wireless Access

- Up to 4 radios that can simultaneously work in AP mode
- Supports 802.11a/b/g and 4.9GHz
- Up to 4 BSSID for each radio
- Up to 16 SSID for each radio
- Frequency bands: 2400-2483.5MHz, 5150-5850MHz, 4940-4990MHz
- Transmit power: 100mW (20dBm), 400mW (26dBm)
- Receiver sensitivity: -95dBm@1Mbps, -92dBm@6Mbps, -90dBm@12Mbps, -84dBm@24Mbps, -81dBm@36Mbps, -77dBm@48Mbps, -75dBm@54Mbps
- Modulation: OFDM, DSSS, CCK

Mesh Transmission

- Up to 4 radios that can simultaneously work in transmission mode
- Supports 802.11a/b/g and 4.9GHz
- Frequency bands: 2400-2483.5MHz, 5150-5850MHz, 4940-4990MHz
- Transmit power: 100mW (20dBm), 400mW (26dBm)
- Modulation: OFDM, DSSS, CCK
- Long distance transmission capacity: maximum transmission rate exceeds 6Mbps (UDP) over a 10 mile distance
- Average bandwidth loss per hop: <5%
- Average delay per hop: <2ms

Networking and Hardware Specifications

- Supports Network Address Translation (NAT)
- Supports DHCP service and relay
- Supports SNMP v2/v3
- Supports remote software upgrade

- Supports Web-based router management interface
- 2 adaptive 10/100M Base T Ethernet interfaces
- 4 N type antenna connectors (50Ω)
- Power: 100~240VAC 50/60Hz
- Power consumption: 10W (in typical circumstances)
- Dimensions: 325mm x 290mm x 135mm
- Weight: no more than 7kg
- Operating temperature: -40 to 55° C
- Storage temperature: -40 to 80° C
- Humidity (non-condensing): 10%-90%
- Weather rating: IP66
- Wind survivability: up to 165 mph
- Shock & vibration: ETSI 300-19-2-4 spec T41.E class 4M3
- Transportation: ISTA 2A

Approvals

- FCC Part 15B, RoHS, CE
- Radio Transmission Equipment Type Approval issued by the Radio Administration Bureau of China's MII

Product specifications are current at the time of publication. Azalea undertakes no responsibility to update the documentation for changes that may occur from time to time in the normal course of business.

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