MANNSYS

DMR-StarLink Mk-II 4.9GHz-5.8GHz 300Mbps Point to Point System

The DMR-StarLink Mk-II Point-to-Point radio is a hi-power, linear 2x2 MIMO radio with enhanced receiver performance. The DMR-StarLink point-to-point radio system utilizes the advantages of OFDM modulation and MIMO technology along with a proprietary Time Division Multiple Access (TDMA) protocol to provide exceptional range and speed (100+Mbps real TCP) performance.

Further performance enhancements are achieved with optional GPS Synchronization, providing precision synchronization and timing to co-locate multiple radio units on a single mast without self-interference

The DMR-StarLink TDMA protocol allows master radio unit to send and receive data using a pre-designated time slot scheduled by an intelligent AP controller.

This "time slot" method of provisioning clients eliminates hidden node collisions and maximizes airtime efficiency, providing magnitudes of performance improvements in latency, throughput and scalability when compared with other outdoor systems in its class.

FEATURES

- Frequency range 4.9GHz – 5.8GHz
- Integrated Dual Polarized Flat Panel 25dBi - 11º
- Fixed P2P solution that can deliver 300 Mbps air-rate per sector (150+Mbps layer 2 TCP)
- Robust air i/face based on MIMO & OFDM tech provides high capacity + NLOS performance
- High spectral efficiency (7.5bits/Hz)
- Advanced Time Division Multiple Access (TDMA)– Reduced latency and improved throughput
- Intelligent QoS – priority given to voice/video for seamless access
- Traffic Shaping – Up and down stream traffic shaping per client
- Long Range (50Km+)
- GPS Synchronization (GPS models) – Synchronized transmission eliminates colocation interference
- Dual Ethernet Ports (GPS models) providing power to a second device using PoE.
- Static Routing
- Highly-secure remote management via SSL, SSH and SNMPv1[1] and SNMPv3[2]
- AirContol NMS forms part of standard equipment
- Provides AES encryption technology,
- MAC, Ethertype and IP address packet filtering for granular network security.
- Built in real-time spectrum analyzer (standard with all equipment)
- Integrated Lightning Protection
- Very Low Power Consumption: 6.5W per Radio
- Designed for rural African conditions with low infrastructure level and limited power availability

APPLICATIONS

In-band Backhauling	High capacity backhaul and aggregation of Access Networks sharing the same spectrum without self-interference using GPS synchronization.
Connecting Communities	Cost-effective access within communities, municipalities and educational institutions specifically in rural low-density areas
Security & Surveillance	Wireless connectivity for High Definition cameras in applications that require high bandwidth and low jitter.
High Reliability P2P Links	TDMA+GPS provides for high capacity P2P links operating in congested spectrum environment offering significant interference resistance to conventional CSMA/CD systems

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DMR-StarLink Mk-II Model 4958 Series

Configuration	
P2P2327IA P/N 4958-05340	P2P Radio Unit 4.9-5.8 GHz 11°Integrated 25dBi FP Antenna
P2P2327IAG P/N 4958-05350	P2P Radio Unit 4.9-5.8 GHz 11°Integrated 25dBi FP Antenna with GPS Synchronization
P2P2327EA P/N 4958-05340	P2P Radio Unit 4.9-5.8 GHz 2x N-Type Connectors for External Antennas
P2P2327EAG P/N 4958-05350	P2P Radio Unit 4.9-5.8 GHz 2x N-Type Connectors for External Antennas with GPS Synchronization
Capacity	
All Radio Units	150 Mbps Full Duplex (Layer-2 TCP)
Interfaces	
Wired Ethernet	1x10/100 BASE-TX (Cat 5, RJ-45) Ethernet / 2x10/100 BASE-TX (Cat 5, RJ-45) Ethernet (GPS Models)

Radio Specifications

Range	Up to 100 Km
Frequency Bands	4.9 GHz to 5.8GHz Granularity: 5MHz with - 2.0MHz offset
Channel Bandwidths	5MHz, 10MHz, 20MHz & 40MHz
Modulation	2x2 MIMO- OFDM (BPSK/QPSK/16QAM/64-QAM) with Adaptive Modulation & Coding
Duplex and Access Technology	TDD with adaptive TDMA protocol
Encryption	AES128

Radio Performance (Air Interface)

Modulation & Coding Schemes	MCS8-MCS10 (30-90 Mbps)	MCS11-MCS13 (120-240Mbps)	MCS14-MCS15 (270Mbps-300Mbps)
TX Power	28dBm ±2dB	25dBm-28dBm ±2dB	22dBm-24dBm ±2dB
RX Sensitivity (1x10^{-6} BER)	-90dBm to -95dBm	-79dBm to -87dBm	-75dBm to -78dBm

Networking

QoS	Intelligent QoS – priority given to voice/video for seamless access
Routing	Static Routing

Management

BSS & SSU Management	Web based management and/or AirContol NMS
Protocol	SSH, HTTPS, SNMPv1[1], SNMPv3[2]
Spectrum Analyser	Advanced Spectrum Analyzer Functionality: Waterfall, Waveform, and Real-time spectral views

Power

Power Feed	All power provided by Power over Ethernet units (PoE)
Power consumption	8W per Radio

Environmental

Operating Temperature Range	-35°C to +70°C
Storage Temperature Range	-55°C to +85°C
Operating Humidity	100% Condensing, IP67
Shock & Vibration	ETSI 300-019-1.4

Mechanical

Construction	Sealed die-cast aluminum housings with Gore® Vent equalizer
Dimensions	P2P4958IA (Incl. Antenna):400(w)x400(h)x100(d) P2P4958EA:120(w)x214(h)x62(d)
Weight	2.8 Kg (Including Antenna)

Standards & Regulatory

FCC	FCC part 90Y, 47CFR Class B, Part15, Sub-part B
ETSI/ITU	EN302 502, EN 301 893, EN302 326-2 v1.2.2, EN300 386, EN 301 489-1, EN 301-489-4
Regulatory	ICASA TA-2007/1243

Notes:
1) SNMPv1 Read only
2) SNMPv3 to be released Q1 2012