MOTOTRBO™ DIGITAL TWO-WAY PORTABLE RADIOS

THE FUTURE OF BUSINESS COMMUNICATION, DELIVERED TODAY

Make technology more productive and personal. You asked for a forward-thinking way to connect your people to their work, wherever they go. An innovative business tool that increases their efficiency while lowering your costs. Versatile and powerful, MOTOTRBO combines the best of two-way radio functionality with the latest digital technology. It integrates voice and data seamlessly, offers enhanced features that are easy to use and delivers increased capacity to meet your communication needs from the field to the factory floor. With exceptional voice quality and long battery life, MOTOTRBO keeps your work teams connected when communication is a must.

HIGH-POWERED PERFORMANCE

Because MOTOTRBO uses TDMA digital technology, it delivers integrated voice and data, twice the calling capacity plus clearer voice communications. When it comes to battery performance, MOTOTRBO radios operate 40 percent longer between recharges compared to analog. In fact, the leading-edge IMPRES™ technology in our batteries, chargers and audio accessories also ensures longer talk time and clearer audio.

INDUSTRY-LEADING APPLICATIONS

Motorola's Application Developer Program offers customized data applications so you can adapt your radios to your unique business needs. Because we've created the largest developer program in the industry, we can provide nimble applications that address your challenges and answer your objectives – from work order ticket management to network management, email gateways to location tracking, dispatch consoles to telephony integration, and beyond.

Whether you want to send text messages or track work order information, pinpoint work crew locations with integrated GPS or manage your fleet from a central dispatch location, MOTOTRBO paves the way – with customizable data applications on one convenient device.

ADDED FUNCTIONALITY

MOTOTRBO offers added functionality, including dispatch capability with the MIP 5000 VoIP console, enhanced call signaling, basic and enhanced privacy-scrambling, option board expandability and compatibility with SCADA solutions for utility and public service monitoring and alarms. Plus digital telephone interconnect capability to enable communication between radios and landline or mobile phones as well as a transmit interrupt suite – with voice interrupt, emergency voice interrupt or data over voice interrupt – to prioritize critical communication the moment you need it.

EXPANDED CAPACITY AND COVERAGE

Your workforce is hard at work every day – picking up loads, making road repairs, providing security, responding to guest requests or restoring power after a storm. That's why you need the proven performance of MOTOTRBO radio systems for non-stop communication no matter the size of your work force, no matter where they go.

MOTOTRBO's IP Site Connect dramatically improves customer service and productivity by using the Internet to extend coverage to users anywhere in the world. Our scalable, single-site Capacity Plus solution expands capacity to over 1,000 users without adding new frequencies. Connect Plus multi-site digital trunking enables you to accommodate the high volume, wide area communication your business requires. Whether you need coverage at a single site or across multiple sites, MOTOTRBO can be scaled to meet your needs.

MIGRATE AT YOUR OWN PACE

Keeping operations running smoothly during a change in communication systems is vital to your business. It's easy to migrate to digital with MOTOTRBO because radios operate in analog and digital mode while the dynamic mixed mode repeater functionality streamlines automatic switching between analog and digital calls. So you can begin using MOTOTRBO radios and repeaters on your existing analog system, and when your time and budget allow you can begin migrating to digital at your own pace.

RELIABLE DURABILITY

MOTOTRBO meets the most demanding specs, including IP57 for water submersibility (portables) and U.S. Military 810 C, D, E and F. It's "intrinsically safe" when purchased and equipped with an FM/CSA battery, for use where flammable gas, vapors or combustible dust may be present. And backed by a two-year Standard Warranty, one-year Repair Service Advantage (US)/Extended Warranty (Canada) and minimum 1-year warranty for accessories.

XPR 6550 / XPR 6580
Display Portable Radios

XPR 6350 / XPR 6380
Non-Display Portable Radios

PRODUCT SPEC SHEET

MOTOTRBO™ XPR™ 6550/XPR 6350 PORTABLE RADIOS

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	5.18 in H x 2.5 in W x 1.39 in L (131.5 mm H x 63.5 mm W x 35.2 mm L)			5.18 in H x 2.5 in W x 1.39 in L (131.5 mm H x 63.5 mm W x 35.2 mm L)		
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

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 (12dB SINAD)	0.35 uV 0.22 uV (typical)		
Digital Sensitivity	5% BER: 0.3 uV		
Intermodulation (TIA603C)	70 dB		
Adjacent Channel Selectivity			
TIA603	60 dB @ 12.5 kHz, 70 dB @25 kHz*		
TIA603C	45 dB @ 12.5 kHz, 70 dB @25 kHz*		
Spurious Rejection (TIA603C)	70 dB		
Rated Audio	500 mW		
Audio Distortion @ Rated Audio	3% (typical)		
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz*		
Audio Response	TIA603C		
Conducted Spurious Emission (TIA603C)	-57 dBm		

TRANSMITTER: DISPLAY XPR 6550 & NON-DISPLAY XPR 6350

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		
Low Power Output	1 W	1 W	
High Power Output	5 W	4 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	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		

GPS: DISPLAY XPR 6550 & NON-DISPLAY XPR 6350

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

MILITARY STANDARDS: DISPLAY XPR 6550 & NON-DISPLAY XPR 6350

	810E		**810F**	
Applicable MIL-STD	Methods	Procedures	Methods	Procedures
Low Pressure	500.3	II	500.4	II
High Temperature	501.3	I/A, II/A1	501.4	I/Hot, II/Hot
Low Temperature	502.3	I/C3, II/C1	502.4	I/C3, II/C1
Temperature Shock	503.3	I/A, 1C3	503.4	I
Solar Radiation	505.3	I	505.4	I
Rain	506.3	I, II	506.4	I, III
Humidity	507.3	II	507.4	–
Salt Fog	509.3	I	509.4	I
Dust	510.3	I	510.4	I
Vibration	514.4	I/10, II/3	514.5	I/24
Shock	516.4	I, IV	516.5	I, IV

ENVIRONMENTAL SPECIFICATIONS: DISPLAY XPR 6550 & NON-DISPLAY XPR 6350

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 - IP57
Packaging Test	MIL-STD 810D and E

Testing completed using portable radio with attached battery and antenna.

FACTORY MUTUAL APPROVALS: DISPLAY XPR 6550 & NON-DISPLAY XPR 6350

MOTOTRBO XPR Series portable radios have been certified by FM and CSA 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.

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*As of 1/1/2013, 25 kHz is no longer available on new equipment in the United States.
**Radio only. Li-Ion battery -10° C; NiMH battery -20° C.
Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements. Version 11 01/14

PRODUCT SPEC SHEET
MOTOTRBO™ XPR™ 6580/XPR 6380 PORTABLE RADIOS

GENERAL SPECIFICATIONS

	DISPLAY XPR 6580	NON-DISPLAY XPR 6380
Channel Capacity	Up to 1000	Up to 32
Frequency Band	800 and 900 MHz	800 and 900 MHz
Dimensions with Li-Ion Battery	5.18 in H x 2.5 in W x 1.39 in L (131.5 mm H x 63.5 mm W x 35.2 mm L)	5.18 in H x 2.5 in W x 1.39 in L (131.5 mm H x 63.5 mm W x 35.2 mm L)
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 hrs / Digital: 17 hrs	Analog: 13 hrs / Digital: 17 hrs
IMPRES Li-Ion 1400 mAh Battery	Analog: 9 hrs / Digital: 12 hrs	Analog: 9 hrs / Digital: 12 hrs

RECEIVER

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: 0.3 uV
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

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

MILITARY STANDARDS

	810E		810F	
Applicable MIL–STD	Methods	Procedures	Methods	Procedures
Low Pressure	500.3	II	500.4	II
High Temperature	501.3	I/A, II/A1	501.4	I/Hot, II/Hot
Low Temperature	502.3	I/C3, II/C1	502.4	I/C3, II/C1
Temperature Shock	503.3	I/A, 1C3	503.4	I
Solar Radiation	505.3	I	505.4	I
Rain	506.3	I, II	506.4	I, III
Humidity	507.3	II	507.4	–
Salt Fog	509.3	I	509.4	I
Dust	510.3	I	510.4	I
Vibration	514.4	I/10, II/3	514.5	I/24
Shock	516.4	I, IV	516.5	I, IV

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30° C / +60° C
Operating Temperature (w/ IMPRES Li-Ion battery)	-10° C to +60° C
Storage Temperature	-40° C to +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
Testing completed using portable radio with attached battery and antenna.	

FACTORY MUTUAL APPROVALS

MOTOTRBO XPR Series portable radios have been certified by FM and CSA 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.

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ONLY THE FOLLOWING FREQUENCIES ARE SUPPORTED BY THE XPR 6580 / XPR 6380

Band	Receive	Transmit	
800 MHz	851.0125	806.0125	851.0125
	851.5125	806.5125	851.5125
	852.0125	807.0125	852.0125
	852.5125	807.5125	852.5125
	853.0125	808.0125	853.0125
	854.000 - 865.9875	809.000 - 820.9875	854.000 - 865.9875
	866.0125	821.0125	866.0125
	866.5125	821.5125	866.5125
	867.0125	822.0125	867.0125
	867.5125	822.5125	867.5125
	868.0125	823.0125	868.0125
	869.000 - 870.000	824.000 - 825.000	869.000 - 870.000
900 MHz	935.000 - 941.000	896.000 - 902.000	935.000 - 941.000

Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements. Version 3 01/14

For more information on how to make your business more efficient and better connected, visit **www.motorolasolutions.com/mototrbo**.

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