



MOTOROLA



MOTOTRBO™

PROFESSIONAL DIGITAL TWO-WAY MOBILE RADIOS





ACCELERATE PERFORMANCE

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.

THE DIGITAL DIFFERENCE

Two-way radio has been a successful analog communication solution for generations, and it proves itself every day in countless deployments around the world.

But in today's technologically advanced environment, a new platform is possible—a digital platform that breaks through to new levels of performance and productivity.

In the same way digital technology has transformed other media, it is now revolutionizing the way mobile professionals communicate. The time to take advantage of digital two-way radio technology is now.

TAKE ADVANTAGE OF DIGITAL

Digital two-way radios offer several advantages over analog solutions, to name a few:

- Clearer audio to help assure messages are understood without background noise and static
- Integrated data applications such as text messaging, GPS-based location tracking, work order ticket management and much more
- 40% longer battery life for extended work shifts
- Increased capacity – twice the number of users for the price of one frequency license

TDMA – THE BEST CHOICE

There are two primary digital radio technologies: Time-Division Multiple-Access (TDMA) and Frequency-Division Multiple-Access (FDMA).

While both digital technologies provide significant benefits over analog, TDMA is the best choice.

TDMA technology delivers advantages over FDMA

- *Double your capacity per channel with less than half the infrastructure per channel*
TDMA divides your existing channels into two time slots enabling you to double the number of users on your system or utilize data applications. A second call does not require a second repeater, resulting in lower costs for you, as you do not need to purchase, install and maintain additional infrastructure equipment.
- *Double your capacity without the hassle*
TDMA provides two time slots on your existing licensed channels, doubling your capacity. There is no increased risk of interference, and there is no need for new licenses—simply amend your existing licenses to specify digital. Compatibility with all legacy radios working in 12.5 kHz analog channels is also maintained by TDMA.
- *Longer battery life*
TDMA uses only half of the transmitter's capacity, resulting in longer battery life. During long work shifts or where productivity enhancing data applications place an increased power demand on the radio, this extended battery life is invaluable.
- *Advanced features*
TDMA enables smart control features like "transmit interrupt" that makes it possible to interrupt lower priority communication so critical instructions can be delivered exactly when they're needed. And to help you maximize your infrastructure investment, TDMA can transmit voice and data on the same channel.

STANDARDS BASED, FUTURE READY SOLUTION

MOTOTRBO is designed to comply with the globally recognized European Telecommunications Standard Institute (ETSI) Digital Mobile Radio (DMR) Tier 2 standard for professional two-way radio users.

DMR is widely backed by industry leading two-way radio manufacturers, and it is the most widely deployed digital mobile radio technology for professional radio users around the world. This open standard assures long-term stability and develops a community of manufacturers who build interchangeable equipment that can compete on features, benefits and price.

The DMR Association represents a collection of companies and organizations that manufacture DMR equipment, supply related products and service or support the standard in other ways. Motorola is an active member of the DMR Association so you can be assured that MOTOTRBO will always be a robust and future-ready digital radio solution.





UNIQUE MOTOTRBO™ SYSTEM BENEFITS FOR ENHANCED PRODUCTIVITY

MOTOTRBO offers a robust, standards-based 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, data applications, and services—a comprehensive communication solution for your business. MOTOTRBO:

- **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.
- Provides **easy migration** from analog to digital with the ability to operate in both analog and digital modes.
- **Enables additional functionality** including dispatch data, enhanced call signaling, basic and enhanced privacy-scrambling and option board expandability.
- Meets **demanding specifications**—U.S. Military 810 C, D, E and F, and Motorola standards for durability and reliability.
- 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.

EXTENDED COVERAGE WITH IP SITE CONNECT

Imagine using your MOTOTRBO digital two-way radio to speak instantly to a colleague in a plant on the other side of the world.

The IP Site Connect digital solution uses the Internet to extend the coverage of your MOTOTRBO communication system no matter where you may be located.

You can communicate easily among geographically dispersed locations located across the city, state or country. You can create wide area coverage and automatically roam from one coverage area to another with no manual intervention. Or you can simply enhance coverage at a single site like a high-rise building that contains physical barriers.

IP Site Connect enables you to extend the voice and data communication capability of your workforce far beyond what two-way radio has ever achieved before. This means dramatically improved customer service and increased productivity.

INCREASED CAPACITY WITH CAPACITY PLUS SINGLE-SITE TRUNKING

As a scalable, single-site digital trunking solution, Capacity Plus expands the capacity of your MOTOTRBO communication system even further. Over a thousand radio users can quickly and efficiently share business-critical voice and data communication on the same system without having to add new frequencies.



MOTOTRBO INTEGRATED DATA ENABLES ADVANCED APPLICATIONS

ONE DEVICE FOR VOICE AND DATA

In addition to voice, MOTOTRBO supports text messaging, GPS location tracking capability, and custom applications from Motorola's Application Developer Program such as telephony, dispatch, work order ticket solutions and much more. MOTOTRBO keeps your employees connected to the information they need to be more efficient—with the convenience of one device.

CONVENIENT AND DISCREET MOTOTRBO TEXT MESSAGING

Text messaging enables your employees to quickly and easily share information when voice communication isn't practical. It is ideal in loud environments, for delivering messages that don't need an immediate response, or when voice communication could be disrupting to guests, students, customers, or patients.

MOTOTRBO text messaging communicates between radios, radios and dispatch systems, and even radios to any email capable device.

TRACK VEHICLES AND PEOPLE WITH INTEGRATED GPS

Every MOTOTRBO radio has an integrated GPS module to use for tracking people outside your facility, vehicles or other remote assets operating in your coverage area. Unlike other GPS capable radios, MOTOTRBO's module is integrated into the handset so there is no clumsy additional equipment to attach, carry or maintain.

This enables you to better manage your mobile work force and quickly respond to incidents by locating the nearest employee and dispatching them to the scene. It also makes it easier to manage your fleet so you can make deliveries and drive routes more efficiently.

For utility crews, taxi services, the hospitality industry, and countless other industries, the ability to see where your vehicles and employees are located with just a glance is invaluable. Your employees will be far more efficient and your customer service can improve significantly.

CUSTOM DATA APPLICATIONS WITH MOTOROLA'S APPLICATION DEVELOPER PROGRAM

MOTOTRBO offers an optional expansion card which can accommodate custom data applications that adapt the radios to support your specific business tasks.

You can, for example, work with third-party developers or your own IT staff to extend the functionality of MOTOTRBO using Motorola's Application Developer Program.

With this development tool you can create unique applications such as a program to help you manage your work order tickets, to integrate your dispatch and billing systems, to link your MOTOTRBO radios to your telephone system, or to connect to email.

MOTOTRBO is a powerful tool for communication with the flexibility to adapt to your work force, your customers and your business.

MOTOTRBO™ SYSTEM COMPONENTS AND BENEFITS



XPR™ 4550 / XPR™ 4580 DISPLAY MOBILE RADIO

- 1 Flexible, menu-driven interface with user-friendly icons or two lines of text for ease of reading text messages* and navigating through the menus.
- 2 Multi-colored LED indicators for clear, visible feedback of calling, scanning, roaming and monitoring features.
- 3 Large, easy-to-use volume knob.
- 4 Integrated GPS module enables the use of location-tracking data applications.*
- 5 Up to 1,000 channels.
- 6 Powerful, front-projecting speaker.
- 7 Large, easy-to-use navigation buttons allow easy access to intuitive, menu-driven interfaces.
- 8 Accessory connector supports USB and IMPRES™ audio capability.
- 9 Four programmable/replaceable buttons for easy access to frequently used features.
- 10 Compact and ergonomically friendly microphone.

DISPLAY MOBILE RADIO STANDARD PACKAGE

- Mobile Radio with Display Control Head
Digital/Analog radio or Analog only radio model
- Compact Microphone
- Mounting Trunnion
- 10-Foot Power Cable
- Replacement Button Kit: monitor, scan, backlight, emergency, talkaround, text message, contacts
- Built-In Expansion Card* (XPR 4580 only)
- Two-year Standard Warranty plus one-year Repair Service Advantage (US only) / Extended Warranty (Canada only)

ADDITIONAL FEATURES

- Enhanced call management
Digital calling features*
Encode/Decode: call alert, emergency, remote monitor, push-to-talk ID, radio check, private call, all call, transmit interrupt (voice interrupt, remote voice dekey, emergency voice interrupt or data over voice interrupt), radio disable
MDC 1200 analog calling features
Encode/decode: push-to-talk ID, emergency, call alert
Quik-Call II™ analog calling features
Encode/decode: call alert, call alert with voice, select call
- Dual-mode analog and/or digital scan and mixed mode priority scan*—facilitates a smooth migration from analog to digital
- Optional Expansion Card for added capabilities
- Basic or Enhanced privacy—built-in scrambling for increased security*
- Free-form (requires keypad microphone) and quick text messaging*
- Remote mount control head kit for easier access and installation
- Seamless site roaming with IP Site Connect*
- Increased voice and data capacity with Capacity Plus single-site trunking*

*Digital mode only



XPR™ 4350 / XPR™ 4380 NUMERIC DISPLAY MOBILE RADIO

- 1 32 channels; channel number is easy to read on large, clear numeric two-digit display.
- 2 Multi-colored LED indicators for clear, visible feedback of calling, scanning, roaming and monitoring features.
- 3 Large, easy-to-use volume knob.
- 4 Integrated GPS module enables the use of location-tracking data applications.*
- 5 Large, easy-to-use channel navigation buttons.
- 6 Powerful, front-projecting speaker.
- 7 Accessory connector supports USB and IMPRES audio capability.
- 8 Two programmable/replaceable buttons for easy access to frequently used features.
- 9 Compact and ergonomically friendly microphone.

NUMERIC DISPLAY MOBILE RADIO STANDARD PACKAGE

- Mobile Radio with Numeric Display Control Head
Digital/Analog radio or Analog only radio model
- Compact Microphone
- Mounting Trunnion
- 10-Foot Power Cable
- Replacement Button Kit: monitor, scan
- Built-In Expansion Card* (XPR 4380 only)
- Two-year Standard Warranty plus one-year Repair Service Advantage (US only) / Extended Warranty (Canada only)

*Digital mode only

ADDITIONAL FEATURES

- Enhanced call management
Digital calling features*
Encode/Decode: private call, call alert, all call, transmit interrupt (voice interrupt, remote voice dekey, emergency voice interrupt or data over voice interrupt)
Encode only: emergency, push-to-talk ID
Decode only: radio check, remote monitor, radio disable
- MDC 1200 analog calling features
Encode/decode: call alert
Encode only: push-to-talk ID, emergency
- Quik-Call II™ analog calling features
Decode only: call alert, call alert with voice, select call
- Dual-mode analog and/or digital scan and mixed mode priority scan*—facilitates a smooth migration from analog to digital
- Optional Expansion Card for added capabilities
- Basic or Enhanced privacy—built-in scrambling for increased security*
- Send quick text messages via programmable buttons*
- Remote mount control head kit for easier access and installation
- Seamless site roaming with IP Site Connect*
- Increased voice and data capacity with Capacity Plus single-site trunking*

MOTOTRBO™ MOBILE RADIO SPECIFICATIONS



DISPLAY VHF/UHF

XPR™ 4550
With integrated GPS module



NUMERIC DISPLAY VHF/UHF

XPR 4350
With integrated GPS module

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 (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	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-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 µV 0.22 µV (typical)			0.3 µV 0.22 µV (typical)		
Digital Sensitivity	5% BER: 0.3 µV			5% BER: 0.3 µV		
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) 75 W (External - 8 ohms) 13 W (External - 4 ohms)			3 W (Internal) 75 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		

*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

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)

TTF (Time To First Fix) Cold Start	< 1 minute
TTF (Time To First Fix) Hot Start	< 10 seconds
Horizontal Accuracy	< 10 meters

Military Standards

Applicable MIL-STD	810E		810F	
	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/A1C3	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
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

*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™ MOBILE RADIO SPECIFICATIONS



DISPLAY 800 / 900 MHz

XPR™ 4580
With integrated GPS module



NUMERIC DISPLAY 800 / 900 MHz

XPR 4380
With integrated GPS module

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	

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

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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	ETSITS 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

Military Standards

Applicable MIL-STD	810E		810F	
	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/A1C3	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

	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 MILSTD	
Humidity	per MILSTD	
ESD	IEC-801-2KV	
Water Intrusion	IEC 60529 - IP54	
Packaging Test	MIL STD 810D and E	

Only the following frequencies are supported by the XPR 4580 / XPR 4380

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



MOTOTRBO™ SERVICE OFFERINGS

SUBSCRIBER REPAIR

Managing the in-house repair and maintenance of your subscriber radios takes a dedicated staff of technicians, as well as an ongoing investment in diagnostic equipment, repair tools, and the technical training to keep up to speed on the latest technology. Motorola has made that investment and can help you easily and cost effectively keep your radios in top operating condition to ensure optimal efficiency and productivity.

Our subscriber repair service offerings allow you to budget for your repairs, preventing unexpected service and maintenance costs. Repair Service Advantage (RSA) and Repair Service Advantage Comprehensive (RSA Comprehensive) repairs receive priority service and meet committed cycle times.

- **Repair Service Advantage (RSA):**

Repair Service Advantage is a post-warranty service offering that extends the service coverage of Motorola portable or mobile subscriber radios. RSA can be purchased as an option to new radio purchases and is available in 1, 2 or 3-year increments. (U.S. only)

- **Repair Service Advantage Comprehensive:**

Motorola portable and mobile radios are designed to take a lot of abuse. They are built to withstand the chaos and conditions inherent in a fire or natural disaster response and recovery effort. But even the best radios are subject to occasional 'above and beyond' wear and tear. That's why Motorola Subscriber Repair Services has introduced RSA Comprehensive.

RSA Comprehensive offers all the protection of a standard RSA support plan with even more coverage that includes chemical, liquid and other physical damage to your Motorola portable and mobile subscriber radios. RSA Comprehensive is available as an option to the radio purchase for 3 years of coverage. (U.S. only, not available on repeaters)

- **Extended Warranty:**

In addition to the 2-year standard warranty, Extended Warranty is available for a total of 3 or 5 year coverage. (Canada only)

IMPRES™ SMART AUDIO SYSTEM— EXCLUSIVE AUDIO TECHNOLOGY THAT ENABLES HIGH QUALITY COMMUNICATIONS

Motorola digital technology enables breakthrough radio performance and features. Our state-of-the-art IMPRES audio technology allows communication between the radio and audio accessories, enabling enhanced performance and capabilities, both in analog and digital modes—now and into the future.



- **IMPRES Smart Audio System**—Provides businesses and agencies with a solution that optimizes key aspects of two-way audio quality—loudness, clarity and intelligibility.

Optimal Audio Performance: When an IMPRES accessory is attached, the accessory parameters are sent to the MOTOTRBO radio enabling the radio to optimize its output for each type of audio accessory. This results in more consistent output across all audio accessory types. For example, the IMPRES remote speaker microphone capitalizes on the MOTOTRBO radio's intelligent signal processing for outstanding noise suppression, speech clarity, and loudness—even in difficult weather conditions.

Customization: Accessory programmable buttons can be programmed to any feature available in the radio CPS, rather than being linked to radio programmable button programming. This allows accessories with programmable buttons to have independently programmed features. This flexibility allows the radio to be customized to fit your specific applications and needs.

Enhanced Audio Gain Capability (AGC): IMPRES audio accessories have significantly enhanced audio gain capability. When you are speaking either quietly or speaking in a normal volume but not directly into the microphone, IMPRES audio technology can detect that condition and will automatically increase the microphone gain. AGC eliminates the need to adjust volume levels repeatedly.

- **Future Applications**—The portable connector design also incorporates built-in USB capability to allow for the use of USB-capable accessories. The audio accessory interface is now the Motorola standard audio accessory interface for mid- to high-tier two-way radios. Future accessory development is based on this interface so you will be able to take advantage of future releases of new audio accessories.



MOTOTRBO™ ACCESSORIES



MOBILE RADIO



A range of Motorola accessories are available to support the MOTOTRBO mobile radios. Accessories are an important piece of the mobile solution to meet even the most challenging installation and operational requirements. These MOTOTRBO mobile accessories can enable hands free communication in the vehicle, dispatch-enabled communication and convenient installation options.

AUDIO SOLUTIONS

Various mobile microphones are available for different needs. The IMPRES keypad microphone allows the user to navigate the mobile menu, dial phone numbers and send text messages, the heavy duty microphone provides enhanced durability and easier handling while wearing gloves. The IMPRES visor microphone enables hands-free and discreet communications.

The desktop microphone, tray and external speaker allow users to convert MOTOTRBO mobiles into simple base stations offering an optimal solution for transportation and dispatch users.

Other accessories are available for MOTOTRBO with specific needs in mind. An emergency footswitch is available allowing users to discreetly notify about an emergency situation. External speaker and push-button PTT are available when operating in noisy environments or if hands free operation is required.



REMOTE MOUNTING SOLUTIONS

Remote Mount cables enable you to mount the mobile in a trunk, a critical accessory when space is limited in the vehicle or in covert operations.

ANTENNA SOLUTIONS

A wide variety of antenna options are available to support your specific mobile configuration. Standalone radio frequency (RF) antennas, standalone GPS antennas or combination GPS/RF antennas are all available in the frequency band you require.



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To learn more about MOTOTRBO, visit:
www.motorola.com/mototrbo

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