



## APPLICATIONS

- Emergency Services**  
 Real-time computer-aided-dispatch on the move. Mobile office, voice, live-streaming video, and data connectivity for first responder vehicles.
- Metro Wi-Fi & 4.9 GHz Public Safety**  
 Simultaneous 4.9 GHz Public Safety access and 2.4 GHz Metro Wi-Fi coverage on a single, dual-radio platform.

## PERFORMANCE AND SCALABILITY

ORINOCO Mesh Creation Protocol (OMCP)	Self-forming/self-healing dual-radio wireless mesh backhaul for industry leading throughput and availability
Tri-mode 802.11b, 802.11g and 4.9 GHz Support	Pre-configured, simultaneous 802.11b, 802.11g, 4.9 GHz support
Field Upgradeable	Software upgradeable to support new standards
IEEE 802.11i and AES Encryption	Highest authentication and encryption methods including mutual authentication, message integrity check (MIC), per-packet keys initialization vector hashing and broadcast key rotation
Rogue AP and Client Detection	Detects and alerts unauthorized rogue Access Points and clients in both the 2.4 and 4.9 GHz bands
Secure Management Interfaces	SNMPv3, SSL and SSH protect against unauthorized AP changes via the management interface
Multiple VLAN Support with Different Security Settings	Up to 16 separate VLANs per radio each able to support different authentication and encryption algorithms simultaneously
Multiple BSSID Support	Up to 4 Basic Service Set identifiers (BSSIDs) per radio
Auto Configuration via DHCP	Ensures new APs automatically receive correct configuration and prevents security vulnerabilities with deliberate resets
Assured Software Upgrades	Guarantees new AP configuration file is valid before deleting current image - dual image support
Quality of Service (QoS)	Draft IEEE 802.11e along with 802.1p and 802.1q improve performance of video and voice applications
Transmit Power Control	Supports selectable transmit power levels to adjust coverage cell size
Automatic Channel Selection	Simplifies installation by choosing best possible channel upon installation
RADIUS Support	Extensive RADIUS Authentication Accounting support
Super Mode	Delivers greater than 30 Mbps throughput for ORINOCO and Atheros-based clients while simultaneously compatible with non-Atheros clients
Advanced Filtering Capabilities	IEEE 802.1d bridging with static MAC address filtering, network protocol filtering, Proxy ARP, multicast/broadcast storm threshold filtering, TCP/UDP port filtering, intra-cell traffic filtering to prevent client-to-client snooping
Near Line of Sight Capable	Line of sight and near line of sight connectivity extends deployment flexibility in rural as well as high-density urban areas

# ORINOCO Public Safety Wi-Fi Mesh Technical Specifications

	ORINOCO AP-4900M*	ORINOCO AP-4900MR-LR'
<b>PRODUCT MODELS</b>	8670M-PS-US ORINOCO AP-4900M Tri-mode, Mesh Access Point	8670-MR-LR-PS-US ORINOCO AP-4900MR-LR Tri-mode, Outdoor Mesh Access Point
<b>RADIO &amp; TRANSMISSION</b>		
<b>MODULATION METHOD</b>		
802.11B OR G	OFDM; DSSS	OFDM; DSSS
802.11A	OFDM	OFDM
<b>FREQUENCY BAND</b>		
802.11B/G	2.412 to 2.462 GHz	2.412 to 2.462 GHz
802.11A	5.25 to 5.35 GHz (FCC UNII 1 and UNII 2), 5.725 to 5.85 GHz (FCC UNII 3 ISM)	N/A
4.9 GHz	4.94 to 4.99 GHz (FCC Only)	4.94 to 4.99 GHz (FCC Only)
<b>DATA RATE</b>		
4.9 GHz 10 MHz CHANNELS	3, 4.5, 6, 9, 12, 18, 24, 27 Mbps	3, 4.5, 6, 9, 12, 18, 24, 27 Mbps
4.9 GHz 20 MHz CHANNELS	6, 9, 12, 18, 24, 36, 48, 54 Mbps	6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11B	1, 2, 5.5, 11 Mbps	1, 2, 5.5, 11 Mbps
802.11G	6, 9, 12, 18, 24, 36, 48, 54 Mbps	6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11A	6, 9, 12, 18, 24, 36, 48, 54 Mbps	N/A
<b>MAX OUTPUT POWER</b>	+18 dBm for 802.11g and 802.11a/4.9 GHz; +20 dBm for 802.11b	+20 dBm for all modulations on 4.9 GHz; +24 dBm for 802.11b/g
<b>INTERFACES</b>		
<b>WIRED ETHERNET</b>	10/100Base-T Ethernet (RJ-45)	10/100Base-T Ethernet (RJ-45)
<b>WIRELESS</b>	1 integrated 802.11b/g radio and 1 integrated 802.11a radio	1 integrated 802.11b/g radio and 1 integrated 4.9 GHz radio
<b>ANTENNA CONNECTOR</b>	Integrated diversity 2.4 and 4.9/5 GHz antennas with horizontal and vertical polarization and external antenna connectors 802.11 b/g and 802.11a/4.9 GHz	Two external Type-N Female connectors; one connector for a 2.4 GHz antenna and one connector for a 4.9 GHz antenna
<b>PHYSICAL</b>		
<b>DIMENSIONS</b>		
PACKAGED	11.375 x 9.25 x 2.75 in (288.9 x 235 x 69.9 mm)	14.57 x 13.7 x 8.19 in (370.1 x 348 x 208 mm)
UNPACKAGED	7.8 X 4.75 X 1 in (198 x 121 x 25 mm)	10.5 x 10.5 x 3.25 in (267 x 267 x 83 mm)
<b>WEIGHT</b>		
PACKAGED	2.05 lbs (0.93 kg)	11.1 lbs (5.03 kg)
UNPACKAGED	0.65 lbs (0.29 kg)	5.5 lbs (2.49 kg)
<b>ENVIRONMENTAL</b>		
<b>TEMPERATURE</b>	0° to 55°C (Operating) -20° to 85°C (Storage)	-35° to 60°C (Operating) -55° to 80°C (Storage)
<b>HUMIDITY</b>	Max 95% relative humidity (non-condensing)	Max 100% relative humidity (non-condensing)
<b>WIND LOADING</b>	N/A	125 mph
<b>WATER &amp; DUST PROOF</b>	N/A	IP65
<b>ELECTRICAL</b>		
<b>POWER SUPPLY</b>	AC: 110/240 VAC, 50/60 Hz (input); 5V 3A (output)	PoE: 110/240 VAC (input); 48 VDC ± 10% (output)
<b>(OPT) POWER SUPPLY</b>	IEEE 802.3af Active Ethernet Support (purchased separately)	110/240 VAC light pole power tap (purchased separately)
<b>POWER CONSUMPTION</b>	Maximum 10 Watts	Maximum 20 Watts
<b>LEDS</b>	Power, Ethernet LAN Activity, Wireless B/G Activity, Wireless 802.11a Activity	Power/Ethernet LAN Link, Wireless LinkMax
<b>MANAGEMENT</b>		
<b>LOCAL</b>	RS-232 Serial Port; DB9 Female	RS-232 Serial Port; RJ11 Female
<b>REMOTE</b>	DHCP, Telnet, HTTP, TFTP, Boot P, SNMPv1/v2c/v3; ORINOCO MIB, Etherlike MIB, 802.11 MIB, Bridge MIB, MIB-II	DHCP, Telnet, HTTP, TFTP, Boot P, SNMPv1/v2c/v3; ORINOCO MIB, Etherlike MIB, 802.11 MIB, Bridge MIB, MIB-II
<b>SECURE</b>	SNMPv3, SSH, HTTPS	SNMPv3, SSH, HTTPS
<b>MTBF AND WARRANTY</b>	100,000 hours; 1-year on parts and labor	100,000 hours; 1-year on parts and labor
<b>PACKAGE CONTENTS</b>	<ul style="list-style-type: none"> <li>(1) AP-4900M tri-mode access point</li> <li>(1) AC Power adapter and support for Active Ethernet and IEEE 802.3af (AE injector purchased separately)</li> <li>(1) Cable cover and Ceiling/Wall mounting Plate</li> <li>(1) Installation CD-R</li> </ul>	<ul style="list-style-type: none"> <li>(1) AP-4900MR-LR dual-radio mesh access point</li> <li>(1) Power injector and power cord</li> <li>(1) RJ11 to DB9 serial connector</li> <li>(1) Cable termination kit</li> <li>(1) Wall/Pole Mounting bracket and hardware</li> <li>(1) Installation CD-R</li> </ul>
<b>RELATED PRODUCTS</b>	ORINOCO AP-4900MR-LR, AP-4000MR and AP-4000MR-LR to extend mesh network outdoors, 2.4 GHz antennas, 4.9 GHz antennas, ProximVision Network Management System, Tsunami MP.11 for backhaul between groups of mesh radios, ServPack (US/CAN Only)	ORINOCO AP-4000MR-LR 2.4/5.8 GHz mesh access points, 2.4 GHz Direct Connect Antennas (1086-OA24-DC5 & 1086-OA24-DC8), 4.9 GHz Direct Connect Antenna (1086-OA52-DC8), AC Power Kit for lightpole mounted AP (1089-AC-KIT-TV), Wide Light Pole Mounting Kit (1090-LP-MNT-WD), ProximVision™ NMS, Tsunami MP.11 for backhaul between groups of mesh radios, ServPak for Enhanced Support (US/CAN only)

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