

Tropos 3320/3310 Indoor Mesh Router



Features and Benefits

Platform

- Support for 802.11n features delivers significant performance enhancements
- Available in single (2.4 GHz) or dual-radio (2.4/5 GHz) configurations
- Advanced auto-configuration capabilities streamline system deployment

Software

- Decentralized architecture optimizes throughput and ensures scalability
- Dynamic selection of optimal end-to-end paths boosts performance
- Tunes network performance and capacity by optimizing signal strength on a per-connection basis
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The Tropos 3320 indoor mesh router provides a turnkey solution for extending Tropos outdoor mesh networks into indoor environments. Ideal for extending municipal, utility, enterprise, industrial, or military outdoor mesh networks into indoor offices or other facilities, the unit features a next-generation high-sensitivity radio design for superior stability and throughput.

Capable of simultaneous support for multiple applications, the Tropos 3320 indoor mesh router includes an onboard Ethernet port for hard-wired connection of peripheral devices such as security cameras for video surveillance. Single or multiple Tropos 3320 indoor mesh routers are easily deployed in a wide variety of indoor settings, and the compact, elegant form factor provides support for any 802.11a/b/g/n client device.

Simple Installation and Configuration

The Tropos 3320 indoor mesh router is simple to deploy, bringing existing outdoor service inside to provide robust wireless broadband connectivity without cabling or difficult system configuration. Users simply power up the router and auto-configuration takes place via Tropos Predictive Wireless Routing Protocol (PWRP™), a patented algorithm that dynamically configures and optimizes mesh connections.

Government buildings, libraries, utility substation control rooms, warehouses, and satellite offices of all types can be quickly and easily brought online. Users will benefit from full client support for laptops, wireless-enabled desktops, tablets, handhelds, IP scanners, video security equipment, and more.

The router is available in two versions:

- Tropos 3320 indoor mesh router — Dual-band unit with one 2.4 GHz, 802.11n and one 5 GHz 802.11a radio. Designed to support higher-capacity indoor networks, the unit supports mesh communications with other routers and client connectivity on both bands for superior performance, resiliency, and capacity. Designed to leverage existing outdoor network investments, the Tropos 3320 enables the indoor network to be scaled to meet demands through deployment of additional Tropos 3320 or Tropos 3310 indoor mesh routers.

- Tropos 3310 indoor mesh router — Single-band unit with one 2.4 GHz 802.11n radio. Designed for indoor networks with lighter traffic loads that do not require 802.11a support, the unit is ideal for leveraging existing outdoor network investments. The Tropos 3310 also enables the indoor network to be scaled through deployment of additional Tropos 3310 indoor mesh routers.

Resilient, High-Performance Networks From Tropos – the Wireless IP Broadband Market Leader

As the leader in IP broadband mesh networking solutions, Tropos is the right choice for organizations interested in deploying a robust infrastructure capable of supporting both outdoor and indoor environments. Designed to enhance operational efficiencies, Tropos technology provides the backbone for the top-performing outdoor wireless IP networks across the globe.

Wireless

- IEEE 802.11b/g/n radio
 - Frequency band: 2.4-2.483 GHz
 - Modulation: 802.11g/n - OFDM (64-QAM, 16-QAM, QPSK, BPSK); 802.11b - DSSS (DBPSK, DQPSK, CCK)
 - Media Access Protocol: CSMA/CA with ACK
 - TX Power: ETSI/EU 3-18 dBm (EIRP) set in 1 dB units; FCC/IC 18-33 dBm (EIRP) set in 1 dB units
 - Multi-Antenna System: 1-TX x 3-RX
 - Support for 802.11n MRC
 - Three 3 dBi omnidirectional antennas
 - RX Sensitivity:
 - 97 dBm @ 1 Mbps
 - 96 dBm @ 6 Mbps
 - 84 dBm @ 54 Mbps
- IEEE 802.11a radio
 - Frequency band: 5.725 - 5.850 GHz (FCC/IC) 5.470 - 5.725 GHz with DFS (ETSI/EU)
 - Modulation: 802.11a/n - OFDM (64-QAM, 16-QAM, QPSK, BPSK)
 - Media Access Protocol: CSMA/CA with ACK
 - TX Power: ETSI/EU 11-26 dBm (EIRP) set in 1 dB units; FCC/IC 15-30 dBm (EIRP) set in 1 dB units
 - 3 dBi Omnidirectional antenna
 - RX Sensitivity:
 - 94 dBm @ 6 Mbps
 - 76 dBm @ 54 Mbps

Networking

- Full 802.11b/g, 802.11a, 802.11n client compatibility
- IEEE 802.3u autosensing 10/100BASE-T Ethernet ports
- IPv4; IPv6-ready
- BGP
- 802.1q VLAN support (ESSID and IP based tagging)
- Support for static and dynamic addressing for wireless and wired clients
- Onboard DHCP Server and Relay
- Session-persistent mobility across subnets
- Network Address Translation (NAT)
- IP multicast forwarding, IGMPv3; IGMP Proxy
- Automatic rate, power, channel and band control
- PowerCurve
- Smart Channel

Quality of Service

- 802.11e WMM
- 802.1p/q with 4 queues per VLAN and ESSID
- 802.1p and DSCP
- VoIP and VoWiFi Support
 - Heuristics-based voice classification
 - Call Admission Control
 - TSpec classification
 - Seamless mobility
 - Call reporting
- Rate limiting (airtime and throughput based)
- ACC - airtime congestion control

Management

- RADIUS accounting
- Local and remote management tools via HTTPS
- Identity-based authentication (4 levels)
- Configuration save and restore
- Software upgrades with rollback
- Command Line Interface (CLI) via SSH
- SNMP (standard MIBs)
- Wireless, network and client monitoring and statistics
- Wireless rescue
- Dual image
- Auto recovery

Security

- IPsec VPNs with tunnels to wired client interfaces using AES
- Authentication: WPA, WPA2, 802.11i, RADIUS, 802.1x (includes EAP-TLS, EAP-TTLS, EAP-SIM, PEAP)
- Encryption: open, WEP, TKIP, AES-CCM
- AES encryption of mesh and control traffic
- FIPS 140-2 Level 2 compliant
- NERC CIP 002-009 compliant
- Multiple BSSIDs & ESSIDs (ESSID suppression)
- Integrated firewall
 - Packet filtering based on TCP/UDP port, protocol, SA, DA
 - Peer-to-peer blocking
 - Client access control lists
 - VPN filtering
 - Router access control
- Evil twin detection and reporting
- Denial of service (DoS) attack detection and reporting

Environmental Specifications

- Operating temperature range: -40°C to 55°C
- Storage temperature range: -40°C to 85°C
- Weather rating: IP11
- Shock & vibration: ETSI 300-19-2-4 spec T41.E class 4M3
- Transportation: ISTA 2A

Power

- Power input: PoE (11-55 VDC); 100-277 VAC with external accessory
- Power consumption: 10 W typical
- Power-on and network status LEDs

Physical

- Dimensions (w/o antennas): 8.5" (21.6 cm) wide x 7" (17.8 cm) deep x 3" (7.6 cm); with antennas 14" (35.6 cm)
- Weight: 2.2 lbs (1 kg) max.

Wireless Approvals

- FCC CFR 47 Part 15, Class B Subpart C
- Industry Canada RSS 210
- EN 301 489-17
- EN 300 328
- EN 301 893

Safety Approvals

- EN 60950
- IEC 950
- UL 60950-1
- CSA 22.2 No. 60950-1
- UL 1449/IEC 60664-1
- CE

Protection

- Antenna Protection Integrated
- Electrical Protection:
 - EN61000-4-4 Level 2 Electrical Fast Transient Burst Immunity
 - EN61000-4-3 Level 2 EMC Field Immunity
 - EN61000-4-2 Level 2 (contact), Level 3 (air) ESD immunity

Warranty

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

Ordering Information

Part Number: 33201000 for FCC and Canada Tropos 3320 indoor mesh router, FCC TX; 2.4 & 5.8 GHz; Four 4 dBi omni antennas, mounting brackets

Part Number: 33101000 for FCC and Canada Tropos 3310 indoor mesh router, FCC TX; 2.4 GHz; three 4 dBi omni antennas, mounting brackets

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