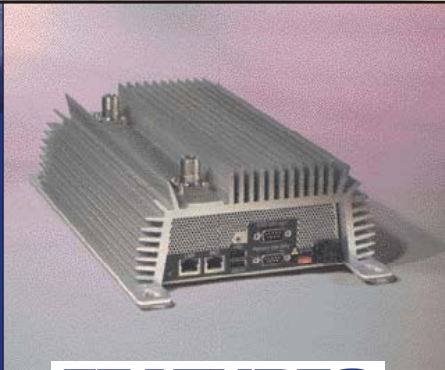


Tropos 4210

Mobile MetroMesh™ Router



FEATURES

MetroMesh OS

- Patented, purpose-built layer 3 mesh routing intelligence
- Predictive Wireless Routing Protocol dynamically employs links across multiple frequency bands to form the highest throughput, lowest latency end-to-end path
- Dynamic channel assignment, automatic power control and automated data rate selection provide the most efficient use of RF spectrum
- Redundant, self-configuring and self-healing network architecture
- Adaptive Mesh Connectivity Engine compensates for Wi-Fi client variations, improving connection reliability
- Ability to configure and operate multiple virtual networks on a single wireless infrastructure
- High-speed, session-persistent roaming

Secure Management

- User-defined traffic filters
- 802.1x/802.11i
- MAC address access control lists
- AES encryption of mesh data and control traffic
- Secure local and remote configuration via HTTPS
- SNMP-based element management system

Platform

- High-performance 54 Mbps Wi-Fi
- Best-in-class link budget for superior RF propagation
- Vehicle mounted with integrated high-power radio
- FIPS 140-2 certifiable

The patented Tropos® MetroMesh™ architecture delivers the maximum scalability, high capacity at low cost and great user experience demanded by carriers, municipalities and network users. The MetroMesh architecture combines the innovative and patented Tropos MetroMesh OS, the industry's most sophisticated metro-scale mesh routing intelligence, with the Tropos MetroMesh operation and optimization tools, which provide centralized visibility, analysis and control, and purpose-built MetroMesh routers with peerless Wi-Fi radio performance. MetroMesh enables carriers, municipalities and public safety agencies to deliver city-wide fixed and mobile multi-megabit connectivity for IP-based voice, video and data applications.

The MetroMesh OS includes the Tropos Predictive Wireless Routing Protocol (PWRP®), the industry's most scalable mesh routing algorithm. The Tropos 4210 mobile MetroMesh routers, utilizing the embedded PWRP, create a self-organizing and self-healing wireless mesh, and intelligently select the optimum data path to the wired network. Because the MetroMesh OS and PWRP do not require more than 5% of available bandwidth for protocol overhead, MetroMesh networks can be easily scaled to thousands of nodes without client throughput or network capacity degradation.

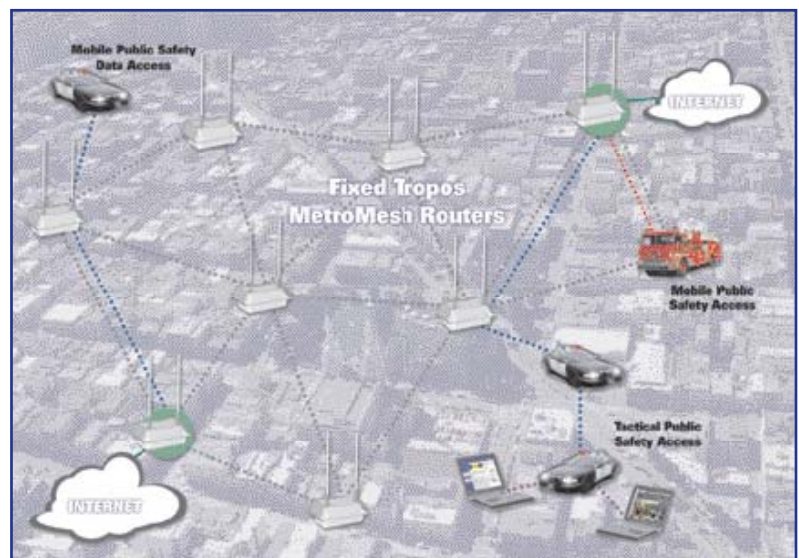
Tropos 4210 mobile MetroMesh routers create a mobile infrastructure to extend the Tropos fixed wireless network and expand the Wi-Fi coverage area. The Tropos 4210 offers wireless access to Wi-Fi equipped client devices in its proximity and extends the mesh by providing wireless uplinks to other Tropos MetroMesh routers. Further, the Tropos 4210 also provides in-vehicle access via Ethernet and can be easily integrated with an optional GPS receiver. The Tropos 4210 is optimized for vehicle mounting. The Tropos 4210 is very flexible, enabling a

number of new metro-scale Wi-Fi mesh network usage scenarios:

Mobile Mesh Bridge: because of the superior RF characteristics of the Tropos 4210, users can utilize a wired Ethernet link to connect in-vehicle laptops to a metro-scale Wi-Fi mesh network for more reliable connections. Optimized for mobility, the Tropos 4210 provides faster mobile handoffs than the Wi-Fi clients embedded in most portable devices.

Client Coverage Extension: the Tropos 4210 creates a client serving coverage area around a vehicle, providing connectivity for devices such as laptops and PDAs that have Wi-Fi embedded, and allowing mobile field workers to move outside of their vehicles while maintaining broadband connectivity.

Tactical Mesh Zone: creates a tactical mesh zone around the vehicle, allowing temporary coverage of an otherwise uncovered area during events and emergencies. The temporary coverage area connects to the wired network through the fixed metro-scale Wi-Fi mesh network.



Tropos 4210

Mobile MetroMesh™ Router



TECHNICAL SPECIFICATIONS

Wireless

- IEEE 802.11b/g
- Frequency band: 2.4-2.483 GHz
- Modulation: 802.11g - OFDM (64-QAM, 16-QAM, QPSK, BPSK)
802.11b - DSSS (DBPSK, DQPSK, CCK)
- TX Power: 36dBm (EIRP)
- Media Access Protocol: CSMA/CA with ACK
- RX Sensitivity:

-100dBm @ 1 Mbps	-92dBm @ 12 Mbps
-95dBm @ 2 Mbps	-89dBm @ 18 Mbps
-93dBm @ 5.5 Mbps	-86dBm @ 24 Mbps
-91dBm @ 11 Mbps	-83dBm @ 36 Mbps
-94dBm @ 6 Mbps	-78dBm @ 48 Mbps
-93dBm @ 9 Mbps	-76dBm @ 54 Mbps
- Transmit and receive diversity

Networking

- TCP and VPN session persistent roaming
- Full 802.11b/g client compatibility
- NAT support
- Layer 2 and Layer 3 support
- DHCP Server and Relay
- Sub-interface support
- Two (2) 10/100 Base-T Ethernet ports (Management and CPE connection)
- Two (2) Type-A USB ports
- Console port (for factory use) and Serial port

Management

- HTTPS to on-board configuration management tools
- Secure local and remote configuration via HTTPS
- SNMP V2c
- Tropos MIB
- Browser-based management tool
- Simple configuration save and restore
- Network & client monitoring and statistical capture features

Security

- Authentication: 802.11i, 802.1x (including EAP-TLS/TTLS/SIM/PEAP)
- Encryption: WEP, TKIP, AES
- AES encryption of mesh and control traffic
- Multiple BSSIDs & ESSIDs (ESSID suppression)
- Full VPN compatibility (VPN filtering—rejects non-VPN traffic)
- MAC address access control lists
- HTTPS only to on-board management tools
- Packet filtering
- FIPS 140-2 certifiable

Environmental Specifications

- Operating temperature range: -40°C to 70°C
- Storage temperature range: -40°C to 85°C
- Shock & vibration: MIL-STD-202E, Method 204C
- Humidity range: 10-95% non-condensing
- Watershed against casual rain - IP Level 1 (water)

Optional Accessories

- Antenna kit: one (1) 7.4dBi flexible spring base omni-directional antenna, mobile mount bulkhead or magnetic mount N-connector, 12' of low-loss antenna cable
- Antenna kit: one (1) 5.0dBi omni-directional antenna, mobile mount bulkhead or magnetic mount N-connector, 12' of low-loss antenna cable
- GPS receiver with external puck antenna

Mounting Options

- Vehicle mounted in protected area such as trunk or cargo space:
 - Vertical or horizontal mounting orientation

Approvals

- FCC CFR 47 Part 15, Class B
- Industry Canada RSS 210
- UL 60950-1
- CSA 22.1 No. 950
- EN 60950
- IEC 950

Hardware Specifications

- Autosensing 10/100 BaseT Ethernet
- Power input: 10.0 to 32.0VDC
- Power consumption: 8W typical
- Polarity protection
- Low voltage disconnect protection
- Automotive over-voltage protection, SAE J1211
- Automotive mini-blade fuse and socket, externally accessible
- Network status lamp
- Remote network status indicator
- Dimensions:
 - 13.1 in (33.3 cm) wide x 7.91 in (20.1 cm) deep x 3.85 in (9.8 cm) high
- Weight: 9 lbs (6.35 kg) max., with mounting brackets

Protection Circuits

- Antenna Protection: $\leq 0.5\mu\text{J}$ for 3kA @ 8/20 μs Waveform
- Electrical Protection:
 - EN61000-4-5 Level 4 AC Surge Immunity
- Data Protection:
 - EN61000-4-2 Level 4 ESD Immunity

Warranty

- One (1) year on parts and labor; return to point of purchase
- *Optional* standard and premium support packages available

Package Contents

- Tropos 4210
- Mounting bracket and accessories
- Hardware Installation and Quick Start Guides

Ordering Information:

Part Number: 42102100

Tropos 4210 mobile MetroMesh router, variable power; N connectors, bracketry

Part Number: AN074090

One (1) vehicle mounted 7.4dBi omni antenna and cable kit, bulkhead mount

Part Number: AN074091

One (1) vehicle mounted 7.4dBi omni antenna and cable kit, magnetic mount

Part Number: AN050090

One (1) vehicle mounted 5.0dBi omni antenna and cable kit, bulkhead mount

Part Number: AN050091

One (1) vehicle mounted 5.0dBi omni antenna and cable kit, magnetic mount

For additional configuration options please contact your Tropos Representative