



Professional Digital Two-Way Radio System

MOTOTRBO™



ACCELERATE PERFORMANCE.



***Introducing MOTOTRBO™
Professional Digital
Two-Way Radio System.
The future of two-way radio.***

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 is ideal for professional organizations that need a customizable, business-critical communication solution using licensed spectrum.



Unique MOTOTRBO System Benefits for Enhanced Productivity

MOTOTRBO offers 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 services—a complete solution. MOTOTRBO:

- Uses Time-Division Multiple-Access (TDMA) technology to provide **twice the calling capacity** (as compared to analog or FDMA radios) for the price of one license. A second call doesn't require a second repeater, saving you equipment costs.
- **Integrates voice and data** 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.
- Provides **clearer voice communications**, in digital mode, 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.
- **Enables additional functionality** including dispatch data, enhanced call signaling, basic privacy-scrambling and option board expandability.
- Provides **easy migration** from analog to digital with the ability to operate in both analog and digital modes.
- 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** (portable models) and can be used in locations where flammable gas, vapors or combustible dust may be present. Approved FM battery option is an IMPRES™ 1400 mAh slim Lilon battery.
- Utilizes Motorola's **state-of-the-art IMPRES technology** in batteries, chargers and audio accessories, providing longer talk time and clearer audio delivery.
- Is **fully backed** by a two-year Standard Warranty plus one-year Repair Service Advantage (US only)/ Extended Warranty (Canada only).
- Is **fully backed** by at least a one-year Workmanship Warranty for IMPRES chargers and an 18-month Capacity Warranty for IMPRES batteries when used exclusively with IMPRES chargers.

Contents

MOTOTRBO Applications
Page 4 – 5

MOTOTRBO System
Page 6 – 10

New Audio Accessory Connector
Page 11

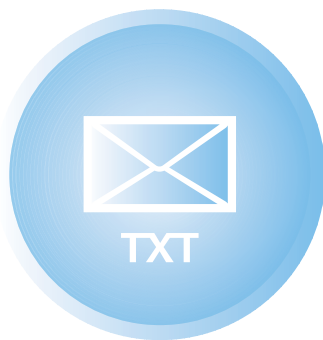
MOTOTRBO Accessories
Page 12 – 13

MOTOTRBO Specifications
Page 14 – 18

IMPRES Smart Energy System
Page 19

MOTOTRBO™ Integrated Data Enables Advanced Applications

MOTOTRBO is changing the way businesses communicate. You can gain productivity with the use of powerful data applications such as MOTOTRBO Text Messaging Services. MOTOTRBO also features an integrated GPS module for use with third-party location-tracking applications. And with additional applications from Motorola's Application Developer Program, you can leverage even more capabilities—and get the most from your communications investment.



MOTOTRBO Text Messaging Services

The MOTOTRBO Text Messaging Services allows communication between radios and dispatch systems, between radios and email-addressable devices, and to remote PC clients attached to radios. And when sending emails to portable and mobile radios using Motorola's email gateway, the subject line of the email can be retained within the body of the text message. This application allows you to utilize another form of communication for your business—whether it's the need for discreet communication or the ability to send quick text messages. Thus enabling you to focus on the business at hand. Furthermore, the dispatcher PC can act as a gateway to email, enabling messaging between email-addressable devices and radios.



MOTOTRBO Application Developer Program

Third-party developers play an important role in supporting the MOTOTRBO platform by creating customized applications that can add value to you and your organization. Developers can extend the capabilities of MOTOTRBO to offer niche solutions that provide the ability to satisfy a broad range of your needs.



MOTOTRBO's Integrated GPS Module

MOTOTRBO features an integrated GPS module that, in conjunction with a location software application, gives you the ability to track both people and assets. This advanced approach takes advantage of the GPS module and receiver integrated within both the portable and mobile radios, combined with a third-party location application to help you manage your mobile workforce, improve your response time and increase your productivity.

You can view the location of inbound materials to better prepare the receiving department. You can also monitor outbound shipments from your business to ensure deliveries are being made in a timely manner and to the proper locations, all while coordinating your fleet to do so in the most efficient manner possible. By utilizing the integrated GPS module, you can enjoy the benefits of location-tracking without cumbersome external GPS devices to install and maintain.

To encourage the development of a broad portfolio of solutions and continuing innovation, Motorola provides support to its Application Developer Program, giving accredited developers access to the MOTOTRBO protocol and Application Programming Interface (API) documentation as well as online support. For more information, visit the MOTODEV website at <http://developer.motorola.com>.



XPR™ 6500/6550 Display Portable Radios

- 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 Tri-color LED indicator for clear, visible feedback of calling, scanning and monitoring features.
- 3 Emergency button alerts supervisor or dispatcher in an emergency situation.
- 4 New accessory connector meets IP57 submersibility specifications and incorporates RF, USB and IMPRES™ audio capability.
- 5 XPR 6550 includes integrated GPS module.
- 6 Large, easy-to-use navigation buttons allow easy access to intuitive menu-driven interfaces.
- 7 Meets IP57 specifications; submersible in 1 meter of fresh water up to 30 minutes.
- 8 Powerful, front projecting speaker that transmits digital TDMA audio or 12.5/25 kHz analog audio.
- 9 Three side and two front programmable buttons for easy access to favorite features. New features such as one-touch calling and quick text messaging are made even easier through programmable button access.
- 10 Large, textured push-to-talk button provides good tactile response and easy access, even when wearing gloves.
- 11 160 channels.

Display Portable Radio Standard Package

- Display Portable Radio
- Antenna—Standard whip included with XPR 6500; Standard whip with GPS included with XPR 6550
- IMPRES™ Lilon 1500 mAh Submersible Battery
- IMPRES™ Single Unit Charger
- 2.5" Belt Clip
- User Guide CD Kit (English and French Canadian)
- Two-year Standard Warranty plus one-year Repair Service Advantage (US only) / Extended Warranty (Canada only)

Additional Features

- Enhanced call management
Encode/decode: call alert, emergency, remote monitor, push-to-talk ID, radio check, private call, all call, radio disable
- Dual-mode analog and/or digital scan—facilitates a smooth migration from analog to digital
- Option board expandable for added capabilities
- Basic privacy—built-in scrambling for increased security
- Short free-form and quick text messaging
- Contacts list accommodates up to 256 contacts

XPR™ 6300/6350 Non-Display Portable Radios



- 1 Tri-color LED indicator for clear, visible feedback of calling, scanning and monitoring features.
- 2 Emergency button to alert supervisor or dispatcher in an emergency situation.
- 3 New accessory connector meets IP57 submersibility specifications and incorporates RF, USB and IMPRES™ audio capability.
- 4 XPR 6350 includes integrated GPS module.
- 5 Meets IP57 specifications; submersible in 1 meter of fresh water up to 30 minutes.
- 6 Powerful, front projecting speaker that transmits digital TDMA audio or 12.5/25 kHz analog audio.
- 7 Three side programmable buttons for easy access to favorite features. New features such as one-touch calling and quick text messaging are made even easier through programmable button access.
- 8 Large, textured push-to-talk button provides good tactile response and easy access, even when wearing gloves.
- 9 32 channels.

Non-Display Portable Radio Standard Package

- Non-Display Portable Radio
- Antenna—Standard whip included with XPR 6300; Standard whip with GPS included with XPR 6350
- IMPRES™ Lilon 1500 mAh Submersible Battery
- IMPRES™ Single Unit Charger
- 2.5" Belt Clip
- User Guide CD Kit (English and French Canadian)
- Two-year Standard Warranty plus one-year Repair Service Advantage (US only) / Extended Warranty (Canada only)

Additional Features

- Enhanced call management
 - Encode/Decode: private call, call alert
 - Encode only: emergency, push-to-talk ID
 - Decode only: radio check, remote monitor, radio disable, all call
- Dual-mode analog and/or digital scan—facilitates a smooth migration from analog to digital
- Option board expandable for added capabilities
- Basic privacy—built-in scrambling for increased security
- Send quick text messages via programmable buttons

MOTOTRBO™ System Components and Benefits



XPR™ 4500/4550 Display Mobile Radios

- 1 Accessory connector supports USB and IMPRES™ audio capability.
- 2 Multi-colored LED indicators for clear, visible feedback of calling, scanning and monitoring features.
- 3 Large, easy-to-use volume knob.
- 4 XPR 4550 features an integrated GPS module for use with location-tracking data applications.
- 5 160 channels.
- 6 Powerful, front-projecting speaker that transmits 12.5 kHz digital TDMA audio or 12.5/25 kHz analog audio.
- 7 Large, easy-to-use navigation buttons allow easy access to intuitive, menu-driven interfaces.
- 8 Flexible, menu-driven interface with user-friendly icons or two lines of text for ease of reading text messages and navigating through the menus.
- 9 Four programmable/replaceable buttons for easy access to favorite features. New features such as one-touch calling and text messaging are made even easier through programmable button access.
- 10 Compact and ergonomically friendly microphone.

Display Mobile Radio Standard Package

- Radio with Display Control Head
- Mounting Trunnion
- 10-Foot Power Cable
- Compact Microphone
- Replacement Button Kit: monitor, scan, backlight, emergency, talkaround, text message, contacts
- User and Installation Guide CD Kit (English and French Canadian)
- Two-year Standard Warranty plus one-year Repair Service Advantage (US only)/Extended Warranty (Canada only)

Additional Features

- Enhanced call management
Encode/decode: call alert, emergency, remote monitor, push-to-talk ID, radio check, private call, all call, radio disable
- Dual-mode analog and/or digital scan—facilitates a smooth migration from analog to digital
- Option board expandable for added capabilities
- Basic privacy—built-in scrambling for increased security
- Short free-form (requires keypad microphone) and quick text messaging



XPR™ 4300/4350 Numeric Display Mobile Radios

- 1 Accessory connector supports USB and IMPRES™ audio capability.
- 2 Multi-colored LED indicators for clear, visible feedback of calling, scanning and monitoring features.
- 3 Large, easy-to-use volume knob.
- 4 XPR 4350 features an integrated GPS module for use with location-tracking data applications.
- 5 Large, easy-to-use channel navigation buttons.
- 6 Powerful, front-projecting speaker that transmits digital TDMA audio or 12.5/25 kHz analog audio.
- 7 32 channels; channel number is easy to read on large, clear numeric two-digit display.
- 8 Two programmable/replaceable buttons for easy access to favorite features. New features such as one-touch calling are made even easier through programmable button access.
- 9 Compact and ergonomically friendly microphone.

Numeric Display Mobile Radio Standard Package

- Radio with Numeric Display Control Head
- Mounting Trunnion
- 10-Foot Power Cable
- Compact Microphone
- Replacement Button Kit: monitor, scan
- User and Installation Guide CD Kit (English and French Canadian)
- Two-year Standard Warranty plus one-year Repair Service Advantage (US only)/Extended Warranty (Canada only)

Additional Features

- Enhanced call management
 - Encode/Decode: private call, call alert
 - Encode only: emergency, push-to-talk ID
 - Decode only: radio check, remote monitor, radio disable, all call
- Dual-mode analog and/or digital scan—facilitates a smooth migration from analog to digital
- Option board expandable for added capabilities
- Basic privacy—built-in scrambling for increased security
- Send quick text messages via programmable buttons



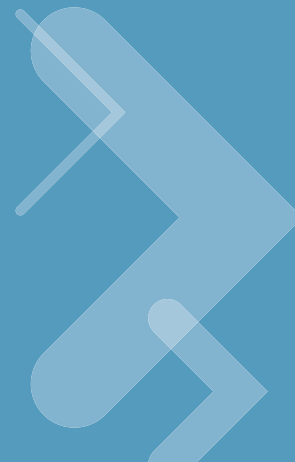
XPR™ 8300 Repeater

- 1 100% continuous duty at 40W/UHF and 45W/VHF.
- 2 Supports two simultaneous voice or data paths in digital TDMA mode.
- 3 Integrated power supply.
- 4 Operates in analog or digital mode—bright, clear, colored LEDs indicate mode.
- 5 LEDs clearly indicate transmit and receive modes in both channel slots.
- 6 Rack- or wall-mountable—compatible with desktop housing as well.
- 7 Sturdy handles make installation and handling easier.
- 8 Automated battery back-up (battery sold separately).

Repeater Standard Package

- Repeater
- 120V AC Power Cord
- Installation Guide
- Two-year Standard Warranty

IMPRES™ Smart Audio System— A Unique Audio Technology that Enables the Highest Quality Communications



Motorola's 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**—Enables enhanced audio performance and capabilities.

Optimal Audio Performance: When an IMPRES accessory is attached, accessory identification is sent to the 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.

Customization: IMPRES audio 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 accessory programmable buttons to have independent programmable features. The radio can be customized to fit specific customer applications and needs.

Enhanced Audio Gain Capability: IMPRES audio accessories have significantly enhanced audio gain capability. When a user is either speaking quietly or is speaking in a normal volume but not directly into the microphone, IMPRES audio can detect that condition and will automatically increase the gain such that the person on the receiving end hears a clear transmission.

- **Built-in Antenna Signal**—The portable connector design incorporates the antenna signal within the audio connector, which allows for easy use of accessories that require an antenna signal, such as public safety microphones.
- **Submersibility**—The new connector design meets IP57 submersibility requirements. This allows for use with submersible accessories, such as the submersible remote speaker microphone, which provides optimal message delivery even in wet conditions.
- **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 will be based upon this connector interface. Your customers will be able to take advantage of future releases of new audio accessories.



Portable Radio

Part #	Description	Benefits
Audio		
PMMN4025	IMPRES Remote Speaker Microphone	These Remote Speaker Microphones utilize advanced windporting technology that can help reduce background noise in windy conditions. The PMMN4024 and PMMN4025 have an earjack located on the microphone head to eliminate long wires. The PMMN4040 has a higher IP57 water intrusion rating that helps provide first responders with high reliability in emergency situations.
PMMN4024	Remote Speaker Microphone	
PMMN4040	Remote Speaker Microphone - Submersible (IP57)	
PMMN4050	IMPRES Remote Speaker Microphone - Noise Cancelling	Slightly larger RSM for users wearing gloves. 3.8mm earjack is located on the microphone head to eliminate long wires. When the user speaks into the microphone, the Noise Cancelling acoustic utilizes a directional microphone that will help eliminate ambient noise - ideal for outdoor communication.
PMMN4046	IMPRES Remote Speaker Microphone, with volume control - Submersible (IP57)	Slightly larger RSM for users wearing gloves. Utilizes windporting technology that can reduce background noise in windy conditions. The volume control enables users to adjust audio volume without having to touch the radio.
PMMN4041	IMPRES Public Safety Microphone - 30" cable	Police and other emergency services professionals will appreciate the enhanced coverage and exceptional reliability of these public safety microphones. Their windporting technology that can help reduce background noise in windy conditions. Available with and without earjack. Note: Antenna sold separately (listed within antenna section).
PMMN4042	IMPRES Public Safety Microphone - 24" cable	
PMMN4043	IMPRES Public Safety Microphone - 18" cable	
PMMN4047	IMPRES Public Safety Microphone - Submersible (IP57), 30" cable	
PMMN4048	IMPRES Public Safety Microphone - Submersible (IP57), 24" cable	
PMMN4049	IMPRES Public Safety Microphone - Submersible (IP57), 18" cable	
RMN5058	Lightweight Headset	Lightweight headsets offer comfortable, extended wear use while providing high clarity and discreet communication in moderate noise environments.
PMLN5102	Ultra-Lite Headset	This headset provides clear and hands-free two-way communication, while maintaining the comfort necessary for extended wear in moderate noise environments.
PMLN5096	D-Style Earset	This Ultra lightweight D-Style earpiece is comfortable and can be worn on either ear. The innovative and stylish design allows for hands-free communication. It offers an in-line Push-to-Talk button for ease of use.
PMLN5101	Temple Transducer	Receive audio without covering the ear. The receiver portion of this accessory rests on the temples and is capable of converting the input audio from a two-way radio into sound vibration. The sound vibration is transmitted through the surrounding human tissue and bone directly into the inner ear where it is received by the user. This allows the user to hear external sounds from both ears while receiving radio communications. Also protects users ear while receiving audio.
PMLN5275	Heavy-Duty Headset	Includes a noise-cancelling boom microphone and can be worn with or without a hardhat. The PTT switch is located on the earcup.
RLN5878	Receive Only Surveillance Kit, Black	Surveillance accessories allow the radio user to privately receive messages and are ideal when environments require discreet communications.
RLN5879	Receive Only Surveillance Kit, Beige	
RLN5880	IMPRES 2 Wire Surveillance Kit, Black	
RLN5881	IMPRES 2 Wire Surveillance Kit, Beige	
RLN5882	IMPRES 2 Wire Surveillance Kit w/ Translucent Tube, Black	
RLN5883	IMPRES 2 Wire Surveillance Kit w/ Translucent Tube, Beige	
PMLN5097	IMPRES 3 Wire Surveillance Kit - Black	
PMLN5106	IMPRES 3 Wire Surveillance Kit - Beige	
PMLN5111	IMPRES 3 Wire Surveillance Kit w/ Translucent Tube - Black	
PMLN5112	IMPRES 3 Wire Surveillance Kit w/ Translucent Tube - Beige	
RLN4760	Small Custom Earpiece, Right Ear, for Surveillance Kits	
RLN4761	Medium Custom Earpiece, Right Ear, for Surveillance Kits	
RLN4762	Large Custom Earpiece, Right Ear, for Surveillance Kits	
RLN4763	Small Custom Earpiece, Left Ear, for Surveillance Kits	
RLN4764	Medium Custom Earpiece Left Ear, for Surveillance Kits	
RLN4765	Large Custom Earpiece, Left Ear, for Surveillance Kits	
RLN5886	Surveillance Low Noise Kit	Noise Kits provide extra comfort and/or noise protection for users wearing surveillance accessories. Extreme noise kit provides 24 dB noise reduction. Low Noise Kit does not provide hearing protection.
RLN5887	Surveillance Extreme Noise Kit	
RLN4941	Receive Only Earpiece	These accessories allow users to receive audio discreetly. Any of the microphones that have a 3.5 mm audio jack are compatible with these earpieces.
AARLN4885	Receive Only Earbud	
WADN4190	Over the Ear Receiver	
PMLN4620	D-Shell Receive Only Earpiece	

Batteries		
PMNN4066	IMPRES Lilon 1500 mAh Submersible (IP57) Battery	Offer superior, long lasting performance. Automated maintenance and a six month extended warranty when used exclusively with IMPRES chargers. Can be charged and reconditioned without being removed from the radio.
PMNN4069	IMPRES Lilon 1400 mAh Submersible (IP57) Battery - Intrinsically Safe (FM)	
PMNN4077	IMPRES Lilon 2200 mAh Submersible (IP57) Battery	All IMPRES benefits plus higher capacity for extended shifts or high power consuming applications.
PMNN4065	NiMH 1300 mAh Submersible (IP57) Battery	NiMH chemistry offers an attractive combination of capacity, weight and cost.

Part #	Description	Benefits
Chargers		
WPLN4232	IMPRES Single Unit Charger	Provides adaptive, automatic reconditioning for IMPRES batteries to maximize talk time and cycle life. Advanced charging algorithm monitors battery capacity so that they can be kept in the charger for extended periods. Display models provide real time charge status information.
WPLN4212	IMPRES Multi Unit Charger	
WPLN4219	IMPRES Multi Unit Charger w/ Displays	
RLN5382	Charger Display Module for IMPRES Multi-Unit Charger	Benefit: Readout attaches to multi-unit charger and displays battery kit number, serial number and chemistry.

Carry Devices			
PMLN4651	2" Belt Clip		
PMLN4652	2.5" Belt Clip		
PMLN5015	Nylon Carry Case w/ 3" Fixed Belt Loop for Display Radio	Durable leather or nylon carry cases keep your radio and battery securely in place while permitting audio to be heard clearly. Fixed belt loop and nylon cases feature D rings that allow the case to be attached to a carrying strap. Swivel cases secure to a belt loop and allow the case to swing freely from side to side. The swivel latch system allows fast, easy radio/case removal by simply inverting the case and lifting it up from the belt loop.	
PMLN5021	Hard Leather Carry Case w/ 3" Fixed Belt Loop for Display Radio		
PMLN5019	Hard Leather Carry Case w/ 2.5" Swivel Belt Loop for Display Radio		
PMLN5020	Hard Leather Carry Case w/ 3" Swivel Belt Loop for Display Radio		
PMLN5024	Nylon Carry Case w/ 3" Fixed Belt Loop for Non-Display Radio		
PMLN5030	Hard Leather Carry Case w/ 3" Fixed Belt Loop for Non-Display Radio		
PMLN5028	Hard Leather Carry Case w/ 2.5" Swivel Belt Loop for Non-Display Radio		
PMLN5029	Hard Leather Carry Case w/ 3" Swivel Belt Loop for Non-Display Radio		
PMLN5022	2.5" Replacement Swivel Belt Loop		
PMLN5023	3" Replacement Swivel Belt Loop		
HLN6602	Universal Chest Pack		Includes convenient radio holder and Velcro secured pocket for carrying additional items.
RLN4570	Break-A-Way Chest Pack		All the features of the original Universal Chest Pack (HLN6602) plus break-away tabs that allow the entire pack to be pulled off with approximately 10 lbs. of force.
1505596202	Replacement Strap for RLN4570 and HLN6602 Chest Packs		
RLN4815	Universal RadioPAK and Utility Case (fanny pack)		Holds portables or cell phones close at hand, includes 6" by 8" zippered pouch for on-the-job necessities.
4280384F89	Universal RadioPAK Extension Belt		Extension to lengthen belt of RadioPAK (used with RLN4815). For waists larger than 40 inches.
NTN5243	Shoulder Strap (attaches to D-rings on carry case)	Allows easy carrying of radio when not wearing a belt.	
HLN9985	Waterproof bag, includes large carry strap	Protects your radio from moisture, includes a large carrying strap.	
RLN4295	Small Clip, Epaulet Strap	Secures speaker mic to epaulet strap.	
4200865599	Belt	1.75" wide black leather belt.	

Antennas		
PMAE4018	Combination UHF/GPS 403-433 MHz Folded Monopole Antenna	Optimum length antenna designed for higher gain to maximize range. This capless design provides maximum flexibility and built in capability to operate at GPS frequencies.
PMAE4024	Combination UHF/GPS 430-470 MHz Folded Monopole Antenna	
PMAE4050	Combination GPS/UHF 450-495 MHz Folded Monopole Antenna	
PMAE4051	Combination GPS/UHF 495-527 MHz Folded Monopole Antenna	Short, nonobtrusive stubby antennas are ideal for situations when radios are worn on the user's belt. These rugged helical antennas feature a capless sheath that allows for maximum flexibility. Built in GPS capability.
PMAE4021	Combination UHF/GPS 403-433 MHz Stubby Antenna	
PMAE4023	Combination UHF/GPS 430-470 MHz Stubby Antenna	
PMAE4022	UHF 403-470 MHz Whip Antenna	Flexible whip antennas have a one piece finish, steel core and spiral wound conductor core.
PMAE4049	UHF 450-527 MHz Whip Antenna	
PMAD4067	Combination VHF/GPS 136-147 MHz Helical Antenna	Medium size helical antennas feature a capless sheath that allows maximum flexibility. Built in GPS capability.
PMAD4068	Combination VHF/GPS 147-160 MHz Helical Antenna	
PMAD4069	Combination VHF/GPS 160-174 MHz Helical Antenna	Single antenna capable to cover the whole range of VHF frequency band.
PMAD4088	VHF 136-174 MHz Wideband Antenna	
PMAE4046	UHF 403-433 MHz Public Safety Microphone Stubby Antenna	To be utilized with the IMPRES Public Safety Microphones. (PMMN4041, PMMN4042, PMMN4043)
PMAE4047	UHF 430-470 MHz Public Safety Microphone Stubby Antenna	
PMAD4086	VHF 150-174 MHz Public Safety Microphone Antenna	
PMAD4087	VHF 136-153 MHz Public Safety Microphone Antenna	



Mobile Radio

Part #	Description	Benefits
Audio		
RMN5052	Compact Microphone	Standard microphone for MO-TOTRBO.
RMN5065	IMPRES Keypad Microphone	The Enhanced Keypad Microphone allows the user to navigate radio menus from the microphone.
RMN5053	IMPRES Heavy Duty Microphone	For users who want a more durable microphone; also ideal for those who need a larger microphone that is easy to handle when operating while wearing gloves.
RMN5054	IMPRES Visor Microphone	Visor mic for use with external PTT accessories; mic mounts to vehicle's visor for hands-free radio operation.
RMN5050	Desktop Microphone	Intended to be used for a mobile radio that is being used in a desktop configuration.
HMN4098	IMPRES Telephone Style Handset	This handset allows for discreet communications while on the job. Updated Styling with IMPRES functionality. Automatic Gain Control ensures that the audio is received clear whether the user is shouting or whispering.
Loudspeakers		
RSN4002	13 Watt External Speaker	External speakers ideal for extremely noisy environments.
RSN4003	75 Watt External Speaker	
RSN4004	5 Watt External Speaker	
Desktop		
RSN4005	Desktop Tray with Speaker	A desktop tray that includes a speaker for increased volume when receiving calls in high-noise areas.
GLN7318	Desktop Tray without Speaker	Ideal for securing the mobile radio in place in a desktop configuration.
HPN4007	Power Supply and Cable (25 - 60 Watt Models)	Provides power when using a mobile from a desktop.
HPN4008	Power Supply and Cable (1 - 25 Watt Models)	
GPN6145	Switchmode Power Supply (1 - 25 Watt Models)	Has a provision for a back up battery hook up.
GKN6266	Power Supply Cable	Power cable for GPN6145 switch-mode power supply.
HKN9088	Mobile Mini U Antenna Adapter - 8 ft Cable	
PMLN5072	Hardware Kit for Rear Accessory Connector	
Mounting		
RLN6077	Low Profile Trunnion Kit	
RLN6078	High Profile Trunnion Kit	
RLN6079	Key Lock Trunnion Kit	Key lock mount bracket allows the mobile to be mounted and locked giving radio users extra protection from theft by requiring the use of a key to lock/unlock the radio from its position in the mounting bracket.
RLN5933	In Dash (DIN) Mounting Kit	
Cables		
RKN4136	Ignition Sense Cable	
HKN4137	Power Cable to Battery - 10 ft, 15 amp	
HKN4192	Power Cable to Battery - 20 ft, 20 amp	
PMKN4018	Mobile Rear Accessory Connector Universal Cable	
PMKN4013	Portable Telemetry Cable (10 feet)	
Antennas		
The following antennas combine UHF and GPS capability.		
PMAE4030	UHF/GPS 403-430 MHz, 1/4 Wave Through-hole Mount	GPS/Mobile antenna design with Mini U connector provides GPS tracking coverage and voice/data wireless coverage capabilities for fleet monitoring or fleet tracking applications.
PMAE4032	UHF/GPS 406-420 MHz, 3.5 dB Gain Through-hole Mount	
PMAE4031	UHF/GPS 450-470 MHz, 1/4 Wave Through-hole Mount	
PMAE4033	UHF/GPS 450-470 MHz, 3.5 dB Gain Through-hole Mount	
PMAE4034	UHF/GPS 450-470 MHz, 5 dB Gain Through-hole Mount	
HAE6019	UHF/GPS 403-527 MHz, 2 dB Gain Through-hole Mount	
HAE6020	UHF/GPS 470-527 MHz, 1/4 Wave Through-hole Mount	
HAE6024	UHF/GPS 470-494 MHz, 3.5 dB Gain Through-hole Mount	
HAE6026	UHF/GPS 494-512 MHz, 3.5 dB Through-hole Mount	
The following antennas combine VHF and GPS capability		
RAD4214	VHF/GPS 136-144 MHz, 1/4 Wave Through-hole Mount Antenna	GPS/Mobile antenna design with Mini U connector provides GPS tracking coverage and voice/data wireless coverage capabilities for fleet monitoring or fleet tracking applications.
RAD4215	VHF/GPS 146-150.8 MHz, 1/4 Wave Through-hole Mount Antenna	
RAD4216	VHF/GPS 150.8-162 MHz, 1/4 Wave Through-hole Mount Antenna	
RAD4217	VHF/GPS 162-174 MHz, 1/4 Wave Through-hole Mount Antenna	
RAD4218	VHF/GPS 146-172 MHz, 3.0 dB Wave Through-hole Mount Antenna	
The following antennas are intended for customers who have existing mobile antennas and need to add GPS capability.		
PMAN4000	Through-hole Mount GPS Active Antenna	This discreet stand-alone GPS antenna has a semi-permanent mount easily assembled with minimal tools to a roof or trunk of a vehicle.
PMAN4002	Magnetic Mount GPS Active Antenna	This discreet stand-alone GPS antenna can be mounted either magnetically, via screw or via tape on the roof or trunk of a vehicle.
PMAN4001	Glass Mount GPS Active Antenna	This discreet stand-alone GPS antenna can be mounted on the window of a vehicle.

Part #	Description	Benefits	
Antennas (continued)			
The following antennas are intended for customers who do not plan to use the GPS capability of the radio.			
HAE4002	UHF 403-430 MHz, 1/4 Wave Through-hole Mount	The signals for these antennas are radiated vertically, making them ideal for urban environments where buildings might obstruct the signal.	
HAE4003	UHF 450-470 MHz, 1/4 Wave Through-hole Mount		
HAE4004	UHF 470-527 MHz, 1/4 Wave Through-hole Mount		
HAE4012	UHF 470-494 MHz, 3.5 dB Gain Through-hole Mount		
HAE4010	UHF 406-420 MHz, 3.5 dB Gain Through-hole Mount		
HAE4011	UHF 450-470 MHz, 3.5 dB Gain Through-hole Mount		
HAE4013	UHF 494-512 MHz, 3.5 dB Gain Through-hole Mount		
RAE4004_RB	UHF 445-470 MHz, 5 dB Gain Through-hole Mount		
HAD4006	VHF 136-144 MHz, 1/4 Wave Antenna		The signals for these antennas are radiated vertically, making them ideal for urban environments where buildings might obstruct the signal.
HAD4007	VHF 146-150.8 MHz, 1/4 Wave Antenna		
HAD4008	VHF 150.8-162 MHz, 1/4 Wave Antenna		
HAD4009	VHF 162-174 MHz, 1/4 Wave Antenna	This antenna is designed to direct the signal more towards the horizon, making it ideal for applications in more geographically flat regions where signal coverage is sparse and must cover a larger area.	
HAD4014	VHF 146-172 MHz, 3.0 dB Gain Antenna		
Miscellaneous			
RLN5926	Push Button PTT	Push button with push-to-talk feature provides hands-free operation of a radio in a vehicle, allowing the user to transmit messages without using a mobile microphone. Push-to-talk button can be held in the hands or mounted in the vehicle with touch fasteners.	
RLN5929	Emergency Footswitch	Emergency footswitch enables the user to notify the base station quickly and discreetly that he or she is in an emergency situation. Pressing the footswitch sends a signal to the base station and activates the microphone to allow communication with the base station.	
HLN9073	Microphone Hang Up Clip (all microphones)		
HLN9414	Universal Microphone Hang Up Clip (all microphones)		
HKN9557	PL259 / Mini-U Antenna Adapter - 8' cable		

Repeater

Part #	Description	Benefits
Duplexers and Accessories		
HFE8400	UHF Untuned Duplexer, 406-450 MHz	Allows the use of just one antenna that both transmits and receives.
RFE4000	UHF Untuned Duplexer, 450-470 MHz	
TDE7780	UHF Tuned Duplexer, 450-470 MHz	
HFE8401	UHF Untuned Duplexer, 470-490 MHz	
HFE8454	UHF Untuned Duplexer, 490-512 MHz	
HFD8188	VHF Untuned Duplexer, 144-155 MHz	
HFD8189	VHF Untuned Duplexer, 155-162 MHz	
HFD8190	VHF Untuned Duplexer, 162-174 MHz	
HFD 8465	VHF Tuned Duplexer, 150-160 MHz	
PMLE4548	Rack-mount Duplexer/Filter Enclosure Kit	
0112004B04	N Type Male to N Type Male Duplexer Cable - 24 in	Connects external duplexer to repeater.
0112004U04	N Type Male to BNC Male Duplexer Cable - 24 in	
Antennas		
RDE4556	UHF 3.8 dB Gain Antenna	
RDE4555	UHF 470-488 MHz, 3.8dB Gain Antenna	
RDE4554	UHF 488-512 MHz, 3.8dB Gain Antenna	
RDD4527	VHF 136-144 MHz, 1/4 Wave Antenna	
Mounting		
PMLE4476	Wall Mount Kit for XPR 8300	Includes brackets and screws to easily mount XPR 8300 to the wall.
Preselector		
HFE8459	UHF Preselector, 440-474 MHz	Provides additional isolation for the receiver in RF dense sites.
HFE8460	UHF Preselector, 474-512 MHz	
HFD8461	VHF Preselector, 144-160 MHz	
HFD8462	VHF Preselector, 160-174 MHz	
Lightening Protection		
RRX4025	Lightening Arrestor	Provides lightning and grounding protection to the repeaters.
RRX4032	Tower Mounting Hardware	
RRX4038	Surge Suppressor	
Miscellaneous		
RKN4152	Battery Back-up Cable	
3087791G01	120V AC Line Cord	

MOTOTRBO™ Portable Radio Specifications



Display
VHF/UHF

Non-GPS
XPR™ 6500

GPS
XPR™ 6550



Non-Display
VHF/UHF

Non-GPS
XPR™ 6300

GPS
XPR™ 6350

General Specifications

	Display XPR 6500 / XPR 6550			Non-Display XPR 6300 / XPR 6350		
	VHF	UHF Band I	UHF Band II	VHF	UHF Band I	UHF Band II
Channel Capacity	160			32		
Frequency	136-174 MHz	403-470 MHz	450-512 MHz	136-174 MHz	403-470 MHz	450-512 MHz
Dimensions (HxWxD) w/ Lilon 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 Lilon 1500 mAh Battery)	12.7 oz (360 g)			11.63 oz (330 g)		
(with IMPRES Lilon 1400 mAh FM Battery)	13 oz (370 g)			11.98 oz (340 g)		
(with IMPRES Lilon 2200 mAh Battery)	13.17 oz (375 g)			12.12 oz (345 g)		
(with NiMH 1300 mAh Battery)	15.2 oz (430 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 Lilon 1500 mAh Battery	Analog: 9 hrs Digital: 13 hrs			Analog: 9 hrs Digital: 13 hrs		
IMPRES Lilon FM 1400 mAh Battery	Analog: 8.5 hrs Digital: 12 hrs			Analog: 8.5 hrs Digital: 12 hrs		
IMPRES Lilon 2200 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 6500 / XPR 6550			Non-Display XPR 6300 / 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)	+/- 1.5 ppm (XPR 6500) +/- 0.5 ppm (XPR 6550)			+/- 1.5 ppm (XPR 6300) +/- 0.5 ppm (XPR 6350)		
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		

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements. Version 7 07/08

Transmitter

	Display XPR 6500 / XPR 6550			Non-Display XPR 6300 / 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.)	+/- 1.5 ppm (XPR 6500) +/- 0.5 ppm (XPR 6550)			+/- 1.5 ppm (XPR 6300) +/- 0.5 ppm (XPR 6350)		
Power Output						
Low Power	1 W		1 W	1 W		1 W
High Power	5 W		4 W	5 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	< 2 minutes
TTFF (Time To First Fix) Hot Start	< 10 seconds	< 10 seconds
Horizontal Accuracy	< 10 meters	< 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/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*
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 XPR 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.



*Radio only. Lilon battery -10° C; NiMH battery -20° C

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements. Version 7 07/08

MOTOTRBO™ Mobile Radio Specifications



Display VHF/UHF

Non-GPS
XPR™ 4500

GPS
XPR™ 4550

Numeric Display VHF/UHF

Non-GPS
XPR™ 4300

GPS
XPR™ 4350

General Specifications

	Display XPR 4500 / XPR 4550			Numeric Display XPR 4300 / XPR 4350		
	VHF	UHF Band I	UHF Band II	VHF	UHF Band I	UHF Band II
Channel Capacity	160					
Typical RF Output	32					
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)					
Weight	4.0 lbs. (1.8 kg)					
Current Drain:	4.0 lbs. (1.8 kg)					
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 4500 / XPR 4550			Numeric Display XPR 4300 / 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					
Frequency Stability (-30° C, +60° C, +25° C)	+/- 1.5 ppm (XPR 4500) +/- 0.5 ppm (XPR 4550)			+/- 1.5 ppm (XPR 4300) +/- 0.5 ppm (XPR 4350)		
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					
Intermodulation (TIA603C)	78 dB	75 dB		78 dB	75 dB	
Adjacent Channel Selectivity TIA603	65 dB @ 12.5 kHz, 80 dB @ 25 kHz					
TIA603C	50 dB @ 12.5 kHz, 80 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)					
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		

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements. Version 7 07/08

Transmitter

	Display XPR 4500 / XPR 4550			Numeric Display XPR 4300 / 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.)	+/- 1.5 ppm (XPR 4500) +/- 0.5 ppm (XPR 4550)			+/- 1.5 ppm (XPR 4300) +/- 0.5 ppm (XPR 4350)		
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

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

MOTOTRBO™ Repeater Specifications



VHF/UHF

XPR™ 8300

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 (75 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		

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements. Version 7 07/08

IMPRES™ Smart Energy System— A Unique Battery Charging and Reconditioning Solution

Motorola's state-of-the-art IMPRES technology allows communication between the battery and the charger to automate battery maintenance. The result—a radio system that's charged and ready to go whenever your customers need it.

- **Automated battery maintenance**—Now manual tracking and recording of battery use are a thing of the past. IMPRES uses a unique communications protocol to facilitate adaptive reconditioning—the charger evaluates the details of the battery's usage pattern to determine the optimal reconditioning interval. This automated process works to optimize the cycle life of the battery and maximize talk time.

- **Long-term safe charging**—IMPRES batteries may be left in IMPRES chargers for extended periods without heat damage due to the charger and will be monitored by the charger so that they are charged and ready to go whenever they are needed.

- **Chargers that communicate**—IMPRES multi-unit chargers are available with a two-line display module. Your customers now have access to valuable information such as:

- Battery capacity (in mAh and percent of minimum rated capacity) and voltage while charging and at completion of charge

- Time remaining to complete rapid charging (NiCd and NiMH only)

- Current battery charge status

- The battery's unique serial number, part number and chemistry

Knowledge is power. Now you can make informed decisions on battery replacement and asset management.

- **Support for mixed battery inventories**—MOTOTRBO IMPRES chargers are compatible with the full line of MOTOTRBO batteries—both IMPRES and non-IMPRES. Customers can rely on the same charger for their entire MOTOTRBO battery fleet.

- **Extended warranty**—When used exclusively with IMPRES chargers, MOTOTRBO IMPRES batteries have an 18 month capacity warranty coverage—six months longer than Motorola Premium Lilon batteries.

- **Proven Tough**—IMPRES batteries are subjected to the same rigorous testing and held to the same high standards as all Motorola Premium batteries. Actual results of Drop, Vibration and ESD (Electrostatic Discharge) tests prove Motorola batteries outperform the competition. For details of all test results go to www.proventough.com.





**Southwest
Communication
Systems**

6808 Academy Parkway E
Albuquerque, NM 87109
505-341-0011
505-341-9340

www.scsconnect.com