

## **EXHIBIT 6.**

### **USER'S MANUAL**

The MDR-8000 series Microwave Digital Radios (see Figure ) consists of:

- Solid-state, licensed, digital radios that provide transport for DS1 and E1 in 1.85, 2, 6, 7, 8, 10, and 11 GHz RF bands, DS3 in 2, 6, 7, 8, and 11 GHz RF bands, and OC3 in 6, 7, 8, and 11 GHz RF bands
- Solid-state, unlicensed digital radios that provide transport for DS1 and DS3 in the 5 GHz RF frequency band.

The following capacities and modulation schemes are available:

- MDR-8000 – 2, 4, 8, 12, or 16 North American Standard DS1 channels at either 32 or 128 TCM or 1, 2, or 3 North American Standard DS3 channels with 1, 2, or 3 wayside DS1 channels at 64 QAM
- MDR-8000i – 2, 4, 8, 12, or 16 CCITT E1 channels at either 32 or 128 TCM
- MDR-8000s – OC3 (3 North American Standard STS1 channels with 3 wayside DS1 channels) or 1 STS1 channel with one wayside DS1 at 128 TCM
- MDR-8000u – 2, 4, 8, or 16 North American Standard DS1 channels at 32 TCM or 1 North American Standard DS3 channel with 1 wayside DS1 channel at 64 QAM.

#### **SHELF CONFIGURATIONS**

The MDR-8000 is available in two shelf configurations: hot-standby and CommPak.

##### **HOT STANDBY SHELF**

The MDR-8000 hot-standby shelf is wired hot-standby and can be configured non-standby, where only the A-side is populated, or hot-standby, where both the A- and the B-sides are populated. The hot-standby shelf fits into a standard 19 in. (483 mm) rack and occupies seven vertical rack increments. Up to four fully equipped hot-standby radios can be mounted in a standard 7 ft. rack. The radio is front accessible and can be mounted against a wall or back-to-back against other equipment.

##### **COMMPAK RADIO**

The MDR-8000 CommPak radio is available as a full indoor shelf or outdoor unit in a cabinet.

##### **COMMPAK INDOOR SHELF**

The CommPak indoor shelf is wired and configured non-standby only. The indoor shelf

fits into a standard 19 in. (483 mm) rack and occupies four vertical rack increments (7 in.). The radio is front accessible and can be mounted against a wall or back-to-back against other equipment.

#### COMMPAK OUTDOOR UNIT

The MDR-8000 outdoor unit consists of the CommPak indoor shelf mounted vertically in a 20 in. high x 7.5 in. wide x 12.5 in. deep enclosure.

#### STANDARD FEATURES

Standard features include:

- Frequency bands from 1.85 to 11 GHz
- Committee of European Post and Telegraph (CEPT)/Federal Communications Commission (FCC) applications
- DS1, E1, DS3, and OC3 Traffic capacities
- International Telecommunications Union (ITU)/ETSI/FCC compliant
- Five configuration options
- Upstream management compatibility.
- User-friendly Personal Computer (PC) monitor and control
- Automatic Transmitter Power Control (ATPC)
- Adaptive Time Domain Equalization (TDE)
- Extended Link Monitor Channel (ELMC)
- MCS-11/Telemetry Byte Oriented Serial (TBOS) Alarm/Control Interface
- Two independent PCM audio channels

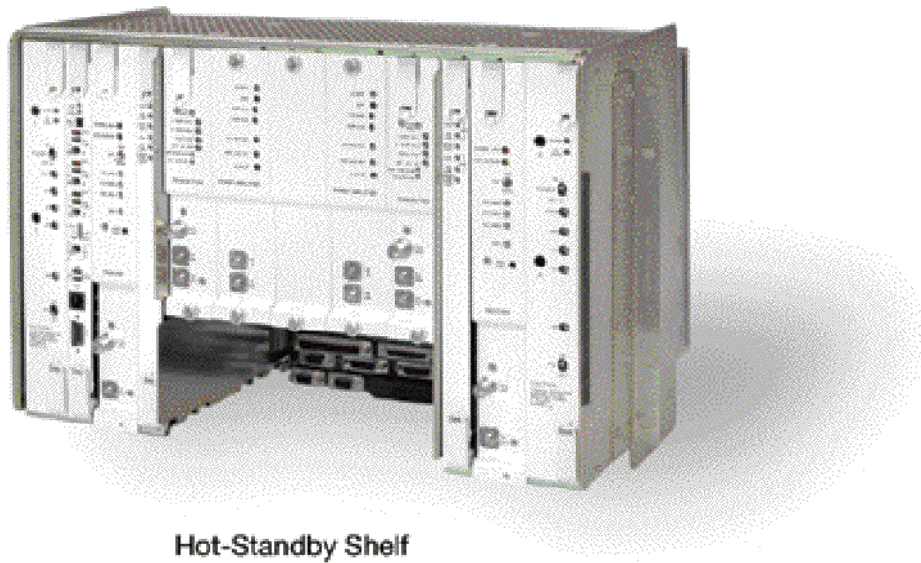


Figure 1 Typical MDR-8000 Series Microwave Digital Radio

Table Physical, Environmental, and Electrical Characteristics

ITEM		CHARACTERISTICS	
PHYSICAL CHARACTERISTICS			
Dimensions	WIDTH	DEPTH	HEIGHT
Hot-Standby Shelf	483 mm (19 in.)	406.4 mm (16.25 in.)	311.15 mm (12.25 in.)
CommPak Indoor Shelf	483 mm (19 in.)	406.4 mm (16.25 in.)	177.8 mm (7.0 in.)
Weight	(Hot-Standby Terminal) 38.6 kg (85 lbs)		
ENVIRONMENTAL CHARACTERISTICS			
Ambient Temperature			
Spec Compliant		32° to 122°F (0° to 50°C)	
Operating Without Failure		- 4° to 158°F (- 20° to 70°C)	
Nonoperating		- 40° to 176°F (- 40° to 80°C)	
Altitude			
Operating		-350 to 16500 ft (-100 to 5000 m)	
Nonoperating		-350 to 40000 ft (-100 to 12000 m)	
Relative Humidity		5 to 95 percent (without condensation)	
Vibration and Shock		Normal Storage and Handling	
Duty Cycle		Continuous, unattended	
COMMON ELECTRICAL CHARACTERISTICS			
Primary Input Voltage		±20.5 to ±60.0 Vdc	
RF CHANNEL FREQUENCY (MHZ)			
MDR-8X02/i-X		1850-2285	
MDR-8X05u-X		5725-5850	
MDR-8X06/i/s-X		5850-7125	
MDR-8X07/i/s-X		7125-7750	
MDR-8X08/i/s-X		7700-8500	
MDR-8X10/i/s-X		10440-10680	
MDR-8X11/i/s-X		10700-11700	
XMT OUTPUT POWER (DBM, NOMINAL)		XMTR (NO PA)	OPTIONAL PA INSTALLED
MDR-8X02/i-X		+14	+30 or +33
MDR-8505u-X		+15	+25 or +30
MDR-8605u-X		+14	+23 or +29
MDR-8X06/i/s-X		+14	+23 or +29 or +31
MDR-8X07/i/s-X		+14	or +33

MDR-8X08/i/s-X	+14	+28 or +30
MDR-8X10/i/s-X	+15	+28 or +30 or +32
MDR-8X11/i/s-X	+15	+23 or +27 or +29
		+23 or +27 or +29

Note: XMT Power Referenced at the SMA output of the diplexer filter or the top of the stack for waveguide stacking configurations.

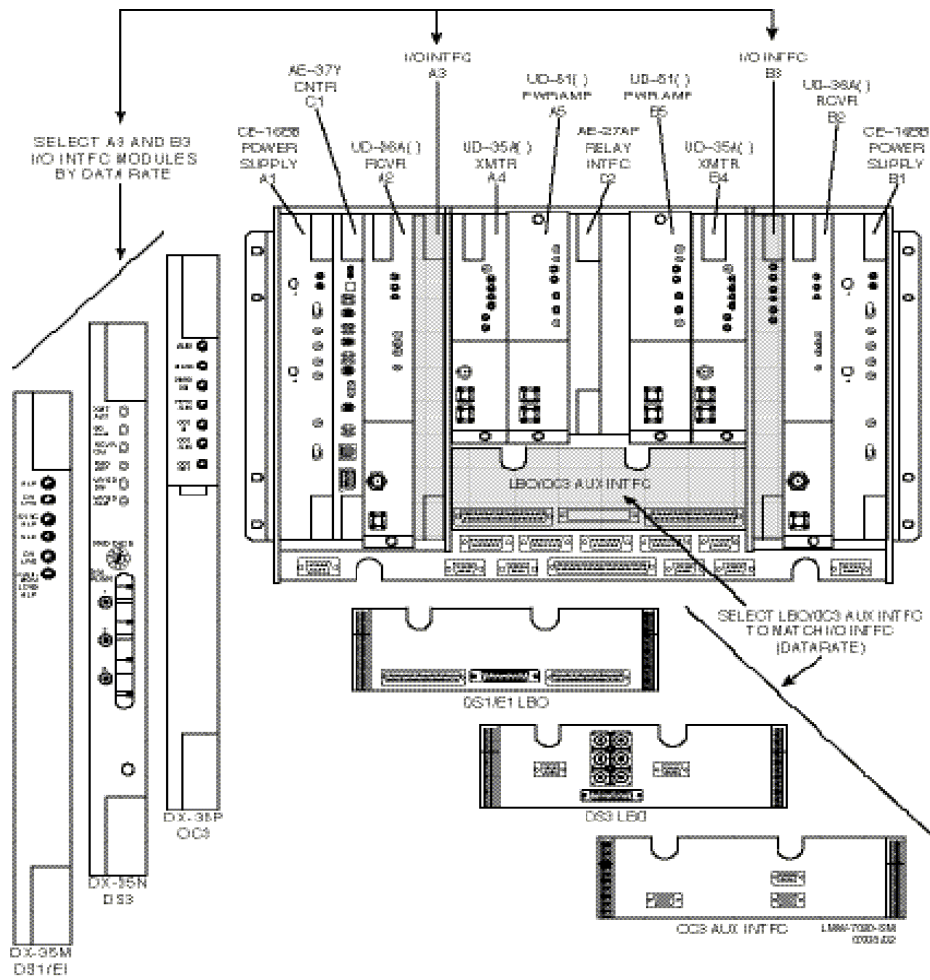


Figure 1. Typical MDR-8000 Hot-Standby Shelf Component