



MOTOTRBO™

Professional Digital Two-Way Radio System



A **complete two-way radio system** that includes portable and mobile radios, repeaters, accessories, and applications

Uses Time-Division Multiple-Access (TDMA) digital technology which **doubles the number of users** you can have on a single licensed 12.5 kHz channel

Integrates voice and data to increase operational efficiency

Provides **clearer voice communications** throughout the coverage area as compared to analog radios

Portables offer up to **40 percent longer battery** life between recharges as compared to typical analog radios

Enables additional functionality including **dispatch data, and enhanced call signaling**

GPS models XiR P8268/ XiR M8268 can **transmit location coordinates** upon press of emergency button, using Location Services application

Allows **easy migration** from analog to digital as all units operate in both modes

Meets **IP57 submersibility standard** (portable models) along with U.S. Military Standards 810 C, D, E, and F and Motorola standards for durability and reliability. Is **intrinsically safe** and can be used in locations where flammable gas, vapors or combustible dust may be present

Portable radios meet **FM approvals**. Approved FM battery option is a 1400 mAh slim Lilon FM battery

Utilises **state-of-the-art IMPRES technology** in batteries, chargers and audio accessories, providing longer talk time and clearer audio delivery

Optional **IP Site Connect** allows networks up to 15 repeaters to expand voice & data coverage

Optional **Capacity Plus** allows a large group of MOTOTRBO radio users to share both voice and data communication on the same single site system

Accelerate performance.

The next-generation professional two-way radio communications solution is here, with more performance, productivity and value—thanks to digital technology that delivers increased capacity and spectrum efficiency, integrated data communications and enhanced voice communications.

MOTOTRBO offers you a private, standards-based, cost-effective solution that can be tailored to meet your unique coverage and feature needs. This versatile portfolio provides a complete system of portable radios, mobile radios, repeaters, accessories and data applications.

General Specifications*

	XiR P8260 Display Non GPS Model XiR P8268 Display GPS Model			XiR P8200 Non-Display Non-GPS Model XiR P8208 Non-Display GPS Model		
	UHF	VHF		UHF	VHF	
Channel Capacity	1000			32		
Frequency	403-470 MHz	450-512 MHz	136-174 MHz	403-470 MHz	450-512 MHz	136-174 MHz
Dimension (HxWxD) w/ 1500 mAh Lilon Battery	131.5 x 63.5 x 35.2 mm			131.5 x 63.5 x 35.2 mm		
Weight (with 1500 mAh Lilon Battery)	360g (12.7 oz)			360g (12.7 oz)		
(with 2200 mAh Lilon Battery)	361g (12.8 oz)			361g (12.8 oz)		
(with 1400 mAh Lilon FM Battery)	370g (13 oz)			370g (13 oz)		
Power Supply	7.5V nominal			7.5V nominal		
FCC Description	AZ489FT4876	AZ489FT4884	AZ489FT3815	AZ489FT4876	AZ489FT4884	AZ489FT3815
Average battery life at 5/5/90 duty cycle with battery saver enabled in carrier squelch and transmitter in high power.						
IMPRES 1500 mAh Lilon Battery	Analog: 9 hrs Digital: 13 hrs			Analog: 9 hrs Digital: 13 hrs		
IMPRES 2200 mAh Lilon Battery	Analog: 13.5 hrs Digital: 19 hrs			Analog: 13.5 hrs Digital: 19 hrs		
IMPRES FM 1400 mAh Battery	Analog: 8.5 hrs Digital: 12 hrs			Analog: 8.5 hrs Digital: 12 hrs		

Receiver

	403-470 MHz	450-512 MHz	136-174 MHz	403-470 MHz	450-512 MHz	136-174 MHz
Frequencies						
Channel Spacing	12.5 kHz/ 25 kHz			12.5 kHz/ 25 kHz		
Frequency Stability (-30° C, +60° C, +25° C)	+/- 1.5 ppm (XiR P8260) +/- 0.5 ppm (XiR P8268)			+/- 1.5 ppm (XiR P8200) +/- 0.5 ppm (XiR P8208)		
Analog Sensitivity	0.35 uV (12 dB SINAD) 0.4 uV (20 dB SINAD) 0.22 uV (typical)			0.35 uV (12 dB SINAD) 0.4 uV (20 dB SINAD) 0.22 uV (typical)		
Digital Sensitivity	5% BER: 0.3 uV			5% BER: 0.3 uV		
Intermodulation						
TIA603C	70 dB			70 dB		
ETSI	65 dB			65 dB		
Adjacent Channel Selectivity	60 dB @ 12.5 kHz 70 dB @ 25 kHz			60 dB @ 12.5 kHz 70 dB @ 25 kHz		
Spurious Rejection	70 dB			70 dB		
Rated Audio	500 mW			500 mW		
Audio Distortion @ Rated Audio	3% (typical)			3% (typical)		
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz			-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Audio Response	+1, -3 dB			+1, -3 dB		
Conducted Spurious Emission	-57 dBm			-57 dBm		

Transmitter

	403-470 MHz	450-512 MHz	136-174 MHz	403-470 MHz	450-512 MHz	136-174 MHz
Frequencies						
Channel Spacing	12.5 kHz / 25 kHz			12.5 kHz / 25 kHz		
Frequency Stability (-30° C, +60° C, +25° C)	+/- 1.5 ppm (XiR P8260) +/- 0.5 ppm (XiR P8268)			+/- 1.5 ppm (XiR P8200) +/- 0.5 ppm (XiR P8208)		
Power Output						
Low Power	1W		1W	1W		1W
High Power	4W		5W	4W		5W
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz			+/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz		
FM Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz			-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Conducted / Radiated Emission	-36 dBm < 1 GHz -30 dBm > 1 GHz and < 4GHz			-36 dBm < 1 GHz -30 dBm > 1 GHz and < 4GHz		
Adjacent Channel Power	-60 dB @ 12.5 kHz -70 dB @ 25 kHz			-60 dB @ 12.5 kHz -70 dB @ 25 kHz		
Audio Response	+1, -3 dB			+1, -3 dB		
Audio Distortion	3%			3%		
FM Modulation	12.5 kHz : 11K0F3E 25 kHz: 16K0F3E			12.5 kHz : 11K0F3E 25 kHz: 16K0F3E		
4FSK Digital Modulation	12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE			12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE		
Digital Vocoder Type	AMBE+2™			AMBE+2™		
Digital Protocol	ETSI-TS102 361-1			ETSI-TS102 361-1		

GPS

Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)	
TTF (Time To First Fix) Cold Start	< 1 minute
TTF (Time To First Fix) Hot Start	< 10 seconds
Horizontal Accuracy	< 10 meters

Environmental Specifications

Operating Temperature	-30° C / +60° C
Storage Temperature	-40° C / +85° C
Thermal Shock	Per MIL-STD
Humidity	Per MIL-STD
ESD	IEC-801-2KV
Water Intrusion	IEC 60529 - IP57
Packaging Test	MIL-STD 810D and E

Factory Mutual Approvals

MOTOTRBO XiR Portable series radios have been certified by FM Approvals in accordance with Canada and U.S. Codes as intrinsically safe for use in Class I, II, III, Division 1, Groups C,D,E,F,G, when properly equipped with a Motorola FM approved battery option. They are also approved for use in Class I, Division 2, Groups A, B, C, D.

*Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.

Conforms to
EC 1999/5/EC (R&TTE - Radio and Telecommunications Terminal Equipment)
EN 300 086
EN 300 113

General Specifications*

	XiR M8260 Display Non GPS Model XiR M8268 Display GPS Model			XiR M8220 Non-Display Non-GPS Model XiR M8228 Non-Display GPS Model		
	UHF		VHF	UHF		VHF
Channel Capacity	1000			32		
Frequencies	403-470 MHz	450-512 MHz	136-174 MHz	403-470 MHz	450-512 MHz	136-174 MHz
Dimension (HxWxT)	51 x 175 x 206 mm			51 x 175 x 206 mm		
Weight	1.8 kg (4.0 lbs)			1.8 kg (4.0 lbs)		
Current Drain (High Power)	0.81 A max			0.81 A max		
Standby	2 A max			2 A max		
Rx @ Rated Audio	14.5 A max			14.5 A max		
Tx @ Rated Audio	13.8 VDC			13.8 VDC		
Power Supply						
FCC Description	1-25W : ABZ99FT4081 25-40W : ABZ99FT4080	1-40W: ABZ99FT4083	1-25W : ABZ99FT3083 25-45W : ABZ99FT3082	1-25W : ABZ99FT4081 25-40 W : ABZ99FT4080	1-40W: ABZ99FT4083	1-25 W : ABZ99FT3083 5-45 W : ABZ99FT3082

Receiver								
	403-470 MHz		450-512 MHz	136-174 MHz	403-470 MHz		450-512 MHz	136-174 MHz
Frequencies	403-470 MHz		450-512 MHz	136-174 MHz	403-470 MHz		450-512 MHz	136-174 MHz
Channel Spacing	12.5 kHz/ 25 kHz		12.5 kHz/ 25 kHz		12.5 kHz/ 25 kHz		12.5 kHz/ 25 kHz	
Frequency Stability	+/- 1.5 ppm (XiR M8260)		+/- 1.5 ppm (XiR M8268)		+/- 1.5 ppm (XiR M8220)		+/- 0.5 ppm (XiR M8228)	
(-30° C, +60° C, +25° C)	+/- 0.5 ppm (XiR M8268)		+/- 0.5 ppm (XiR M8268)		+/- 0.5 ppm (XiR M8228)		+/- 0.5 ppm (XiR M8228)	
Analog Sensitivity	0.3 uV (12 dB SINAD)		0.3 uV (12 dB SINAD)		0.3 uV (12 dB SINAD)		0.4 uV (20 dB SINAD)	
	0.4 uV (20 dB SINAD)		0.4 uV (20 dB SINAD)		0.4 uV (20 dB SINAD)		0.4 uV (20 dB SINAD)	
	0.22 uV (typical)		0.22 uV (typical)		0.22 uV (typical)		0.22 uV (typical)	
Digital Sensitivity	5% BER: 0.3 uV		5% BER: 0.3 uV		5% BER: 0.3 uV		5% BER: 0.3 uV	
Intermodulation	75 dB		78 dB		75 dB		78 dB	
TIA603C	60 dB		60 dB		60 dB		60 dB	
ETS	60 dB @ 12.5 kHz		70 dB @ 25 kHz		60 dB @ 12.5 kHz		70 dB @ 25 kHz	
Adjacent Channel Selectivity (TIA603, ETS)	60 dB @ 12.5 kHz		70 dB @ 25 kHz		60 dB @ 12.5 kHz		70 dB @ 25 kHz	
Spurious Rejection	75 dB		80 dB		75 dB		80 dB	
TIA603C	70 dB		70 dB		70 dB		70 dB	
ETS	70 dB		70 dB		70 dB		70 dB	
Rated Audio	3 W (Internal)		3 W (Internal)		3 W (Internal)		3 W (Internal)	
	7.5 W (External - 8 ohms)		7.5 W (External - 8 ohms)		7.5 W (External - 8 ohms)		7.5 W (External - 8 ohms)	
	13 W (External - 4 ohms)		13 W (External - 4 ohms)		13 W (External - 4 ohms)		13 W (External - 4 ohms)	
Audio Distortion @ Rated Audio	3% (typical)		3% (typical)		3% (typical)		3% (typical)	
Hum and Noise	-40 dB @ 12.5 kHz		-40 dB @ 12.5 kHz		-40 dB @ 12.5 kHz		-40 dB @ 12.5 kHz	
	-45 dB @ 25 kHz		-45 dB @ 25 kHz		-45 dB @ 25 kHz		-45 dB @ 25 kHz	
Audio Response	+1, -3 dB		+1, -3 dB		+1, -3 dB		+1, -3 dB	
Conducted Spurious Emission	-57 dBm		-57 dBm		-57 dBm		-57 dBm	

Transmitter								
	403-470 MHz		450-512 MHz	136-174 MHz	403-470 MHz		450-512 MHz	136-174 MHz
Frequencies	403-470 MHz		450-512 MHz	136-174 MHz	403-470 MHz		450-512 MHz	136-174 MHz
Power Output	1-25 W		1-40 W	1-25 W	1-25 W		1-40 W	1-25 W
Low Power	25-40 W			25-45 W	25-40 W			25-45 W
High Power	25-40 W			25-45 W	25-40 W			25-45 W
Channel Spacing	12.5 kHz/ 25 kHz		12.5 kHz/ 25 kHz		12.5 kHz/ 25 kHz		12.5 kHz/ 25 kHz	
Frequency Stability	+/- 1.5 ppm (XiR M8260)		+/- 1.5 ppm (XiR M8268)		+/- 1.5 ppm (XiR M8220)		+/- 0.5 ppm (XiR M8228)	
(-30° C, +60° C, +25° C)	+/- 0.5 ppm (XiR M8268)		+/- 0.5 ppm (XiR M8268)		+/- 0.5 ppm (XiR M8228)		+/- 0.5 ppm (XiR M8228)	
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz		+/- 2.5 kHz @ 12.5 kHz		+/- 2.5 kHz @ 12.5 kHz		+/- 2.5 kHz @ 12.5 kHz	
	+/- 5.0 kHz @ 25 kHz		+/- 5.0 kHz @ 25 kHz		+/- 5.0 kHz @ 25 kHz		+/- 5.0 kHz @ 25 kHz	
FM Hum and Noise	-40 dB @ 12.5 kHz		-40 dB @ 12.5 kHz		-40 dB @ 12.5 kHz		-40 dB @ 12.5 kHz	
	-45 dB @ 25 kHz		-45 dB @ 25 kHz		-45 dB @ 25 kHz		-45 dB @ 25 kHz	
Conducted / Radiated Emission	-36 dBm < 1 GHz		-30 dBm > 1 GHz		-36 dBm < 1 GHz		-30 dBm > 1 GHz	
	-30 dBm > 1 GHz		-30 dBm > 1 GHz		-30 dBm > 1 GHz		-30 dBm > 1 GHz	
Adjacent Channel Power	-60 dB @ 12.5 kHz		-60 dB @ 12.5 kHz		-60 dB @ 12.5 kHz		-60 dB @ 12.5 kHz	
	-70 dB @ 25 kHz		-70 dB @ 25 kHz		-70 dB @ 25 kHz		-70 dB @ 25 kHz	
Audio Response	+1, -3 dB		+1, -3 dB		+1, -3 dB		+1, -3 dB	
Audio Distortion	3%		3%		3%		3%	
FM Modulation	12.5 kHz : 11K0F3E		25 kHz: 16K0F3E		12.5 kHz : 11K0F3E		25 kHz: 16K0F3E	
	12.5 kHz Data Only: 7K60FXD		12.5 kHz Data & Voice: 7K60FXE		12.5 kHz Data Only: 7K60FXD		12.5 kHz Data & Voice: 7K60FXE	
4FSK Digital Modulation	12.5 kHz Data Only: 7K60FXD		12.5 kHz Data & Voice: 7K60FXE		12.5 kHz Data Only: 7K60FXD		12.5 kHz Data & Voice: 7K60FXE	
Digital Vocoder Type	AMBE+2™		AMBE+2™		AMBE+2™		AMBE+2™	
Digital Protocol	ETSI-TS102 361-1		ETSI-TS102 361-1		ETSI-TS102 361-1		ETSI-TS102 361-1	

GPS		Environmental Specifications	
Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)		Operating Temperature	-30° C / +60° C
TTF (Time To First Fix) Cold Start	< 1 minute	Storage Temperature	-40° C / +85° C
TTF (Time To First Fix) Hot Start	< 10 seconds	Thermal Shock	Per MIL-STD
Horizontal Accuracy	< 10 meters	Humidity	Per MIL-STD
		ESD	IEC-801-2KV
		Water Intrusion	IEC 60529 - IP67
		Packaging Test	MIL-STD 810D and E

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EN 300 086
EN 300 113

MOTOTRBO™
Repeater Radio

General Specifications*

	XiR R8200		
	UHF		VHF
Channel Capacity	16		
Frequencies	403-470 MHz	450-512 MHz	136-174 MHz
Dimension (H x W x L)	132.6 x 482.6 x 296.5 mm 5.22 x 19 x 11.67 in		
Voltage requirements	100 - 240 VAC, 50/60Hz		
Weight	14 kg (31 lbs)		
Current Drain			
Standby	1.0A (100 VAC), 0.5A (240 VAC)		
Transmit	4.0A (100 VAC), 1.8A (240 VAC)		
Operating Temperature Range	-30°C to +60°C		
Max Duty Cycle	100%		
FCC Description	1-25 W : ABZ99FT4026 25-40 W : ABZ99FT4025	1-40W : ABZ99FT4027	1-25 W : ABZ99FT3026 25-45 W : ABZ99FT3025

Receiver

Frequencies	403-470 MHz	450-512 MHz	136-174 MHz
Channel Spacing	12.5 kHz/ 25 kHz		
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm		
Analog Sensitivity	0.3 uV (12 dB SINAD) 0.4 uV (20 dB SINAD) 0.22 uV (typical)		
Digital Sensitivity	5% BER: 0.3 uV		
Intermodulation			
TIA603C	75 dB		
ETS	70 dB		
Adjacent Channel Selectivity	60 dB @ 12.5 kHz 70 dB @ 25 kHz		
Spurious Rejection			
TIA603C	75 dB		80 dB
ETS	70 dB		70 dB
Audio Distortion @ Rated Audio	3% (typical)		
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz		
Audio Response	+ 1, -3 dB		
Conducted Spurious Emission	-57 dBm		

Transmitter

Frequencies	403-470 MHz	450-512 MHz	136-174 MHz
Channel Spacing	12.5 kHz/ 25 kHz		
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm		
Power Output			
Low Power	1-25 W	1-40 W	1-25 W
High Power	25-40 W		25-45 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	-60 dB @ 12.5 kHz -70 dB @ 25 kHz		
Audio Response	+1, -3 dB		
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	ETSI-TS102 361-1		

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Conforms to
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EN 300 113



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