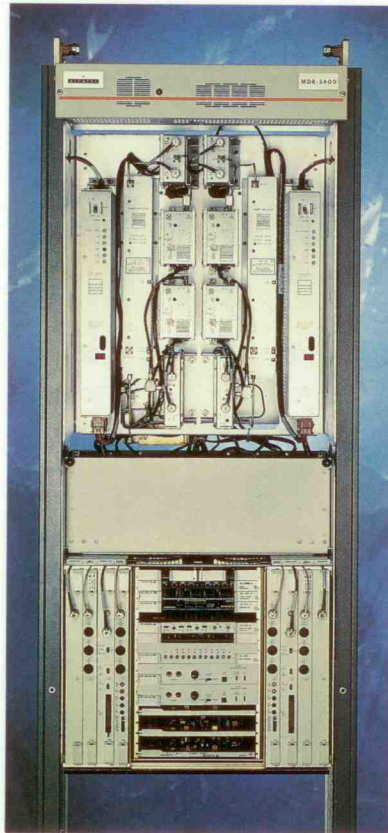


Medium Density Radios

MDR-5600 Series

The MDR-5600 is a new family of radios that provides a single DS3 line capacity in a 10 MHz bandwidth. These radios operate in 6 and 8 GHz.

This radio family includes a wayside low-speed DS1 line that is independent of the DS3 and available fully protected. The wayside DS1 can provide low-cost service (or drop and insert) at remote areas along the route. The MDR-5600 also provides errorless receiver switching, and 1+1 frequency diversity systems.



Features

- Wayside DS1 line
- Superior dispersive fade margins
 - Standard decision-feedback time domain equalizer
- Forward error correction (64 QAM)
- Error-free receiver switching
- Link monitor channel
- 4 x 64 kb/s service channels
- Automatic transmit power control *standard*
- Supports various configurations
 - Non-protected
 - Hot-standby
 - Space diversity
 - Frequency diversity
- Two-year warranty

Table 1-1 MDR-5606/5606i Physical, Environmental, and Electrical Characteristics (cont)

ITEM	CHARACTERISTICS	
4. Transmitter Characteristics		
a. RF Output	MDR-5606	MDR-5606i
Low-power option	+15 dBm	+17 dBm
High-power option	+31 dBm	+33 dBm
Standard	+29 dBm	+31 dBm
b. RF Bandwidth	10 MHz	14 MHz
c. Modulation Type	64 QAM	16 QAM
d. Modulation Capacity	1 DS3	1 E3
e. Data Rate (Mb/s)	44.736	34.368
f. Efficiency (b/s per Hz)	4.5	2.5
g. Baud Rate (Mb/s)	8.140	9.310
h. Baseband Level (transmitter)	+2 dBm ±0.5 dB	+4 dBm ±0.5 dB
i. Frequency Stability (-30 to +50°C)	±0.001%	±0.001%
5. Receiver Characteristics		
a. Maximum Receive Signal (10 ⁻³ BER)	-12 dBm	-12 dBm
b. Receiver Threshold (nonstandby system)		
Typical 10 ⁻³ BER	-78 dBm	-81 dBm
Typical 10 ⁻⁶ BER	-76 dBm	-79 dBm
c. System Gain, Typical (standard power)		
10 ⁻³ BER	107 dB	112 dB
d. Dispersive Fade Margin, Typical		
Minimum @ 10 ⁻³ BER	59 dB	58 dB
e. Threshold/Interference (Cochannel), Typical	30 dB	30 dB

Table 1-1 MDR-5606/5606i Physical, Environmental, and Electrical Characteristics (cont)

ITEM	CHARACTERISTICS	
5. Receiver Characteristics (cont)	MDR-5606	MDR-5606i
f. Baseband Level (demodulator output)	-6 dBm ±2 dB	-6 dBm ±2 dB
g. Noise Bandwidth	8.140 mHz	9.310 mHz
h. Receive Noise Figure (includes branching loss)	3.7 dB typical	3.7 dB typical
i. Threshold/Interference (Adjacent Channel), Typical	-8 dB	-14 dB
j. BER, Normal Propagation	Typically less than 1 X 10 ⁻¹¹	
k. Antenna Port Return Loss	20.0 dB minimum	
6. DS1 Interface Characteristics		
a. Line Rate	1.544 Mb/s ±130 ppm	
b. Line Impedance	110 ohms ±5%, balanced	
c. Line Code	AMI bipolar, with at least 12.5% average 1s density, and no more than 15 consecutive 0s. B8ZS strapping option available.	
d. Power Levels	For an all-1s transmitted pattern, the power in a 2 kHz band about 772 kHz shall be between 12.6 and 17.9 dBm, and the power in 2 kHz band about 1544 kHz shall be at least 29 dB lower than that at 772 kHz.	
e. Intrinsic Jitter	Less than 0.3 time slot of RMS jitter	
f. Jitter Tolerance	Jitter tolerance meets both North American and CCITT performance standards. Tolerance is defined as no errors for 15 seconds.	
g. Jitter Attenuation	Jitter attenuation meets both North American and CCITT performance standards.	
h. Cross-Connect Distance	660 ft maximum	
7. CEPT Interface (E1) Characteristics		
a. Line Rate	2.048 Mb/s ±130 ppm	
b. Line Impedance	120 ohms nominal, line-to-line	
c. Line Code	High-density bipolar with 3 zeroes maximum (HDB3)	