



THE FUTURE OF BUSINESS COMMUNICATION, DELIVERED TODAY

# MOTOTRBO™ DIGITAL TWO-WAY MOBILE RADIOS

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. In fact, the leading-edge IMPRES™ technology in our audio accessories also ensures clearer audio delivery.

## 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 workforce, 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 mobile radios are backed by a two-year Standard Warranty, one-year Repair Service Advantage (US)/Extended Warranty (Canada) and minimum 1-year warranty for accessories.



**XPR™ 4550 / XPR 4580**  
Display Mobile Radios

**XPR 4350 / XPR 4380**  
Numeric Display Mobile Radios

MOTOTRBO™ XPR™ 4550/XPR 4350 MOBILE RADIOS

**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	1-25 W	1-25 W	—	1-25 W	1-25 W	—
High Power	25-45 W	25-40 W	1-40 W	25-45 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	2.01 in H x 6.89 in W x 8.11 in L (51 mm H x 175 mm W x 206 mm L)			2.01 in H x 6.89 in W x 8.11 in L (51 mm H x 175 mm W x 206 mm L)		
Weight	4.0 lbs (1.8 kg)			4.0 lbs (1.8 kg)		
Current Drain:						
Standby	0.81 A max	0.81 A max	0.81 A max	0.81 A max	0.81 A max	0.81 A max
Rx @ Rated Audio	2 A max	2 A max	2 A max	2 A max	2 A max	2 A max
Transmit	1-25 W: 11.0 A max 25-45 W: 14.5 A max	1-25 W: 11.0 A max 25-40 W: 14.5 A max	1-40 W: 14.5 A max (11.0 A max < 25 W)	1-25 W: 11.0 A max 25-45 W: 14.5 A max	1-25 W: 11.0 A max 25-40 W: 14.5 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-99FT40830	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**

**GPS: DISPLAY XPR 4550 & NUMERIC DISPLAY XPR 4350**

Frequencies	136-174 MHz	403-470 MHz	450-512 MHz	Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)		
Channel Spacing	12.5 kHz / 25 kHz*			TTF (Time To First Fix) Cold Start	< 1 minute	
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm			TTF (Time To First Fix) Hot Start	< 10 seconds	
Analog Sensitivity (12dB SINAD)	0.3 uV 0.22 uV (typical)			Horizontal Accuracy	< 10 meters	
Digital Sensitivity	5% BER: 0.3 uV			<b>MILITARY STANDARDS: DISPLAY XPR 4550 &amp; NUMERIC DISPLAY XPR 4350</b>		
Intermodulation (TIA603C)	78 dB	75 dB		<b>810E</b>		<b>810F</b>
Adjacent Channel Selectivity				Applicable MIL-STD	Methods	Procedures
TIA603	65 dB @ 12.5 kHz, 80 dB @ 25 kHz*			Low Pressure	500.3	II
TIA603C	50 dB @ 12.5 kHz, 80 dB @ 25 kHz*			High Temperature	501.3	I/A, II/A1
Spurious Rejection (TIA603C)	80 dB	75 dB		Low Temperature	502.3	I/C3, II/C1
Rated Audio	3 W (Internal)			Temperature Shock	503.3	I/A1C3
	7.5 W (External - 8 ohms)			Solar Radiation	505.3	I
	13 W (External - 4 ohms)			Rain	506.3	I, II
				Humidity	507.3	II
Audio Distortion @ Rated Audio	3% (typical)			Salt Fog	509.3	I
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz*			Dust	510.3	I
Audio Response	TIA603C			Vibration	514.4	I/10, II/3
Conducted Spurious Emission (TIA603C)	-57 dBm			Shock	516.4	I, IV

**TRANSMITTER: DISPLAY XPR 4550 & NUMERIC DISPLAY XPR 4350**

**ENVIRONMENTAL SPECIFICATIONS: DISPLAY XPR 4550 & NUMERIC DISPLAY XPR 4350**

Frequencies	136-174 MHz	403-470 MHz	450-512 MHz	Operating Temperature	-30° C / +60° C
Channel Spacing	12.5 kHz / 25 kHz*			Storage Temperature	-40° C / +85° C
Frequency Stability (-30° C, +60° C, +25° C Ref.)	+/- 0.5 ppm			Thermal Shock	Per MIL-STD
Low Power Output	1-25 W	1-25 W	—	Humidity	Per MIL-STD
High Power Output	25-45 W	25-40 W	1-40 W	ESD	IEC-801-2KV
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz*			Dust and Water Intrusion	IEC 60529 - IP54
FM Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz*			Packaging Test	MIL-STD 810D and E
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				

\*25 kHz will not be available on new equipment in the U.S. after 1/1/2013.  
Specifications subject to change without notice. All specifications shown are typical.  
Radio meets applicable regulatory requirements. Version 9 03/10

**GENERAL SPECIFICATIONS**

	DISPLAY XPR 4580	NUMERIC DISPLAY XPR 4380	GPS				
Channel Capacity	Up to 1,000	Up to 32	Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)				
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	TTFF (Time To First Fix) Cold Start	< 1 minute			
Frequency Band	800 and 900 MHz	800 and 900 MHz	TTFF (Time To First Fix) Hot Start	< 10 seconds			
Dimensions	2.01 in H x 6.89 in W x 8.11 in L (51 mm H x 175 mm W x 206 mm L)	2.01 in H x 6.89 in W x 8.11 in L (51 mm H x 175 mm W x 206 mm L)	Horizontal Accuracy	< 10 meters			
Weight	4.0 lbs (1.8 kg)	4.0 lbs (1.8 kg)	<b>MILITARY STANDARDS</b>				
Current Drain:				<b>810E</b>		<b>810F</b>	
Standby	0.81 A max	0.81 A max	Applicable MIL-STD	Methods	Procedures	Methods	Procedures
Rx @ Rated Audio	2 A max	2 A max	Low Pressure	500.3	II	500.4	II
Transmit	12.0 A max	12.0 A max	High Temperature	501.3	I/A, II/A1	501.4	I/Hot, II/Hot
Power Supply	12 V dc Negative Ground	12 V dc Negative Ground	Low Temperature	502.3	I/C3, II/C1	502.4	I/C3, II/C1
FCC Description	ABZ99FT5010	ABZ99FT5010	Temperature Shock	503.3	I/A1C3	503.4	I
IC Description	109AB-99FT5010	109AB-99FT5010	Solar Radiation	505.3	I	505.4	I
<b>RECEIVER</b>			Rain	506.3	I, II	506.4	I, III
Frequencies	800 MHz: 854-866 MHz and 869-870 MHz 900 MHz: 935-941 MHz		Humidity	507.3	II	507.4	—
Channel Spacing	800 MHz: 12.5 and 25 kHz / 900 MHz: 12.5 kHz		Salt Fog	509.3	I	509.4	I
Frequency Stability (-30° C, +60° C, +25° C)	+/- 0.5 ppm		Dust	510.3	I	510.4	I
Analog Sensitivity (12dB SINAD)	0.22 uV		Vibration	514.4	I/10, II/3	514.5	I/24
Digital Sensitivity	5% BER: 0.28 uV		Shock	516.4	I, IV	516.5	I, IV
Intermodulation (TIA603C)	78 dB		<b>ENVIRONMENTAL SPECIFICATIONS</b>				
Adjacent Channel Selectivity TIA603 TIA603C	65 dB @ 12.5 kHz, 75 dB @ 25 kHz 50 dB @ 12.5 kHz, 75 dB @ 25 kHz		Operating Temperature	-30° C / +60° C			
Spurious Rejection (TIA603C)	75 dB		Storage Temperature	-40° C / +85° C			
Rated Audio	3 W (Internal)		Thermal Shock	Per MIL-STD			
Audio Distortion @ Rated Audio	3% (typical)		Humidity	Per MIL-STD			
Hum and Noise	-45 dB @ 12.5 kHz / -45 dB @ 25 kHz		ESD	IEC-801-2KV			
Audio Response	TIA603C		Dust and Water Intrusion	IEC 60529 - IP54			
Conducted Spurious Emission (TIA603C)	-57 dBm		Packaging Test	MIL-STD 810D and E			
<b>TRANSMITTER</b>			<b>ONLY THE FOLLOWING FREQUENCIES ARE SUPPORTED BY THE XPR 4580 / XPR 4380</b>				
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		<b>Band</b>	<b>Receive</b>	<b>Transmit</b>		
Channel Spacing	800 MHz: 12.5 and 25 kHz / 900 MHz: 12.5 kHz		800 MHz	851.0125	806.0125	851.0125	
Frequency Stability (-30° C, +60° C, +25° C Ref.)	+/- 0.5 ppm			851.5125	806.5125	851.5125	
Low Power Output	10 W			852.0125	807.0125	852.0125	
High Power Output	800 MHz: 35W / 900 MHz: 30W			852.5125	807.5125	852.5125	
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz / +/- 5.0 kHz @ 25 kHz			853.0125	808.0125	853.0125	
FM Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz			854.000 - 865.9875	809.000 - 820.9875	854.000 - 865.9875	
Conducted / Radiated Emission	-36 dBm < 1 GHz / -30 dBm > 1 GHz			866.0125	821.0125	866.0125	
Adjacent Channel Power	-50 dB @ 12.5 kHz / -60 dB @ 25 kHz			866.5125	821.5125	866.5125	
Audio Response	TIA603C			867.0125	822.0125	867.0125	
Audio Distortion	3%			867.5125	822.5125	867.5125	
FM Modulation	12.5 kHz: 11K0F3E / 25 kHz: 16K0F3E		868.0125	823.0125	868.0125		
4FSK Digital Modulation	12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE		869.000 - 870.000	824.000 - 825.000	869.000 - 870.000		
Digital Vocoder Type	AMBE +2™		900 MHz	935.000 - 941.000	896.000 - 902.000	935.000 - 941.000	
Digital Protocol	ETSI TS 102 361-1, -2, -3						

\*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

For more information on how to make your business more efficient and better connected, visit.

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