

Spectrum-DMR32 Digital Radio

Low / Medium Capacity PDH / Ethernet Microwave Radio Links
(7 / 8 / 13 / 15 / 18 GHz)

Spectrum-DMR32 series is a low cost and affordable point-to-point digital microwave radio transmission system that covers most of connectivity needs of a transmission network. It is reliable, easy to install and provides a cost effective access solution for the Network Operator. The Spectrum-DMR32 is developed to meet the expectations of the modern telecommunication network characterized by broadband and mobility convergence.

Spectrum-DMR32 is a standard split mount radio system consisting of an indoor unit and an outdoor unit operating at 7 to 18 GHz frequency bands. Exceptional performance combined with low operational cost make the Spectrum-DMR32 an ideal radio for networks around the world.



Spectrum-DMR32 is designed to satisfy the various digital transmission needs of public and private networks for multiple applications. The short and medium haul microwave system Spectrum-DMR32 series offers technical solution from 7GHz to 18 GHz, by ensuring high radio performance in each frequency band.

Typical Applications:

- 3G mobile networks and micro cellular networks.
- Private links between a backbone network and customers premises for voice and data (LAN, WAN) services.
- Back up transmission link for a fiber-optic link in case of disconnection.
- Transmission link for utility networks (pipelines, electricity, railways etc.,)

Product Features

- Supports 7 to 18 GHz Microwave frequency bands
- Higher power option up to +27 at 7/8GHz dBm
- Capacity independent ODU and frequency independent IDU
- Single coaxial cable interconnection
- Hitless receive protection switching
- Front panel LCD & Keypad for easy and quick configuration
- Local frequency setting changes remote frequency automatically
- QPSK modulation with Adaptive Reed-Solomon Forward Error Correction (FEC) for High grade of service
- Software scalable BW and can be configured either locally or remotely
- Field-replaceable plug-in modules with multiple payload interfaces
 - PDH interfaces: up to 16×E1 & E3
 - Ethernet interfaces: 1×10/100Base-T
- Ethernet-PDH payload throughput-allocation
- ATPC reduces the co channel and adjacent interference
- Auxiliary EOW voice and data channels
- Multilevel local and remote loop back
- Extensive maintenance and operational capabilities
- An advanced SNMP Based Network Management System
- Integrated WEB Server
- Meets all relevant ITU and ETSI standards

Specifications

System Parameters

Frequency ¹ [GHz]	7	8	13	15	18
	7.1 – 8.2	8.2-8.5	12.7-13.3	14.4-15.4	17.7-19.7
Channel Bandwidth 2E1 4E1; 1E1/2E1 + 10/100 Base T 8E1; 1E1/2E1/4E1 + 10/100 Base T 16E1/E3			3.5MHz 7 MHz (QPSK) 14 MHz (QPSK) 28 MHz (QPSK)		
Tx Power	+27 dBm		+23 dBm		
Rx Sensitivity @ 10 ⁻⁹ 2E1 4 E1 8 E1 16 E1/E3			-90.0 dBm -87.0 dBm -84.0 dBm -81.0 dBm		
ATPC Range	≤20 dB				
Frequency Stability	±5 ppm				
Background BER	< 10 ⁻¹³				
Standards Compliance	ETSI EN 302 217-2, ETSI EN 301 489, ETSI EN 300 132-2, IEC EN60950				

¹Contact us for a detailed list of supported frequency plans and T/R spacing

Payload Parameters

Ethernet Payload Interfaces	10/100BaseT(RJ-45)
Standards Compliance	IEEE 802.3u, 802.1Q
PDH Payload Line Rate	E1: 2.048 Mbps; E3: 34.368 Mbps
Interfaces	E1: 120Ω balanced (RJ-45) or 75Ω unbalanced (DB-37); E3: BNC connectors
Standards Compliance	ITU-T G.703
Auxiliary Voice EOW Interface	64Kbps Standard handset interface (RJ-11)
Data Channel1 Interface	9.6 Kbps/64 Kbps configurable V.24 (RJ-45)
Data Channel2 Interface	9.6 Kbps V.11 (RJ-45)

Configuration

Radio Configurations	1+0, 1+1
Radio Protection	Hitless (errorless) switching with hot-standby, frequency and space diversity
Tributary Protection	Single
Loopbacks	Port Loopback, Frame Loopback, IDU IF Loopback, Remote Line Loopback

Mechanical / Environmental

Dimensions	IDU: 48.2cm W x 25.4cm D x 4.4cm H (1RU); ODU: 26.5 cm W x 11cm D x 26.5cm H
Weight	IDU: 3.5 Kg; ODU: 5.5 Kg
Operating Temperature	IDU: -10° to +45°C; ODU: -33° to +60°C
Altitude	Up to 4500 meters
Humidity	IDU: 95% non-condensing; ODU: 100% all-weather
Power Input	-48V DC (-40.V to -60V DC) or +24Vdc
Power Connector	3-pin terminal block
Power Consumption	1+0: ≤65W; 1+1: ≤130W (per Link)
Cooling	Natural convection
ODU-IDU Interface/Cable	ODU: Coaxial N (F) and IDU: TNC (F) / N (M) cable (Belden 9913 / RG-8U) up to 300M
Antenna Interface	Coaxial N-type connector <13 GHz, Direct Mount for ≥13 GHz
Standards Compliance	ETSI ETS 300 019
MTBF	180,000 hours or 20.5 Years

Management

Protocol	SNMP
Local & Remote access	Ethernet 10Base-T(RJ-45)
Software updates (reserved)	RS-232 port (RJ-45)
External Alarms	4 x Photo Coupler Inputs and 5 form-C relay outputs, DB-25 connector
Signal Level Indications	ODU Tx power output and Rx signal level to voltmeter

All technical data are subjected to change without notice.