



XPR™ 8300 Repeater

MOTOTRBO™



MOTOTRBO™

ACCELERATE PERFORMANCE.



Introducing MOTOTRBO™ Professional Digital Two-Way Radio System. The future of two-way radio.

MOTOTRBO combines the best in two-way radio functionality with digital technology to deliver increased capacity and spectrum efficiency, integrated data communications and enhanced voice communications. MOTOTRBO is ideal for professional organizations that need a customizable, business-critical communication solution.

Unique MOTOTRBO System Benefits for Enhanced Productivity

MOTOTRBO offers a private, standards-based, cost-effective solution with a complete system of portable radios, mobile radios, repeaters, accessories, data applications and services. It:

- Provides **twice the calling capacity** (as compared to analog radios) for the price of one license. A second call doesn't require a second repeater.
- Supports **integrated applications** including MOTOTRBO Text Messaging Services and an integrated GPS module for use with third-party location-tracking applications.
- Provides **clearer voice communications**, in digital mode, throughout the coverage area as compared to analog radios.
- Offers **enhanced battery life**.
- **Enables additional functionality** including dispatch data, enhanced call signaling, and basic privacy-scrambling.
- Provides **easy migration** from analog to digital, as the repeater can be programmed to operate in analog or digital mode.
- Is **fully backed** by a limited two-year warranty.

MOTOTRBO™ System Components and Benefits



XPR™ 8300 Repeater

- 1 100% continuous duty at 40W/UHF and 45W/VHF.
- 2 Supports two simultaneous voice or data paths in digital TDMA mode.
- 3 Integrated power supply.
- 4 Operates in analog or digital mode—bright, clear, colored LEDs indicate mode.
- 5 LEDs clearly indicate transmit and receive modes in both channel slots.
- 6 Rack- or wall-mountable—compatible with desktop housing as well.
- 7 Sturdy handles make installation and handling easier.
- 8 Automated battery back-up (battery sold separately).

Repeater Standard Package

- Repeater
- 120V AC Power Cord
- Installation Guide
- Two-year Standard Warranty

Accessories

Part #	Description	Benefits
Duplexers and Accessories		
HFE8400	UHF Untuned Duplexer, 406-450MHz	Allows the use of just one antenna that both transmits and receives.
RFE4000	UHF Untuned Duplexer, 450-470MHz	
TDE7780	UHF Tuned Duplexer, 450-470 MHz	
HFD8188	VHF Untuned Duplexer, 144-155 MHz	
HFE8401	UHF Untuned Duplexer, 470-490 MHz	
HFE8454	UHF Untuned Duplexer, 490-512 MHz	
HFD8189	VHF Untuned Duplexer, 155-162 MHz	
HFD8190	VHF Untuned Duplexer, 162-174 MHz	
HFD 8465	VHF Tuned Duplexer, 150-160 MHz	
PMLE4548	Rack-mount Duplexer/Filter Enclosure Kit	
0112004B04	N Type Male to N Type Male Duplexer Cable - 24 in	Connects external duplexer to repeater.
0112004U04	N Type Male to BNC Male Duplexer Cable - 24 in	
Mounting		
PMLE4476	Wall Mount Kit for XPR 8300	Includes brackets and screws to easily mount XPR 8300 to the wall.

Antennas		
RDE4554	UHF 488-512 MHz 3.8dB Gain Antenna	
RDE4555	UHF 470-488 MHz 3.8dB Gain Antenna	
RDE4556	UHF 3.8 dB Gain Antenna	
RDD4527	VHF 136-144 MHz ¼ Wave Antenna	
Preselector		
HFE8459	UHF Preselector, 440-474MHz	Provides additional isolation for the receiver in RF dense sites.
HFE8460	UHF Preselector, 474-512 MHz	
HFD8461	VHF Preselector, 144-160 MHz	
HFD8462	VHF Preselector, 160-174 MHz	
Lightening Protection		
RRX4025	Lightening Arrestor	Provides lightning and grounding protection to the repeaters.
RRX4032	Tower Mounting Hardware	
RRX4038	Surge Suppressor	
Miscellaneous		
RKN4152	Battery Back-up Cable	
3087791G01	120V AC Line Cord	

MOTOTRBO™ Repeater Specifications



UHF XPR™ 8300

	XPR 8300		
	VHF	UHF Band I	UHF Band II
Channel Capacity	1		
Technical RF Output	1-25 W 25-45 W	1-25 W 25-40 W	— 1-40 W
Frequency	136-174 MHz	403-470 MHz	450-512 MHz
Dimensions (HxWxL)	5.22 x 19 x 11.67 in (132.6 x 482.6 x 296.5 mm)		
Weight	31 lbs (14 kg)		
Voltage Requirements	100-240 V AC (13.6 V DC)		
Current Drain During Standby: Low Power High Power	1 A (1 A DC typical) 1 A (1 A DC typical)		
Current Drain During Transmit: Low Power High Power	3 A (7.5 A DC typical) 4 A (12 A DC typical)		
Operating Temperature Range	-30°C to +60°C		
Max Duty Cycle	100%		
FCC Description	1-25 W: ABZ99FT3026 25-45 W: ABZ99FT3025	1-25 W: ABZ99FT4026 25-40 W: ABZ99FT4025	1-40 W: ABZ99FT4027
IC Description	1-25 W: 109AB-99FT3026 25-45 W: 109AB-99FT3025	1-25 W: 109AB-99FT4026 25-40 W: 109AB-99FT4025	1-40 W: 109AB-99FT4027

	XPR 8300		
	VHF	UHF Band I	UHF Band II
Frequencies	136-174 MHz	403-470 MHz	450-512 MHz
Channel Spacing	12.5 kHz / 25 kHz		
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm		
Analog Sensitivity (12 dB SINAD)	0.30 uV 0.22 uV (typical)		
Digital Sensitivity	5% BER: 0.3 uV		
Intermodulation (TIA603C)	78 dB	75 dB	
Adjacent Channel Selectivity: TIA603 TIA603C	65 dB @ 12.5 kHz, 80 dB @ 25 kHz 50 dB @ 12.5 kHz, 80 dB @ 25 kHz	65 dB @ 12.5 kHz, 75 dB @ 25 kHz 50 dB @ 12.5 kHz, 75 dB @ 25 kHz	
Spurious Rejection	80 dB	75 dB	
Audio Distortion @ Rated Audio	3% (typical)		
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Audio Response	TIA603C		
Conducted Spurious Emission	-57 dBm		

	XPR 8300		
	VHF	UHF Band I	UHF Band II
Frequencies	136-174 MHz	403-470 MHz	450-512 MHz
Channel Spacing	12.5 kHz / 25 kHz		
Frequency Stability (-30° C, +60° C, +25° C Ref.)	+/- 0.5 ppm		
Power Output: Low Power High Power	1-25 W 25-45 W	1-25 W 25-40 W	— 1-40 W
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz		
FM Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Conducted / Radiated Emission	-36 dBm < 1 GHz -30 dBm > 1 GHz		
Adjacent Channel Power (TIA603C)	60 dB @ 12.5 kHz 70 dB @ 25 kHz		
Audio Response	TIA603C		
Audio Distortion	3%		
FM Modulation	12.5 kHz: 11K0F3E 25 kHz: 16K0F3E		
4FSK Digital Modulation	12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE		
Digital Vocoder Type	AMBE+2™		
Digital Protocol	ETSITS 102 361-1, -2, -3		

