

XP4 4x/8x DS-1 Microwave Radios



XP4 4x/8x DS-1

- Point-to-point digital microwave radio designed for medium-distance digital interconnection
- Delivers 4x/8x DS-1 data capacities from 18 GHz to 38 GHz
- Embedded software allows simple front panel control of all link operating parameters
- Offers reduced operating costs, simplified provisioning and faster network rollout
- Independent indoor unit (IDU) and outdoor unit (ODU) are connected via a single cable, reducing cost and increasing reliability
- Available options include SNMP Network Management and Automatic Transmit Power Control (ATPC)

XP4 4x/8x DS-1 Specifications

System Parameters

Operating Frequency	18 to 38 GHz
Digital Line Code	AMI or B8ZS

Interface Parameters (ITU-T)

Digital Line Rate	DS-1
Bit Rate	1.544 Mbps

System	18 GHz	23 GHz	24 GHz	28/29/31 GHz	38 GHz
Frequency Range	17.7-19.7 GHz	21.2-23.6 GHz	24.25-25.25 GHz	27.5-31.3 GHz	38.6-40.0 GHz
System Gain at 10 ⁻³ BER (4x/8x)	98 / 95 dB	94 / 91 dB	94 / 91 dB	93 / 90 dB	91 / 88 dB
Tuning Range	300 MHz for 1010 T-R	300 MHz	200 MHz	300 MHz*	350 MHz
Link ID Codes	255	255	255	255	255
T-R Spacing	340, 1560	1200	800	Various	700
<i>*Tuning range is dependent on T-R spacing and channel plan required. Contact your local rep. for further details.</i>					
Transmitter					
Transmitter Source	Synthesized VCO				
Frequency Stability	±10 ppm	±10 ppm	±10 ppm	±10 ppm	±10 ppm
Modulation Type	4 FSK	4 FSK	4 FSK	4 FSK	4 FSK
Emission BW (4x/8x)	5 /10 MHz	5 /10 MHz	5 /10 MHz	5 /10 MHz	5 /10 MHz
Power Output	+18 dBm	+17 dBm	+17 dBm	+16 dBm	+16 dBm
Power Control Range	Max to -8 dBm	Max to -8 dBm	Max to -8 dBm	Max to -8 dBm	Max to -8 dBm
Transmitter Mute Level	<-30 dBm	<-30 dBm	<-30 dBm	<-30 dBm	<-30 dBm
Channel Selection	Digital Synthesizer	Digital Synthesizer	Digital Synthesizer	Digital Synthesizer	Digital Synthesizer
Synthesizer Resolution	0.25 MHz	0.25 MHz	0.25 MHz	0.25 MHz	0.25 MHz
Receiver					
Receiver Source	Synthesized VCO				
Frequency Stability	±10 ppm	±10 ppm	±10 ppm	±10 ppm	±10 ppm
Threshold at 10 ⁻³ BER (4x/8x)	-83/-80 dBm	-82/-79dBm	-82/-79dBm	-82/-79dBm	-80/-76dBm
Threshold at 10 ⁻⁶ BER (4x/8x)	-80/-77 dBm	-77/-74 dBm	-77/-74 dBm	-77/-74 dBm	-75/-72 dBm
Residual Bit Error Rate	RBER < 10 ⁻¹⁰ when RSL is between 15 and 40 dB above BER 10 ⁻³ threshold with FEC enabled				

Data Interfaces

Traffic	Electrical	Physical	Line Code
4x/8x Balanced (120 Ω)	ITU-R G.703	DB25 Female	AMI/B8ZS
AGC Monitor	0 to 5 Vdc	BNC on ODU	
Aux Data Channel	Electrical	Physical	Data Rate
Bal. Data Port #1	EIA RS422*	DB9 Female	72 Kbps synchronous
Unbal. Data Port #2	EIA RS232*	DB9 Female	72 Kbps synchronous
Computer Interface	EIA RS232*	DB9 Female	9600 bps

**Data and clock only; flow control not supported*

Operating Environment

Altitude	15,000 ft (4,500 meters)
Ambient Temperature	IDU -10° to +50° C ODU -33° to +55° C
Reliability	Terminal MTBF 10 years
EMC (ODU & IDU)	ETS 300 385, EN50082-2
Operation (ODU)	ETS 300 019 Class 4.1 (IEC Class 4M3)
Operation (IDU)	ETS 300 019 Class 3.2
Storage (ODU & IDU)	ETS 300 019 Class 1.2
Transport (ODU & IDU)	ETS 300 019 Class 2.3

Electrical

Input Voltage	±21.6 to 72 Vdc
Voltage Tolerance	+20% to -10%
Polarity (DC)	Positive or Negative Ground
Power Consumption	without SNMP Option IDU 11W with SNMP Option IDU 14W 1+1 Protection Switch 11W ODU 34W
Protection Circuit	3.15A Slow-Blow Fuse

Specifications subject to change without notice.

For more information, please contact www.dmcwave.com

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SNMP Option

	Electrical	Physical
VT100 Config. Port	EIA RS232	RJ-45
SNMP Serial Port 1	EIA RS232/422	RJ-45
SNMP Serial Port 2	EIA RS232/422	RJ-45
Coaxial Ethernet Port	Ethernet	BNC (Rear Access)
Thinwire Ethernet Port	Ethernet	RJ-45

Alarms

	Electrical	Physical
Relay Alarm Outputs (5)	Floating Form 'C'	DB15 Female
External Alarm Input (1)	TTL 0V Detector	DB15 Female

Mechanical

	Width	Depth	Height	Weight
IDU	480 mm (19")	247 mm (9.8")	44 mm (1.75")	3.2 kg (7 lb)
1+1 Protection Switch	480 mm (19")	145 mm (9.8")	44 mm (1.75")	2.0 kg (4.5 lb)
	Diameter	Depth	Weight	
ODU	225 mm (8.9")	158 mm (6.2")	3.4 kg (7.4 lb)	

Antenna Port

XP-type interface

Standard waveguide flange options available

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