MOTOROLA

MOTOTRBO™

PROFESSIONAL DIGITAL TWO-WAY RADIO SYSTEM

MOTOTRBO PROFESSIONAL DIGITAL TWO-WAY RADIO SYSTEM THE FUTURE OF TWO-WAY RADIO

Motorola is a company of firsts with a rich heritage of innovation. We continue to invent what's next—connecting people, delivering mobility and making technology personal. Versatile and powerful, MOTOTRBO combines the best in two-way radio functionality with digital technology, making it the ideal communication solution for your business. You get enhanced features, increased capacity, integrated data applications, exceptional voice quality and extended battery performance. This means more productive employees and lower operating costs for your business.

- **Integrates voice and data** into one device to increase your operational efficiency and support integrated applications including MOTOTRBO Text Messaging Services. Also features an integrated GPS module for use with third-party location-tracking applications.
- Uses Time-Division Multiple-Access (TDMA) digital technology to provide **twice the calling capacity** (as compared to analog or FDMA radios) for the price of one frequency license. A second call doesn't require a second repeater, saving you equipment costs.
- In digital mode, provides **clearer voice communications** throughout the coverage area, as compared to analog radios, rejecting static and noise.
- Offers **enhanced battery life**. Digital TDMA two-way portable radios can operate up to 40 percent longer between recharges compared to typical analog radios.
- Provides **easy migration** from analog to digital with the ability to operate in both analog and digital modes and utilizing the **dynamic mixed mode** repeater functionality allows for automatic switching between analog and digital mode on the same repeater.
- **Enables additional functionality** including dispatch data, enhanced call signaling, basic and enhanced privacy-scrambling and option board expandability.
- Meets **demanding specifications**—IP57 for submersibility in water (portable models), U.S. Military 810 C, D, E and F, and Motorola standards for durability and reliability.
- Is **intrinsically safe,** when purchased and equipped with an FM battery, and can be used in locations where flammable gas, vapors or combustible dust may be present.
- Utilizes Motorola's **state-of-the-art IMPRES™ technology** in batteries, chargers and audio accessories, providing longer talk time and clearer audio delivery.
- Features the **transmit interrupt** suite —voice interrupt, remote voice dekey, emergency voice interrupt or data over voice interrupt—to help prioritize critical communication exactly when needed.
- The **IP Site Connect** digital solution uses the Internet to extend coverage of your MOTOTRBO communication system to users anywhere in the world for dramatically improved customer service and increased productivity.
- **Capacity Plus** is a scalable, single-site digital trunking solution thatcan expand the capacity of your MOTOTRBO communication to over a thousand radio users without adding new frequencies.
- **Motorola's Application Developer Program** enables the development of customized data applications that adapt MOTOTRBO radios to meet the unique needs of your business.
- Backed by a two-year Standard Warranty plus one-year **Repair Service Advantage** (US) / Extended Warranty (Canada) and at least a one-year warranty for accessories.

MOTOTRBO™ XPR™ 6550 / XPR 6350 PORTABLE RADIO SPECIFICATIONS

General Specifications

	Display XPR 6550			Non-Display XPR 6350		
	VHF	UHF Band I	UHF Band II	VHF	UHF Band I	UHF Band II
Channel Capacity	Up to 1,000			32		
Frequency	136-174 MHz	403-470 MHz	450-512 MHz	136-174 MHz	403-470 MHz	450-512 MHz
Dimensions (HxWxT) w/ Li-Ion Battery	5.18 x 2.50 x 1.39 in (131.5 x 63.5 x 35.2 mm)			5.18 x 2.50 x 1.39 in (131.5 x 63.5 x 35.2 mm)		
Weight (with IMPRES Li-Ion 1500 mAh Battery) (with IMPRES Li-Ion 1400 mAh FM Battery) (with IMPRES Li-Ion 2150 mAh Battery) (with NiMH 1300 mAh Battery)	12.7 oz (360 g) 13 oz (370 g) 13.17 oz (375 g) 15.2 oz (430 g)			11.63 oz (330 g) 11.98 oz (340 g) 12.12 oz (345 g) 14.09 oz (400 g)		
Power Supply	7.5 V nominal			7.5 V nominal		
FCC Description	AZ489FT3815	AZ489FT4876	AZ489FT4884	AZ489FT3815	AZ489FT4876	AZ489FT4884
IC Description	109U-89FT3815	109U-89FT4876	109U-89FT4884	109U-89FT3815	109U-89FT4876	109U-89FT4884
Average battery life at 5/5/90 duty cycle with battery saver enabled in carrier squelch and transmitter in high power.						
IMPRES Li-Ion 1500 mAh Battery	Analog: 9 hrs Digital: 13 hrs			Analog: 9 hrs Digital: 13 hrs		
IMPRES Li-Ion FM 1400 mAh Battery	Analog: 8.5 hrs Digital: 12 hrs			Analog: 8.5 hrs Digital: 12 hrs		
IMPRES Li-Ion 2150 mAh Battery	Analog: 13.5 hrs Digital: 19 hrs			Analog: 13.5 hrs Digital: 19 hrs		
NiMH 1300 mAh Battery	Analog: 8 hrs Digital: 11 hrs			Analog: 8 hrs Digital: 11 hrs		

Receiver

	Display XPR 6550			Non-Display XPR 6350		
	VHF	UHF Band I	UHF Band II	VHF	UHF Band I	UHF Band II
Frequencies	136-174 MHz	403-470 MHz	450-512 MHz	136-174 MHz	403-470 MHz	450-512 MHz
Channel Spacing	12.5 kHz/ 25 kHz*			12.5 kHz/ 25 kHz*		
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm			+/- 0.5 ppm		
Analog Sensitivity (12 dB SINAD)	0.35 uV 0.22 uV (typical)			0.35 uV 0.22 uV (typical)		
Digital Sensitivity	5% BER: 0.3 uV			5% BER: 0.3 uV		
Intermodulation (TIA603C)	70 dB			70 dB		
Adjacent Channel Selectivity TIA603 TIA603C	60 dB @ 12.5 kHz, 70 dB @ 25 kHz* 45 dB @ 12.5 kHz, 70 dB @ 25 kHz*			60 dB @ 12.5 kHz, 70 dB @ 25 kHz* 45 dB @ 12.5 kHz, 70 dB @ 25 kHz*		
Spurious Rejection (TIA603C)	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	TIA603C			TIA603C		
Conducted Spurious Emission (TIA603C)	-57 dBm			-57 dBm		

Transmitter

	Display XPR 6550			Non-Display XPR 6350		
	VHF	UHF Band I	UHF Band II	VHF	UHF Band I	UHF Band II
Frequencies	136-174 MHz	403-470 MHz	450-512 MHz	136-174 MHz	403-470 MHz	450-512 MHz
Channel Spacing	12.5 kHz/ 25 kHz*			12.5 kHz/ 25 kHz*		
Frequency Stability (-30° C, +60° C, +25° C Ref.)	+/- 0.5 ppm			+/- 0.5 ppm		
Power Output Low Power High Power	1 W 5 W	1 W 4 W		1 W 5 W	1 W 4 W	
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			-36 dBm < 1 GHz -30 dBm > 1 GHz		
Adjacent Channel Power	60 dB @ 12.5 kHz 70 dB @ 25 kHz*			60 dB @ 12.5 kHz 70 dB @ 25 kHz*		
Audio Response	TIA603C			TIA603C		
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 TS 102 361-1, -2, -3			ETSI TS 102 361-1, -2, -3		

GPS

Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)	
TTFF (Time To First Fix) Cold Start	< 2 minutes
TTFF (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

*25 kHz will not be available on new equipment in the U.S. after 1/1/2011.

Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements. Version 9 03/10

MOTOTRBO XPR 6580 / XPR 6380 PORTABLE RADIO SPECIFICATIONS

General Specifications

	XPR™ 6580 Display Portable	XPR™ 6380 Non-Display Portable
Channel Capacity	Up to 1,000	Up to 32
Frequency Band	800 and 900 MHz	800 and 900 MHz
Dimensions (H x W x L) with Li-Ion Battery	5.18 x 2.50 x 1.39 in (131.5 x 63.5 x 35.2 mm)	5.18 x 2.50 x 1.39 in (131.5 x 63.5 x 35.2 mm)
Weight with IMPRES Li-Ion 2150 mAh Battery	13.17 oz (375 g)	12.12 oz (345 g)
Power Supply	7.5 V Nominal	7.5 V Nominal
FCC Description	ABZ99FT5011	ABZ99FT5011
IC Description	109AB-99FT5011	109AB-99FT5011
Average battery life at 5/5/90 duty cycle with battery saver enabled in carrier squelch and transmitter in high power.		
IMPRES Li-Ion 2150 mAh Battery	Analog: 13 hours Digital: 17 hours	Analog: 13 hours Digital: 17 hours
IMPRES Li-Ion 1400 mAh FM Battery	Analog: 9 hours Digital: 12 hours	Analog: 9 hours Digital: 12 hours

Receiver

	XPR 6580 Display Portable	XPR 6380 Non-Display Portable
Frequencies	800 MHz: 854-866 MHz and 869-870 MHz 900 MHz: 935-941 MHz	
Channel Spacing	800 MHz: 12.5 and 25 kHz 900 MHz: 12.5 kHz	
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm	
Analog Sensitivity (12 dB SINAD) Typical	0.25 UV	
Digital Sensitivity	5% BER: 0.3uV	
Intermodulation (TIA603C)	70 dB	
Adjacent Channel Selectivity (TIA603) - 1T	60 dB @ 12.5 kHz 70 dB @ 25 kHz	
Adjacent Channel Selectivity (TIA603C) - 2T	45 dB @ 12.5 kHz 70 dB @ 25 kHz	
Spurious Rejection (TIA603C)	70 dB	
Rated Audio	.5 W	
Audio Distortion @ Rated Audio	3% (typical)	
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz	
Audio Response	TIA603C	
Conducted Spurious Emission (ETSI)	-57 dBm	

Transmitter

	XPR 6580 Display Portable	XPR 6380 Non-Display Portable
Frequencies	800 MHz: 809-821 MHz, 824-825 MHz, 854-866 MHz and 869-870 MHz 900 MHz: 896-902 MHz and 935-941 MHz	
Channel Spacing	800 MHz: 12.5 and 25 kHz 900 MHz: 12.5 kHz	
Frequency Stability (-30° C, +60° C)	+/- 0.5 ppm	
Low Power Output	1 W	
High Power Output	2.5 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 / Rated Emission (ETSI)	-36 dBm < 1 GHz -30 dBm > 1 GHz	
Adjacent Channel Power	-60 dB @ 12.5 kHz -70 dB @ 25 kHz	
Audio Response	TIA603C	
Audio Distortion (per EIA)	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 TS 102 361-1, -2, -3	

GPS

Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)	
TTFF (Time To First Fix) Cold Start	< 2 minutes
TTFF (Time To First Fix) Hot Start	< 10 seconds
Horizontal Accuracy	< 10 meters

Environmental Specifications

	XPR 6580 Display Portable	XPR 6380 Non-Display Portable
Operating Temperature (Radio Only)	-30deg. C to + 60 deg. C	
Operating Temperature (with IMPRES Li-Ion battery)	-10deg. C to + 60 deg. C	
Storage Temperature	-40deg. C to + 85 deg. 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	

Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements. Version 9 03/10

MOTOTRBO™ XPR™ 4550 / XPR 4350 MOBILE RADIO SPECIFICATIONS

General Specifications

	Display XPR 4550			Numeric Display XPR 4350		
	VHF	UHF Band I	UHF Band II	VHF	UHF Band I	UHF Band II
Channel Capacity	Up to 1,000			32		
Typical RF Output Low Power High Power	1-25 W 25-45 W	1-25 W 25-40 W	— 1-40 W	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	136-174 MHz	403-470 MHz	450-512 MHz
Dimensions (HxWxL)	2.01 x 6.89 x 8.11 in (51 x 175 x 206 mm)			2.01 x 6.89 x 8.11 in (51 x 175 x 206 mm)		
Weight	4.0 lbs. (1.8 kg)			4.0 lbs. (1.8 kg)		
Current Drain: Standby Rx @ Rated Audio Transmit	0.81 A max 2 A max 1-25 W: 11.0 A max 25-45 W: 14.5 A max	0.81 A max 2 A max 1-25 W: 11.0 A max 25-40 W: 14.5 A max	0.81 A max 2 A max 1-40 W: 14.5 A max (11.0 A max < 25 W)	0.81 A max 2 A max 1-25 W: 11.0 A max 25-45 W: 14.5 A max	0.81 A max 2 A max 1-25 W: 11.0 A max 25-40 W: 14.5 A max	0.81 A max 2 A max 1-40 W: 14.5 A max (11.0 A max < 25 W)
FCC Description	1-25 W: ABZ99FT3083 25-45 W: ABZ99FT3082	1-25 W: ABZ99FT4081 25-40 W: ABZ99FT4080	1-40 W: ABZ99FT4083	1-25 W: ABZ99FT3083 25-45 W: ABZ99FT3082	1-25 W: ABZ99FT4081 25-40 W: ABZ99FT4080	1-40 W: ABZ99FT4083
IC Description	1-25 W: 109AB-99FT3083 25-45 W: 109AB-99FT3082	1-25 W: 109AB-99FT4081 25-40 W: 109AB-99FT4080	1-40 W: 109AB-99FT4083	1-25 W: 109AB-99FT3083 25-45 W: 109AB-99FT3082	1-25 W: 109AB-99FT4081 25-40 W: 109AB-99FT4080	1-40 W: 109AB-99FT4083

Receiver

	Display XPR 4550			Numeric Display XPR 4350		
	VHF	UHF Band I	UHF Band II	VHF	UHF Band I	UHF Band II
Frequencies	136-174 MHz	403-470 MHz	450-512 MHz	136-174 MHz	403-470 MHz	450-512 MHz
Channel Spacing	12.5 kHz / 25 kHz*			12.5 kHz / 25 kHz*		
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm			+/- 0.5 ppm		
Analog Sensitivity (12dB SINAD)	0.3 uV 0.22 uV (typical)			0.3 uV 0.22 uV (typical)		
Digital Sensitivity	5% BER: 0.3 uV			5% BER: 0.3 uV		
Intermodulation (TIA603C)	78 dB	75 dB		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*		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 (TIA603C)	80 dB	75 dB		80 dB	75 dB	
Rated Audio	3 W (Internal) 7.5 W (External - 8 ohms) 13 W (External - 4 ohms)			3 W (Internal) 7.5 W (External - 8 ohms) 13 W (External - 4 ohms)		
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	TIA603C			TIA603C		
Conducted Spurious Emission (TIA603C)	-57 dBm			-57 dBm		

Transmitter

	Display XPR 4550			Numeric Display XPR 4350		
	VHF	UHF Band I	UHF Band II	VHF	UHF Band I	UHF Band II
Frequencies	136-174 MHz	403-470 MHz	450-512 MHz	136-174 MHz	403-470 MHz	450-512 MHz
Channel Spacing	12.5 kHz / 25 kHz*			12.5 kHz / 25 kHz*		
Frequency Stability (-30° C, +60° C, +25° C Ref.)	+/- 0.5 ppm			+/- 0.5 ppm		
Power Output Low Power High Power	1-25 W 25-45 W	1-25 W 25-40 W	— 1-40 W	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*			+/- 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			-36 dBm < 1 GHz -30 dBm > 1 GHz		
Adjacent Channel Power (TIA603C)	60 dB @ 12.5 kHz 70 dB @ 25 kHz*			60 dB @ 12.5 kHz 70 dB @ 25 kHz*		
Audio Response	TIA603C			TIA603C		
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 TS 102 361-1, -2, -3			ETSI TS 102 361-1, -2, -3		

GPS

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

*25 kHz will not be available on new equipment in the U.S. after 1/1/2011.

Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements. Version 9 03/10

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
Dust and Water Intrusion	IEC 60529 - IP54
Packaging Test	MIL-STD 810D and E

MOTOTRBO XPR 4580 / XPR 4380 MOBILE RADIO SPECIFICATIONS

General Specifications

	XPR™ 4580 Display Mobile	XPR™ 4380 Numeric Display Mobile
Channel Capacity	Up to 1,000	Up to 32
Typical RF Output	806-870 MHz 10-35 W 896-941 MHz* 10-30 W	806-870 MHz 10-35 W 896-941 MHz* 10-30 W
Frequency Band	800 and 900 MHz	800 and 900 MHz
Dimensions (H x W x L)	2.01 x 6.89 x 8.11 in (51 x 175 x 206 mm)	2.01 x 6.89 x 8.11 in (51 x 175 x 206 mm)
Weight	4.0 lbs. (1.8 Kg)	4.0 lbs (1.8 Kg)
Current Drain: Standby Rx @ Rated Audio Transmit	0.81 A max 2 A max 12.0 A max	0.81 A max 2 A max 12.0 A max
Power Supply	12 V dc Negative Ground	12 V dc Negative Ground
FCC Description	ABZ99FT5010	ABZ99FT5010
IC Description	109AB-99FT5010	109AB-99FT5010

Receiver

	XPR 4580 Display Mobile	XPR 4380 Numeric Display Mobile
Frequencies	800 MHz: 854-866 MHz and 869-870 MHz 900 MHz: 935-941 MHz	
Channel Spacing	800 MHz: 12.5 and 25 kHz 900 MHz: 12.5 kHz	
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm	
Analog Sensitivity (12 dB SINAD) Typical	0.22 UV	
Digital Sensitivity	5% BER: 0.28 uV	
Intermodulation (TIA603C)	78 dB	
Adjacent Channel Selectivity (TIA603)-1T	65 dB @ 12.5 kHz 75 dB @ 25 kHz	
Adjacent Channel Selectivity (TIA603C)-2T	50 dB @ 12.5 kHz 75 dB @ 25 kHz	
Spurious Rejection (TIA603C)	75 dB	
Rated Audio	3 W (internal)	
Audio Distortion @ Rated Audio	3% (typical)	
Hum and Noise	-45 dB @ 12.5 kHz -45 dB @ 25 kHz	
Audio Response	TIA603C	
Conducted Spurious Emission (ETSI)	-57 dBm	

Transmitter

	XPR 4580 Display Mobile	XPR 4380 Numeric Display Mobile
Frequencies	800 MHz: 809-821 MHz, 824-825 MHz, 854-866 MHz and 869-870 MHz 900 MHz: 896-902 MHz and 935-941 MHz	
Channel Spacing	800 MHz: 12.5 and 25 kHz 900 MHz: 12.5 kHz	
Frequency Stability (-30° C, +60° C)	+/- 0.5 ppm	
Low Power Output	10 W	
High Power Output	800 MHz: 35W 900 MHz: 30W	
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 / Rated Emission (ETSI)	-36 dBm < 1 GHz -30 dBm > 1 GHz	
Adjacent Channel Power	-50 dB @ 12.5 kHz -60 dB @ 25 kHz	
Audio Response	TIA603C	
Audio Distortion (per EIA)	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 TS 102 361-1, -2, -3	

GPS

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

Environmental Specifications

	XPR 4580 Display Mobile	XPR 4380 Numeric Display Mobile
Operating Temperature (Radio Only)	-30deg. C to + 60 deg. C	
Operating Temperature (with IMPRES Li-Ion battery)	N/A	
Storage Temperature	-40deg. C to + 85 deg. C	
Thermal Shock	per MIL-STD	
Humidity	per MIL-STD	
ESD	IEC-801-2KV	
Water Intrusion	IEC 60529 - IP54	
Packaging Test	MIL STD 810D and E	

*For frequencies 901–902, 940–941 MHz, FCC Rule Part 24 limits power to 7W ERP.

Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements. Version 1 03/10

MOTOTRBO™ XPR™ 8300 REPEATER SPECIFICATIONS

General Specifications

	XPR 8300		
	VHF	UHF Band I	UHF Band II
Channel Capacity	1		
Typical RF Output: Low Power High Power	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

Receiver

	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		

Transmitter

	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	ETSI TS 102 361-1, -2, -3		

*25 kHz will not be available on new equipment in the U.S. after 1/1/2011.

Specifications subject to change without notice. All specifications shown are typical. Repeater meets applicable regulatory requirements. Version 9 03/10

MOTOTRBO XPR 8380 REPEATER SPECIFICATIONS

General Specifications

		XPR 8380
		800 MHz
Channel Capacity		1
Typical RF Output:	Low Power High Power	- 10-35 W
Frequency		806-870 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 47–63 Hz (13.6 V DC)
Current Drain During Standby:		1.0 A (100 V AC) 0.5 A (240 V AC) 1.0 A (typical)(13.4 V DC)
Current Drain During Transmit:	Low Power	3.0 A (100 V AC) 1.5 A (240 V AC) 10 A (typical)(13.4 V DC)
	High Power	4.0 A (100 V AC) 1.8 A (240 V AC) 12 A (typical)(13.4 V DC)
Operating Temperature Range		-30°C to +60°C
Max Duty Cycle		100%
FCC Description		10–35 W: ABZ99FT5029
IC Description		10–35 W: 109AB-99FT5029

Receiver

		XPR 8380
		800 MHz
Frequencies		806–825 MHz
Channel Spacing		12.5 kHz/25 kHz
Frequency Stability (-30° C, +60° C, +25° C)		+/- 0.5 ppm
Analog Sensitivity (12 dB SINAD)		0.22 uV (typical)
Digital Sensitivity		5% BER: 0.28 uV
Intermodulation (TIA603C)		78 dB
Adjacent Channel Selectivity:	TIA603 TIA603C	65 dB @ 12.5 kHz, 75 dB @ 25 kHz 50 dB @ 12.5 kHz, 75 dB @ 25 kHz
Spurious Rejection (TIA603C)		75 dB
Audio Distortion @ Rated Audio		3% (typical)
Hum and Noise		-45 dB @ 12.5 kHz -45 dB @ 25 kHz
Audio Response		TIA603C
Conducted Spurious Emission (TIA603C)		-57 dBm

Transmitter

	XPR 8380
	800 MHz
Frequencies	851–870 MHz
Channel Spacing	12.5 kHz / 25 kHz
Frequency Stability (-30° C to +60° C)	+/- 0.5 ppm
Power Output: Low Power High Power	10W 35 W
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz
Digital Modulation Fidelity (4FSK)	FSK Error 5% FSK Magnitude 1%
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)	-50 dB @ 12.5 kHz -60 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	ETSI TS 102 361-1 ETSI TS 102 361-2 ETSI TS 102 361-3

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MTR3000 BASE STATION / REPEATER SPECIFICATIONS

General Specifications

		T3000A	T2003A - Upgrade kit for MTR2000 stations
Number of Frequencies		Up to 16	
Modulation		FM & 4FSK	
Frequency Generation		Synthesized	
Channel Spacing	Analog Digital	12.5 kHz, 25 kHz* 12.5 kHz (6.25e compliant)	
Mode of Operation		Semi-duplex / Duplex	
Temperature Range		–30°C to +60°C	
Antenna Connectors		Transmit and Receive, Type "N" Female	
AC Operation		85-264 VAC, 47-63 Hz	
DC Operation		28.6 VDC (25.7-30.7 VDC full rated output power)	
		Dimensions	**Weight**
Base Station Repeater		5.25 x 19 x 16.5 in. (133 x 483 x 419 mm)	40 lbs (19 kg)

Receiver

		T3000A	T2003A - Upgrade kit for MTR2000 stations
Frequency		403-470, 450-524 MHz	403-470 MHz
Selectivity (TIA603)	25 kHz* 12.5 kHz	80 dB (86 dB typical) 75 dB (78 dB typical)	
Selectivity (TIA603D)	25 kHz* 12.5 kHz	75 dB (85 dB typical) 45 dB (60 dB typical)	
Analog Sensitivity 12 dB SINAD		0.30 uV (0.22 uV typical)	
Digital Sensitivity 5% BER		0.30 µV (0.20 uV typical)	
Signal Displacement Bandwidth	12.5 / 25 kHz	1 kHz / 2 kHz	
Intermodulation Rejection	12.5 and 25 kHz	85 dB	
Spurious and Image Response Rejection		85 dB (typical 95 dB)	
Audio Response		+1,-3 dB from 6 dB per octave de-emphasis; 300-3000 Hz referenced to 1000 Hz at line output	
Audio Distortion		Less than 3% (1.5% typical) at 1000 Hz, 60% RSD	
Line Output		330 mV (RMS) @ 60% RSD	
FM Hum and Noise (750µs de-emphasis)	25 kHz* 12.5 kHz	50 dB nominal 45 dB nominal	
RF Input Impedance		50 Ohms	

Transmitter

		T3000A	T2003A - Upgrade kit for MTR2000 stations
Frequency		403-470, 470-524 MHz	403-435, 435-470 MHz
Power Output (Continuous Duty)		8-100 watts	25-100 watts
Electronic Bandwidth		Full Band	
Output Impedance		50 Ohms	
Intermodulation Attenuation		55 dB	
Maximum Deviation (RSD)	25 kHz* 12.5 kHz	±5 kHz ±2.5 kHz	
Audio Sensitivity		60% RSD @ 80 mV RMS	
Spurious and Harmonic Emissions Attenuation		85 dB	
FM Hum and Noise (750 µs de-emphasis)	25 kHz* 12.5 kHz	50 dB nominal 45 dB nominal	
Frequency Stability (for temperature and aging variation)		1.5 PPM/External Ref (optional)	
Audio Response		+1,-3 dB from 6 dB per octave pre-emphasis; 300-3000 Hz referenced to 1000 Hz at line output	
Audio Distortion		Less than 3% (1% typical) at 1000 Hz; 60% RSD	
Emission Designators		FM Modulation: 12.5 kHz: 11K0F3E; 25 kHz*: 16K0F3E 4FSK Modulation: 12.5 kHz - Data Only: 7K60FXD; 12.5 kHz - Data & Voice: 7K60FXE	
Digital Vocoder Type		AMBE +2™ Vocoder	
Digital Protocol		ETSI 102 361-1, -2, -3	

UHF Input Power

	AC Line 117 Volts / 220 Volts	28 VDC D/C Battery Revert, Neg. Gnd.
100 W Standby	0.4A/0.2A	0.8A
100 W Transmit	3.3A/1.8A	11.5A

FCC Type Acceptance

Frequency Range in MHz	Type	Power Output in Watts	US Type Acceptance Number
403-470	Transmitter	8-100	ABZ89FC4823
403-470	Receiver	N/A	ABZ89FC4824
470-524	Transmitter	8-100	ABZ89FC4825
450-524	Receiver	N/A	ABZ89FC4826

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MOTOROLA