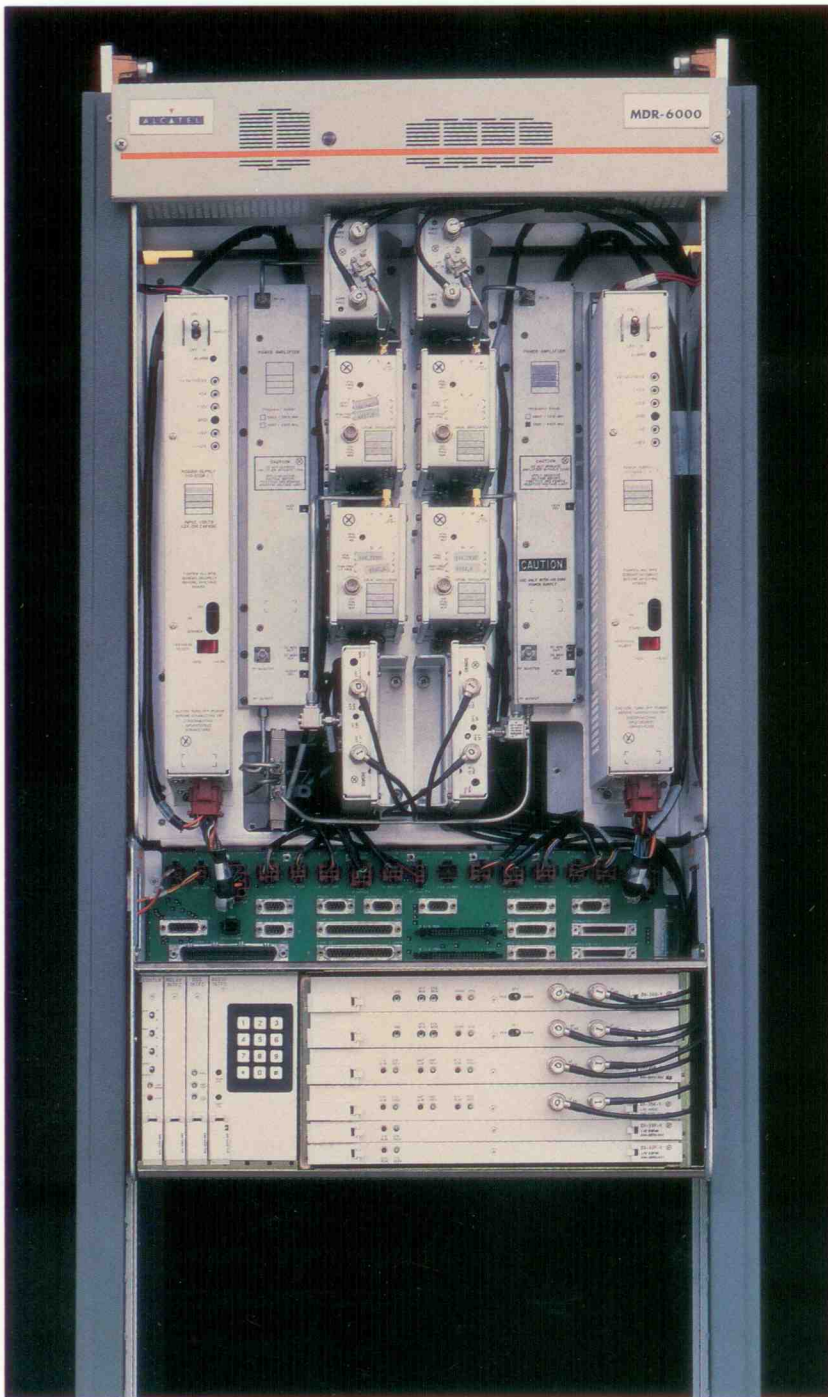


# 10-GHz Digital Radio

MDR-6X10

## Features

- ▼ Capacities to fit your needs:
  - 2, 4, 8, 12 and 16 DS1s
  - Expand with no price penalty
- ▼ In-service capacity upgrades
- ▼ State of the art modulation choices
  - 32 TCM for maximum system gain
  - 128 TCM for maximum spectrum efficiency
- ▼ Exceeds all new FCC rules
- ▼ Digital filtering ensures superior frequency coordination characteristics
- ▼ Error-free receiver switching
- ▼ Link monitor channel
- ▼ Time domain equalizer *standard*
- ▼ Automatic power control *standard*
- ▼ Two year warranty



ALCATEL  
NETWORK SYSTEMS

## Technical Summary

	MAXIMUM SYSTEM GAIN				
	<u>MDR-6510-2</u>	<u>MDR-6510-4</u>	<u>MDR-6510-8</u>	<u>MDR-6510-12</u>	<u>MDR-6510-16</u>
Frequency band (GHz)	10.55 - 11.7	10.55 - 11.7	10.55 - 11.7	10.55 - 11.7	10.55 - 11.7
Emission designator	1M25D7W	2M50D7W	3M75D7W	N/A	N/A
RF channel bandwidth (MHz)	1.25	2.5	3.75	5.25	7.0
Capacity/RF channel (DS1s)	2	4	8	12	16
Modulation (TCM)	32	32	32	32	32
FCC identifier	JF6-9409	JF6-9410	JF6-9411	N/A	N/A
System gain (BER = 10 <sup>-6</sup> ) (dB)*	109	106	103	101	100
Transmitter power output (dBm)*	23	23	23	23	23
Optional power outputs (dBm)*	15, 27	15, 27	15, 27	15, 27	15, 27
Receiver threshold (BER = 10 <sup>-6</sup> ) (dBm)*	-86	-83	-80	-78	-77
Maximum RSL for 10 <sup>-3</sup> BER (dBm)	-10	-10	-10	-10	-10
Dispersive fade margin	68	64	55	52	50
Threshold/Interference					
Cochannel (dB)	28	28	28	28	28
Adjacent channel (dB)	-8	-8	-8	-8	-8

	MAXIMUM SPECTRAL EFFICIENCY				
	<u>MDR-6710-2</u>	<u>MDR-6710-4</u>	<u>MDR-6710-8</u>	<u>MDR-6710-12</u>	<u>MDR-6710-16</u>
Frequency band (GHz)	10.55 - 11.7	10.55 - 11.7	10.55 - 11.7	10.55 - 11.7	10.55 - 11.7
Emission designator	800KD7W	1M25D7W	2M50D7W	3M75D7W	5M00D7W
RF channel bandwidth (MHz)	0.8	1.25	2.5	3.75	5.0
Capacity/RF channel (DS1s)	2	4	8	12	16
Modulation (TCM)	128	128	128	128	128
FCC identifier	JF6-9412	JF6-9413	JF6-9414	JF6-9415	JF6-9416
System gain (BER = 10 <sup>-6</sup> ) (dB)*	105	102	99	97	96
Transmitter power output (dBm)*	23	23	23	23	23
Optional power outputs*	15, 27	15, 27	15, 27	15, 27	15, 27
Receiver threshold (BER = 10 <sup>-6</sup> ) (dBm)*	-82	-79	-76	-74	-73
Maximum RSL for 10 <sup>-3</sup> BER (dBm)	-10	-10	-10	-10	-10
Dispersive fade margin	71	67	58	55	53
Threshold/Interference					
Cochannel (dB)	34	34	34	34	34
Adjacent channel (dB)	-8	-8	-8	-8	-8

## Power Requirements

Input voltage	±19 V dc to ±56 V dc
Typical power consumption per T/R	100 watts

## Mechanical Dimensions and Interfaces

Size	.33.25 x 19.0 x 14.5 in.
Weight (Hot-standby terminal)	150 lb.
RF In/Out	WR-75 4-hole rectangle
DS1 In/Out	Two 37 pin D-type (one xmtr, one rcvr)
Orderwire handset	Standard telephone handset jack

## Environmental

Ambient temperature	
Specification compliant	0° to 50°C
Operating without failure	-20° to 70°C
Storage	-40° to 80°C
Relative humidity	5 to 95% noncondensing
Altitude	
Operating	-350 to 16,500 ft
Nonoperating	-350 to 40,000 ft
Duty	Continuous, unattended

NOTE: These specifications are subject to change without notice.

\* Typical as measured at the antenna port of branching circulator (includes branching losses) for nonstandby and hot-standby/space diversity configurations. Hot-standby configurations will have 1 dB less receiver threshold on the A side and 10 dB less receiver threshold on the B side.