

Tropos Point-to-Point and Point-to-Multipoint Radios



Features and benefits

- Latency as low as 1 millisecond
- Strong security
 - AES-128 and AES-256 encryption
 - X.509 certificate-based authentication
 - Optional FIPS 140-2 certification
- Supports range of frequencies:
 - Licensed 3.65 and 4.9GHz bands
 - Unlicensed 5.4 and 5.8GHz bands
- Outdoor unit configuration with one common hardware element
- Simple system installation
- IP67 rated
- Tropos Control network management

Tropos Point-to-Point (PTP) and Point-to-Multipoint (PTMP) Radios seamlessly extend Tropos mesh networks. Optimized for fixed, private networks, they deliver high-bandwidth PTP or PTMP communications to field assets. Tropos PTP/PTMP Radios can communicate directly with devices such as SCADA endpoints and programmable logic controllers (PLCs). They can also provide backhaul for Tropos mesh router clusters delivering broadband connectivity.

Network administration and performance monitoring for Tropos mesh routers and Tropos directional radio systems are provided by Tropos Control, the industry-leading management solution for wireless networks.

Tropos PTP/PTMP Radios deliver high throughput, low latency, and robust line-of-sight (LOS) and non-line-of-sight (NLOS) connectivity. These field-proven solutions are used worldwide for high-availability communications. Offering a flexible and future-proof solution, the radios support operation in the licensed 3.65 GHz and 4.9 GHz bands, or the unlicensed 5.4 and 5.8 GHz bands. The system delivers a cost effective solution that enables users to select channel size and throughput.

The same hardware is used for both PTP and PTMP applications; functionality is determined by software. The radios are an all outdoor unit (ODU) design that simplifies installation by eliminating the environmental enclosure needed for an indoor unit (IDU). The radio is rated to IP67, ensuring survivability in the harshest weather conditions.

Secure communications is delivered through AES-128 or -256 encryption and X.509 authentication. FIPS 140-2 certification is available as an option.

- PTP configuration

The PTP configuration is ideal for high-capacity backhaul and substation connectivity applications, delivering Ethernet data rates up to 100 Mbps. PTP connections of up to 31 miles can be established, providing an ideal solution for extending connectivity into rural environments.

- PTMP configuration

PTMP configurations can provide backhaul for Tropos mesh network clusters and to extend high-bandwidth connectivity to field assets throughout sparse rural areas. The system provides Quality of Service (QoS) controls that enable traffic prioritization for multiple applications. The same hardware is used for both the base station and subscriber units with the functionality determined by software.

PTMP networks are constructed around base stations. The PTMP base station can be built from a single radio with an omnidirectional antenna or in three-, four- and six-sector configurations. Each sector can support up to 20 subscriber units with per-subscriber data rates of up to 54Mbps.

Simple Installation

System installation is simple and enabled by an audible antenna alignment indicator, a GUI alignment mode display and a built-in spectrum analyzer.

Advanced Network Management Platform Delivers Optimized Network Visibility and Control

Tropos Control consolidates management of Tropos mesh routers and Tropos directional radio systems with an intuitive web-based interface. Tropos Control simplifies the remote management of Tropos products and is ideal for dynamically deploying and configuring networks ranging in size from hundreds to thousands of Tropos wireless network nodes.

Tropos Control minimizes planning, deployment, and operating costs — and increases the efficiency of management personnel — by performing complex tasks such as global provisioning and software updates across the network in a single session.

Wireless

- Line-of-sight (LOS) and non-LOS (OFDM)
- RF bands
 - 3.300 – 3.800GHz, TDD, WiMAX licensed band
 - 4.940 – 4.990GHz, TDD, licensed public safety band
 - 5.470 – 5.725GHz, TDD, unlicensed band
 - 5.725 – 5.850GHz, TDD, unlicensed band
- Channel Sizes:
 - 5, 10, 20 and 40 MHz, software selectable
- Data Rates:
 - PTP: up to 108 Mbps (uncoded burst rate)
 - PTMP: up to 54 Mbps (uncoded burst rate)

Networking

- PTP - Transparent bridge, automatic link distance ranging, 802.3x, 802.1p, DHCP pass-through
- PTMP - Transparent bridge, automatic link distance ranging, DHCP pass-through, 802.1Q VLAN, CIR, PIR support

Modulation

- PTP: BPSK to 64QAM bidirectional dynamic adaptive
- PTMP: BPSK to 64QAM

MAC

- PTP: concatenation, ARQ
- PTMP: concatenation, TDMA fragmentation ARQ

Security

- AES-128 and AES-256
- FIPS 140-2 certified (optional)

Dynamic Channel Control

- PTP: DFS, ATPC
- PTMP: DFS

Transmit Power

- +25dBm (varies with band and regulatory region)

Receive Sensitivity

- 85dBm @ 3 Mbps maximum

Environmental Specifications

- Operating temperature range: -40°C (-40°F) to +60°C (+140°F)
- Relative humidity: 5% to 95% non-condensing

Approvals

- Safety: IEC, EN, and UL/CSA 60950
- EMC: EN 301 489-1, EN 301 489-17
- 5.8 GHz: IC RSS-210, FCC Part 15, ETSI EN 302 502
- 5.4 GHz: IC RSS-210, FCC Part 15, ETSI EN 301 893
- 4.9 GHz: IC RSS-111, FCC Part 15, FCC Part 90, ETSI EN 301 893
- 3.5 GHz: IC RSS-192, FCC Part 15, FCC Part 90, ETSI EN 302 326-2

Hardware Specifications

- 10/100BASE-T Ethernet (RJ-45 connector)
- Dimensions: 11.38" (28.9cm) height, 7.50" (19cm) width 2.03" (5.15cm) depth
- Weight: 4.5 pounds (2.0kg)

Power

- Power consumption: 15.4 W maximum (802.3af)
- Power Over Ethernet: 802.3af, cable length to 300 feet (91 meters)

Management

- Performance and network health reports
- Monitoring and Google Maps support
- Fault management using SNMP v2/v3
- Configuration using SNMP v2/v3
- Over the air software upgrade using TFTP or FTP

Warranty

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

Ordering Information

For ordering information, please contact sales@tropos.com

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