

DART™ E1/DS-1 Microwave Radios



DART E1/DS-1

- Digital access radio technology for cost efficient point-to-point microwave, single E1/DS-1 data transmission
- Designed for last mile, microcell, picocell, and internet connectivity, the DART offers a viable leased line alternative
- Fully integrated outdoor unit (ODU) eliminates the need for an indoor unit (IDU)
- Optional SNMP compatibility for advanced network management capability
- Simple, user-friendly software allows link commissioning in minutes
- Low component count and efficient design for superior reliability

DART E1/DS-1 Specifications

System Parameters

Operating Frequency	15 to 38 GHz
Digital Line Code	HDB3 (E1), AMI/B8ZS (DS-1)
Residual BER	<10 ⁻¹⁰

Interface Parameters (ITU-T)

Digital Line Rate	E1 or DS-1
Bit Rate	2.048 Mbps (E1), 1.544 Mbps (DS-1)

System	15 GHz	18 GHz	23 GHz	26 GHz	28/29/31 GHz	38 GHz
Frequency Range	14.4-15.35 GHz	17.7-19.7 GHz	21.2-23.6 GHz	24.25-26.5 GHz	27.5-31.3 GHz	37.0-40.0 GHz
System Gain at 10 ⁻⁶ BER	102.0 dB	101.0 dB	102.5 dB	101.0 dB	100.0 dB	96.5 dB
Tuning Range	Up to 300 MHz	Up to 500 MHz	Up to 500 MHz	Up to 500 MHz	Up to 500 MHz	350 MHz (700 MHz T-R) 560 MHz (1260 T-R)
Link ID Codes	1 to 255	1 to 255	1 to 255	1 to 255	1 to 255	1 to 255
T-R Spacings Available	315, 420, 490, 728	1010	1008, 1200, 1232	1008	410, 1975, 225	700, 1260
<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	±10 ppm
Modulation Type	2 FSK	2 FSK	2 FSK	2 FSK	2 FSK	2 FSK
Channel Bandwidth (MHz)	3.5 MHz	3.5 MHz	3.5 MHz	3.5 MHz	3.5 MHz	3.5 MHz
	N/A	N/A	5.0 MHz	N/A	5.0 MHz	5.0 MHz
Output Power	+16 dBm	+16 dBm	+16 dBm	+16 dBm	+16 dBm	+14 dBm
Power Control Range	Max to -5 dBm	Max to -5 dBm	Max to -5 dBm	Max to -5 dBm	Max to -5 dBm	Max to -5 dBm
Transmitter Mute Level	<-30 dBm	<-30 dBm	<-30 dBm	<-30 dBm	<-30 dBm	<-30 dBm
Receiver						
Receiver Source	Synthesized VCO					
Frequency Stability	±10 ppm	±10 ppm	±10 ppm	±10 ppm	±10 ppm	±10 ppm
Threshold at 10 ⁻³ BER	-89.0 dBm	-88.0 dBm	-90.0 dBm	-90.0 dBm	-87.0 dBm	-86.0 dBm
Threshold at 10 ⁻⁶ BER	-86.0 dBm	-85.0 dBm	-86.5 dBm	-85.0 dBm	-84.0 dBm	-82.5 dBm

Operating Environment

Altitude	15,000 ft (4,500 meters)
Ambient Temperature	-33° to +55° C
Operation and Storage	ETS 300 019 (Parts 1 and 2) Class 4.1
EMC	ETS 300 385, EN 50082-2

Electrical

Input Voltage	±24 to 60 Vdc nominal
Polarity (DC)	Positive or Negative Ground
Power Consumption	30W
with SNMP Option	34.5W

External Alarms

Alarm Output	1 - Form C dry contact relay relay normally open
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Mechanical

ODU	
Diameter	269 mm (10.6")
Depth	84 mm (3.3") plus 57 mm (2.2") for multi-pin connector housing
Weight	2.8 kg (6 lb) max

Antenna Port

XP-type interface

Specifications subject to change without notice.

For more information, please contact www.dmcwave.com

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