MOTOTRBO™

Professional Digital Two-Way Radio System

MOTOROLA

Shift into Digital.

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 enhanced performance, productivity, value and more opportunity for you. With better basics and enhanced features, MOTOTRBO is Motorola's first digital two-way radio system specifically designed to meet the requirements of professional organisations that need a customisable, business-critical communication solution using licensed spectrum.

MOTOTRBO combines the best in two-way radio functionality with digital technology to deliver increased capacity and spectrum efficiency, integrated data communications and enhanced voice communications.

THE MOTOROLA MOTOTRBO PROFESSIONAL DIGITAL TWO-WAY RADIO SYSTEM:

- Includes everything it takes to meet the business-critical needs of a wide range of users, portable radios, mobile radios, repeaters, accessories, applications and services.
- Uses Time-Division Multiple-Access (TDMA) technology to provide twice the calling capacity for the price of one license. A second call doesn't require a second repeater, so your customers save on equipment.
- Doubles the number of users who can be supported on a single licensed 12.5 kHz channel.
- Integrates voice and data to increase operational efficiency and support a wide range of applications. Through Motorola's Application Partner Programme customers and system integrators can have access to these advanced features and build on their investment.
- Provides clearer voice communications over a greater range than comparable analogue radios, rejecting static and noise.
- Offers enhanced battery life. Digital TDMA two-way radios can operate up to 40 percent longer between recharges as compared to typical analogue radios.
- Enables additional functionality including dispatch data and enhanced call signaling.
- Provides easy migration from analogue to digital, with MOTOTRBO's ability to operate in both analogue and digital modes.
- Meets U.S. Military 810 C, D, E and F specifications, IP57 for submersibility (portable models), and Motorola standards for durability and reliability.
- Utilises the IMPRES™ Smart Energy System to automate battery maintenance, optimise life cycle and maximise talk time.

CONTENTS

The Market for Digital Two-Way Communication

Integrated, efficient, reliable communication is more critical to operational performance than ever before. Businesses and organisations whose workers must be mobile need a communication solution that makes it easy and affordable for them to stay in touch. MOTOTRBO delivers for such industries as:

- Local government/Public administration
- Local public safety
- Manufacturing
- Transportation/Delivery
- Construction
- Private security
- Resorts
- Energy and Utilities

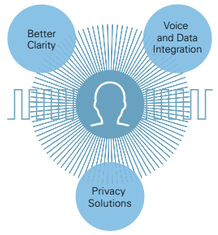
Your MOTOTRBO Opportunity

MOTOTRBO offers a private, standards-based system that can be tailored to meet the unique coverage and feature needs of group-oriented and dispatch environments. This versatile portfolio of cost-effective products and services provides a complete system and a complete solution. With MOTOTRBO, businesses can achieve significant productivity gains while maximising revenue.

Why Digital Two-Way Radio

Professional digital two-way radio systems operating on licensed spectrum offer capabilities that other mobile technologies cannot. These advantages make it the clear choice for mobile organisations that require an affordable, flexible, highly reliable solution, along with the power and range available only in licensed bands.

With two-way radio, you can tailor a solution to meet your customer's specific coverage and functionality needs. There's no need to rely on often unreliable and always-more-costly public networks. A two-way radio solution typically pays for itself in less than 18 months, as compared to cellular or public carrier solutions, which require ongoing monthly payments.



The Digital Difference

Analogue two-way radio use proves itself every day in countless installations around the world. Today a new platform is available to help your customer achieve new levels of performance and productivity. Digital technology enables that breakthrough.

Many businesses need more than the fundamental services that analogue two-way radio can deliver. Licensed channels are becoming crowded while your customers clamor for more capacity. In combination with voice, your customers may also need access to data to improve responsiveness and productivity. Digital two-way radio provides a powerful, flexible platform that can be adapted to meet these needs and more. With MOTOTRBO your customers can benefit from:

- **Expanded digital voice, data, and control capabilities** delivered over a given slice of RF spectrum. Professional customers recognise that mobile workers can be more productive if they have wireless access to applications. Such as text messaging services and location services as well as voice. With digital two-way radio, you can get increased capacity and flexibility to support these applications.

- **Lower licensing and equipment costs**. Digital two-way radio solutions based on Time-Division Multiple-Access (TDMA) technology enable two virtual channels within a single 12.5 kHz licensed repeater channel. This provides twice the calling capacity for the price of one license. And because there's only one "real" channel, a second call doesn't require a second repeater.

- **Clearer voice communications** over a greater range. When signal strength drops off with distance, digital error-correction technology can accurately deliver both voice and data with virtually no loss over a far greater area.

- **Static and noise rejection**. Analogue signals become distorted, producing audible static as signal strength degrades. By contrast, digital receivers simply reject anything they interpret as an error. In turn, this helps to enable users to hear better in noisy environments.

- **Enhanced battery life**. Each individual transmission only uses half the battery power of an analogue system transmitting at the same wattage—so MOTOTRBO portable radios deliver far more uptime per battery charge.

- **Additional functionality**. Companies that manage vehicle fleets (such as taxis or buses) or direct mobile service personnel installing or repairing equipment are looking for ways to improve customer service. Dispatchers need to be able to easily locate human and equipment assets for faster customer response. Using integrated GPS and the Application Partner Programme they will have what they need.

- **Easy migration**. Many businesses can't afford to completely replace an existing infrastructure. MOTOTRBO's ability to operate in both analogue and digital modes enables a smooth, planned migration at your customer's pace, no sticker shock, no disruption. (Digital features are not available when operating in analogue mode.)

- **Superior value**. All organisations want to get the most out of their investment – including fast return. With its affordable pricing and exceptional performance, the MOTOTRBO Professional Digital Two-Way Radio System is designed to be the industry's best answer and an exceptional value.

The MOTOTRBO Technology Platform

We're now at the beginning of what will quickly become a large-scale migration to digital radio in professional applications. At the same time, regulatory pressures combined with real-world operating needs are driving radio manufacturers and users to communicate more information in a given slice of RF spectrum, in other words, to increase spectrum efficiency. Channels that historically carried a single call at a time are now being divided so they can carry two.

Two technologies exist to enable this "splitting" of channels, allowing multiple access on a single channel. Frequency-Division Multiple-Access (FDMA) splits the channel into two narrower sub-channels that can each carry separate calls. Time-Division Multiple-Access (TDMA) preserves the full channel width but divides it into alternating time slots that can each carry an individual call. When it comes to further increasing efficiency within 12.5 kHz channels, Motorola believes that two-slot 12.5 kHz TDMA is the best technology for professional, business-critical applications.

FDMA uses a 12.5 kHz channel in half-duplex fashion, and as a result, only one party can talk on the channel at a time. To further increase the effective capacity of an existing 12.5 kHz channel via FDMA, you would have to slice the channel into two new and very narrow 6.25 kHz sub-channels, requiring changes to licensing requirements and making it unclear how the technology will fit into and perform in today's licensed bands.

On the other hand, TDMA can be used to divide a 12.5 kHz channel into two alternating time slots. In this way, two-slot TDMA can provide 6.25 kHz equivalent efficiency in an existing 12.5 kHz channel with no changes to licensing requirements. That means that TDMA can give your customers two-for-one channel capacity, doubling the efficiency of their licensed repeater channels.

A Better Technology for the Professional Tier

The performance and flexibility of TDMA make it the only serious choice for professional two-way digital radio. Leveraging a TDMA platform, MOTOTRBO reduces overall equipment costs while supporting more users and more information in the same area and frequency. The spectrum efficiency gained with TDMA means that one digital repeater does the work of two analogue repeaters, for greater system efficiency, and lower acquisition and operating costs.

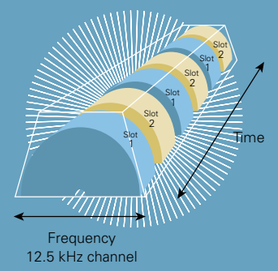
Two-Slot 12.5 kHz TDMA:

- Professional users can **decrease their spectrum congestion while doubling efficiency** of their licensed repeater channels. Two-slot TDMA allows two simultaneous conversations within a 12.5 kHz channel with a single repeater. One repeater can do the work of two, saving infrastructure acquisition, setup, and maintenance costs.
- MOTOTRBO's two-slot TDMA technology **supports both voice and data**, so customers can flexibly determine whether a given timeslot is used for voice calls or data calls in a manner that best fits their needs. While some customers may elect to use both timeslots to double the number of voice users that can be supported on the repeater channel, others may want to equip their voice users with mobile data, messaging, or location tracking capabilities: in either case, the benefits are realised within the existing repeater channel.
- 12.5 kHz TDMA fits seamlessly into existing licensed channel structures in UHF and VHF: there is **no need to obtain new licenses** to obtain this increase in repeater capacity, and no added risk of interference with or from adjacent channels. The choice of 12.5 kHz TDMA digital technology makes it quick and easy to gain spectrum efficiency and improve your two-way radio communications.
- Your customers have a **future-ready, standards- based solution.** MOTOTRBO was designed to the European Telecommunications Standards Institute (ETSI) Digital Mobile Radio (DMR) Tier 2 standard, a globally recognised digital radio standard for professional applications in high power, licensed bands.

The Professional Digital Two-Way Radio System from the Industry Leader

Motorola invented the first portable two-way radio, and has more than 65 years of experience delivering wireless communications systems for government and industry. Motorola has emerged as a recognised leader in digital two-way radio technology, with proven solutions in the mission-critical, professional, and unlicensed tiers. With the introduction of MOTOTRBO, Motorola expands its digital solution range to the licensed professional tier, leveraging our unique depth of experience to offer your customers a new level of performance, features and value.

Increased Capacity Within Existing 12.5 kHz Repeater Channels



TDMA

TIME-DIVISION MULTIPLE-ACCESS (MOTOTRBO)

Transmitted Signal 1

Transmitted Signal 2

MOTOTRBO Integrated Data Enables Advanced Applications

MOTOTRBO is changing the way businesses communicate. New functionality, features and well-documented interfaces embedded in the radio opens up new possibilities. Through Motorola's Application Partner Programme customers and system integrators can have access to these advanced features and build on their investment and add new high-value capabilities published.

MOTOTRBO Application Partner Programme

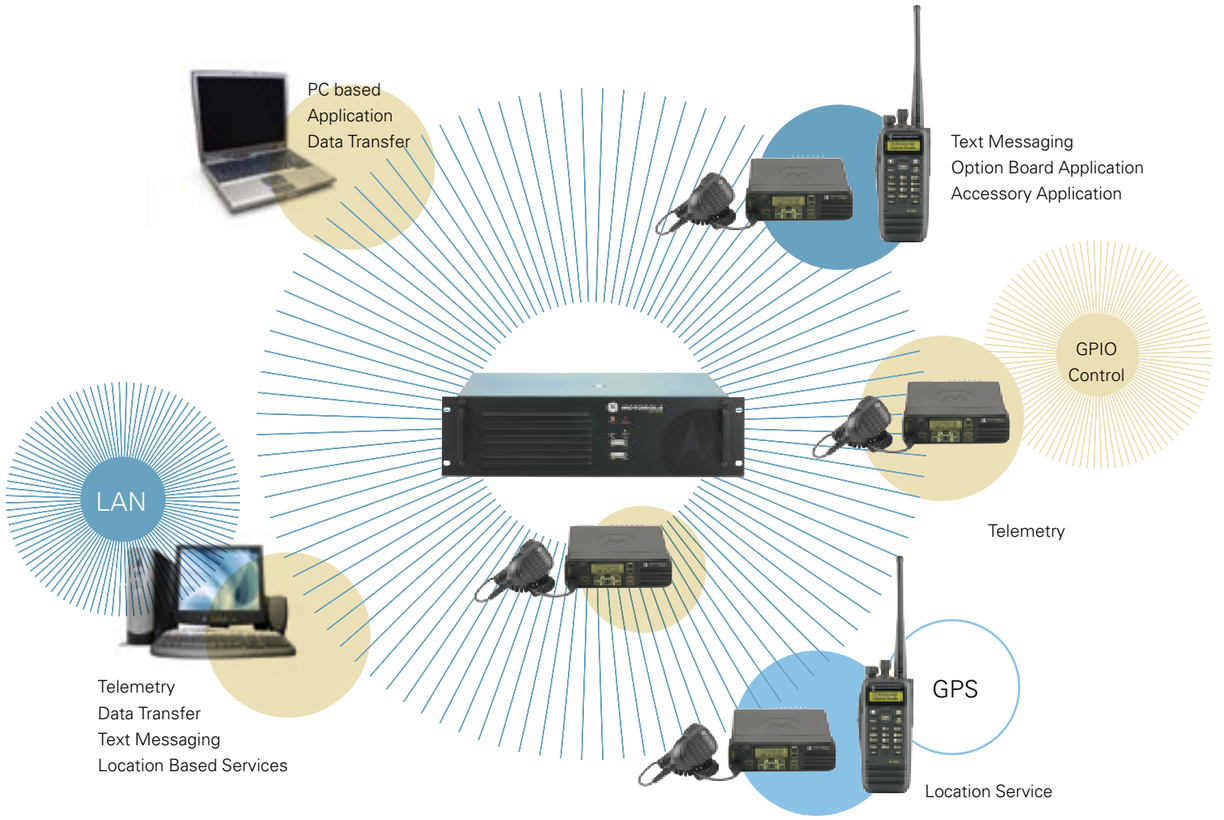
Customising communications technology to enhance safety and increase operational efficiency is important to customers in all industries. Third-party developers play an important role in supporting the market growth of the MOTOTRBO platform and in creating customised applications that will add value to customers in different vertical markets. Developers will extend the capabilities of MOTOTRBO and provide niche solutions that will satisfy a broad range of customer needs.

To encourage the development of a broad portfolio of customer-focused solutions and continuing innovation, MOTOTRBO is integrated in the successful running Professional Radio Application Partner Programme. Accredited partners get access to the protocol and Application Programming Interface (API) documentation as well as online support. Available and successful running solutions will be promoted through a joined partner and Motorola marketing.

So when you recognise an opportunity to customise an end user solution through the use of an application, contact the Motorola Application Developer Programme manager for support.

Extending functionalities

Embedded functionality together with the Application Partner Programme is the way to extend the MOTOTRBO product. A MOTOTRBO application partner will have access to the Application Development Kits allowing partners to customise a solution specifically to a customers need. Several Application Development Kits are available to deliver a range of services.



Location Services

A location service provides the ability to track people and assets, such as vehicles. This advanced approach takes advantage of the GPS- receiver integrated within both the portable and mobile radios, combined with the software applications from one of the many MOTOTRBO application partners.

GPS-equipped portable and mobile radios can be configured to transmit their geographical coordinates at pre-programmed intervals, on demand and in case of an emergency. Software applications provide dispatchers with a real-time display of fleet activity on a customised, high-resolution, color-coded map. Using a location service application and MOTOTRBO's integrated GPS, your customers can enjoy the benefits of location tracking.

Text messaging services

A text messaging service allows communication between radios and dispatch systems, between radios and email-addressable devices, and to remote PC clients attached to radios.

Through an application from a MOTOTRBO application partner, the computer software application adds a PC-based, client/server software application for dispatch-oriented messaging to the system, which extends the capabilities of messaging to include communications between radios and dispatcher PCs. Furthermore, the dispatcher PC can act as a gateway to email, enabling messaging between email-addressable devices and radios.

Basic telemetry services

MOTOTRBO can be configured and customised for telemetry operation. A PC application interoperating with a MOTOTRBO radio can control inputs and outputs of the radio. This allows for a range of basic telemetry services such as automated readings, monitoring & control and equipment monitoring.

DP 3600/3601

Display Portable Radios

1. Flexible, menu-driven interface with user-friendly icons or two lines of text for ease of reading text messages.
2. Tri-color LED indicator for clear, visible feedback of calling, scanning and monitoring.
3. Emergency button to alert supervisor or dispatcher in an emergency situation. With DP 3601, location coordinates can be sent to dispatcher using GPS.
4. New accessory connector meets IP57 submersibility specifications and incorporates RF, USB and enhanced audio capability.
5. DP 3601 includes integrated GPS module.
6. Large, easy-to-use navigation buttons allow easy access to intuitive menu-driven interfaces.
7. Radio housing meets IP57 specifications; submersible in 1 metre of water up to 30 minutes
8. Powerful, front projecting speaker.
9. Three side and two front programmable buttons for easy access to favourite 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 DP 3600; GPS Monopole included with DP 3601
- NiMH 1300 mAh Battery
- IMPRES™ Single Unit Charger
- 2.5” Belt Clip
- Quick Reference Guide

Additional Features

- Enhanced call management

  Encode/decode: emergency, remote monitor, push-to-talk ID, radio check, all call, radio disable
- Dual-mode analogue/digital scan - facilitates a smooth migration from analogue to digital
- Free-form and quick text messaging

DP 3400/3401

Non-display Portable Radios

1. Tri-color LED indicator for clear, visible feedback of calling, scanning and monitoring.
2. Emergency button to alert supervisor or dispatcher in an emergency situation. With DP 3401, location coordinates can be sent to dispatcher using GPS.
3. New accessory connector meets IP57 submersibility specifications and incorporates RF, USB and enhanced audio capability.
4. DP 3401 includes integrated GPS module.
5. Radio housing meets IP57 specifications; submersible in 1 metre of water up to 30 minutes.
6. Powerful, front projecting speaker.
7. Three side programmable buttons for easy access to favourite 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 DP 3400; GPS Monopole included with DP 3401
- NiMH 1300 mAh Battery
- IMPRES™ Single Unit Charger
- 2.5” Belt Clip
- Quick Reference Guide

Additional Features

- Enhanced call management

  Encode: emergency, push-to-talk ID
  Decode: radio check, remote monitor, radio disable, all call
- Dual-mode analogue/digital scan - facilitates a smooth migration from analogue to digital
- Send quick text messaging via programmable buttons

DM 3600/3601

Enhanced Display Mobile Radios

1 Accessory connector supports USB and enhanced audio capability.

2 Multi-colored LED indicators for clear, visible feedback of calling, scanning and monitoring.

3 Large, easy-to-use volume knob.

4 DM 3601 includes integrated GPS module.

5 160 channels.

6 Powerful, front-projecting speaker.

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.

9 Four programmable buttons for easy access to favourite 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
- Trunnion
- Cabling (power cord)
- Compact Microphone
- Quick Reference Guide

Additional Features

- Enhanced call management
  - Encode/decode: emergency, remote monitor, push-to-talk ID, radio check, all call, radio disable
- DM 3601 can transmit GPS coordinates
- Dual-mode analogue/digital scan - facilitates a smooth migration from analogue to digital
- Short free-form and quick text messaging

DM 3400/3401

Numeric Display Mobile Radios

1 Accessory connector supports USB and enhanced audio capability.

2 Multi-colored LED indicators for clear, visible feedback of calling, scanning and monitoring.

3 Large, easy-to-use volume knob.

4 DM 3401 includes integrated GPS module.

5 Large, easy-to-use channel navigation buttons.

6 Powerful, front-projecting speaker.

7 32 channels; channel number is easy to read on large, clear numeric two-digit display.

8 Two programmable buttons for easy access to favourite 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
- Trunnion
- Cabling (power cord)
- Compact Microphone
- Quick Reference Guide

Additional Features

- Enhanced call management
  - Encode: emergency, push-to-talk ID
  - Decode: radio check, remote monitor, radio disable, all call
- DM 3401 can transmit GPS coordinates
- Dual-mode analogue/digital scan - facilitates a smooth migration from analogue to digital
- Send quick text messaging via programmable buttons

DR 3000

Repeater

1 100% continuous full duty cycle at 25-40W

2 Supports two simultaneous voice or data paths in digital TDMA mode.

3 Integrated power supply.

4 Operates in analogue or digital mode, bright, clear, colored LEDs indicate mode.

5 LEDs clearly indicate transmit and receive modes in both channel slots.

6 Sturdy handles make installation and handling easier.

Repeater Standard Package

- Repeater
- Power Cord

New Audio Accessory Interface Enables Enhanced Performance and Capabilities

Motorola digital technology enables breakthrough radio performance and features. And our new audio interface means MOTOTRBO accessories can offer your customers new performance and capabilities, too, now and in the future.

- Accessory programmable buttons can be programmed to any feature available in the radio, rather than being linked to radio programmable button programming. This allows the accessory programmable buttons to have independent programmable features.
- The new portable connector design meets IP57 submersibility requirements. This allows for use with submersible accessories such as the submersible remote speaker microphone.
- The new portable interface design incorporates the antenna signal within the audio connectors, which allows for easy use of accessories that require an RF signal, such as public safety speaker microphones.
- The new connector design also incorporates USB capability, which allows for the development of USB-capable accessories.
- The new audio accessory interface is the Motorola standard audio accessory interface for two-way portable and mobile radios.
- In addition, the interface incorporates the capability for enhanced audio functionality, industry unique technology that allows for communication between the radio and the audio accessory. Accessory identification is sent to the radio enabling the radio to help optimise its output for each type of audio accessory. This results in more consistent output across all audio accessory types.

MOTOTRBO Portable Radio Specifications

DP 3600/3601 Display Portable Radios

Specifications

GENERAL SPECIFICATIONS

Channel Capacity	160
Frequency	403-470 MHz
Dimensions (HxWxL)	
with NiMH Battery 1300mAH	131.5 x 63.5 x 37.2 mm
with Lilon Std Battery 1500mAH	131.5 x 63.5 x 35.2 mm
with Lilon FM Battery 1400mAH	131.5 x 63.5 x 37.2 mm
Weight	
with NiMH Battery	430 g
with Lilon FM Battery	370 g
with Lilon Std Battery	360 g
Power Supply	7.2V nominal
Average battery life at 5/5/90 duty cycle with battery saver enabled in carrier squelch and transmitter in high power.	
IMPRES Lilon Std Battery	Analogue: 9 hrs / Digital: 13 hrs
IMPRES FM Lilon Battery	Analogue: 8.5 hrs / Digital: 12 hrs
NiMH Battery	Analogue: 8 hrs / Digital: 11 hrs

RECEIVER

Frequency	403-470 MHz
Channel Spacing	12.5 kHz/ 25 kHz
Frequency Stability	+/- 1.5 ppm (DP 3600)
(-30° C, +60° C, +25° C)	+/- 0.5 ppm (DP 3601)
Analogue Sensitivity	0.35 uV (12 dB SINAD)
	0.22 uV (typical) (12 dB SINAD)
	0.4 uV (20 dB SINAD)
Digital Sensitivity	5% BER: 0.3 uV
Intermodulation	65 dB
Adjacent Channel Selectivity	60 dB @ 12.5 kHz,
	70 dB @ 25 kHz
Spurious Rejection	70 dB
Rated Audio	500 mW
Audio Distortion @ Rated Audio	3% (typical)
Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Audio Response	+1, -3 dB
Conducted Spurious Emission	-57 dBm

TRANSMITTER

Frequency	403-470 MHz
Channel Spacing	12.5 kHz/ 25 kHz
Frequency Stability	+/- 1.5 ppm (DP 3600)
(-30° C, +60° C, +25° C)	+/- 0.5 ppm (DP 3601)
Power Output	
Low Power	1 W
High Power	4 W
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz
	+/- 5.0 kHz @ 25 kHz
FM Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Conducted / Radiated Emission	-36 dBm < 1 GHz
	-30dBm > 1GHz
Adjacent Channel Power	-60 dB @ 12.5 kHz
	-70 dB @ 25 kHz
Audio Response	+1, -3 dB
Audio Distortion	3%
Digital Vocoder Type	AMBE++
Digital Protocol	ETSI-TS102 361-1

GPS

Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)

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

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature*	-30° C / +60° C
Storage Temperature	-40° C / +85° C
Temperature Shock	Per MIL-STD
Humidity	Per MIL-STD
Water Intrusion	EN60529 - IP57
Packaging Test	MIL-STD 810D and E

* With Lilon battery, operating temperature specification is -10° C / +60° C.

With NiMH battery, operating temperature specification is -20° C / +60° C

MILITARY STANDARDS

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

FACTORY MUTUAL APPROVALS - DP family of radios are certified by Factory Mutual Approvals as intrinsically safe for use in Division 1, Class I,II,III, Groups C,D,E,F,G, when ordered with the Factory Mutual approved battery option.

DP 3400/3401 Non-display Portable Radios

Specifications

GENERAL SPECIFICATIONS

Channel Capacity	32
Frequency	403-470 MHz
Dimensions (HxWxL)	
with NiMH Battery 1300mAH	131.5 x 63.5 x 37.2 mm
with Lilon Std Battery 1500mAH	131.5 x 63.5 x 35.2 mm
with Lilon FM Battery 1400mAH	131.5 x 63.5 x 37.2 mm
Weight	
with NiMH Battery	400 g
with Lilon FM Battery	340 g
with Lilon Std Battery	330 g
Power Supply	7.2V nominal
Average battery life at 5/5/90 duty cycle with battery saver enabled in carrier squelch and transmitter in high power.	
IMPRES Lilon Std Battery	Analogue: 9 hrs / Digital: 13 hrs
IMPRES FM Lilon Battery	Analogue: 8.5 hrs / Digital: 12 hrs
NiMH Battery	Analogue: 8 hrs / Digital: 11 hrs

RECEIVER

Frequency	403-470 MHz
Channel Spacing	12.5 kHz/ 25 kHz
Frequency Stability	+/- 1.5 ppm (DP 3400)
(-30° C, +60° C, +25° C)	+/- 0.5 ppm (DP 3401)
Analogue Sensitivity	0.35 uV (12 dB SINAD)
	0.22 uV (typical) (12 dB SINAD)
	0.4 uV (20 dB SINAD)
Digital Sensitivity	5% BER: 0.3 uV
Intermodulation	65 dB
Adjacent Channel Selectivity	60 dB @ 12.5 kHz,
	70 dB @ 25 kHz
Spurious Rejection	70 dB
Rated Audio	500 mW
Audio Distortion @ Rated Audio	3% (typical)
Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Audio Response	+1, -3 dB
Conducted Spurious Emission	-57 dBm

TRANSMITTER

Frequency	403-470 MHz
Channel Spacing	12.5 kHz/ 25 kHz
Frequency Stability	+/- 1.5 ppm (DP 3400)
(-30° C, +60° C, +25° C)	+/- 0.5 ppm (DP 3401)
Power Output	
Low Power	1 W
High Power	4 W
Modulation Limiting	+/- 2.5 kHz @ 12.5 kHz
	+/- 5.0 kHz @ 25 kHz
FM Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Conducted / Radiated Emission	-36 dBm < 1 GHz
	-30dBm > 1GHz
Adjacent Channel Power	-60 dB @ 12.5 kHz
	-70 dB @ 25 kHz
Audio Response	+1, -3 dB
Audio Distortion	3%
Digital Vocoder Type	AMBE++
Digital Protocol	ETSI-TS102 361-1

GPS

Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)

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

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature*	-30° C / +60° C
Storage Temperature	-40° C / +85° C
Temperature Shock	Per MIL-STD
Humidity	Per MIL-STD
Water Intrusion	EN60529 - IP57
Packaging Test	MIL-STD 810D and E

* With Lilon battery, operating temperature specification is -10° C / +60° C.

With NiMH battery, operating temperature specification is -20° C / +60° C

MILITARY STANDARDS

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

FACTORY MUTUAL APPROVALS - DP family of radios are certified by Factory Mutual Approvals as intrinsically safe for use in Division 1, Class I,II,III, Groups C,D,E,F,G, when ordered with the Factory Mutual approved battery option.

Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements.
Version 2 11/17/06

MOTOTRBO Mobile Radio Specifications

DM 3600/3601 Enhanced Display Mobile Radios

Specifications

GENERAL SPECIFICATIONS

Channel Capacity	160
Typical RF Output	
Low Power	1-25 W
High Power	25-40 W
Frequency	403-470 MHz
Dimensions (HxWxL)	51 x 175 x 206 mm
Weight	1.8 kg
Current Drain:	
Standby	0.81 A max
Rx @ Rated Audio	2 A max
Transmit	1-25W: 11.0A max
	25-40W: 14.5A max

RECEIVER

Frequency	403-470 MHz
Channel Spacing	12.5 kHz/ 25 kHz
Frequency Stability	+/- 1.5 ppm (DM 3600)
(-30° C, +60° C, +25° C)	+/- 0.5 ppm (DM 3601)
Analogue Sensitivity	0.30 uV (12 dB SINAD)
	0.22 uV (typical) (12 dB SINAD)
	0.4 uV (20 dB SINAD)
Digital Sensitivity	5% BER: 0.3 uV
Intermodulation	70 dB
Adjacent Channel Selectivity	60 dB @ 12.5 kHz,
	70 dB @ 25 kHz
Spurious Rejection	70 dB
Rated Audio	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
Audio Response	+1, -3 dB
Conducted Spurious Emission	-57 dBm

TRANSMITTER

Frequency	403-470 MHz
Channel Spacing	12.5 kHz / 25 kHz
Frequency Stability	+/- 1.5 ppm (DM 3600)
(-30° C, +60° C, +25° C)	+/- 0.5 ppm (DM 3601)
Power Output	
Low Power	1-25 W
High Power	25-40 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	-60 dB @ 12.5 kHz
	-70 dB @ 25 kHz
Audio Response	+1, -3 dB
Audio Distortion	3%
Digital Vocoder Type	AMBE++
Digital Protocol	ETSI-TS102 361-1

GPS

Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)

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

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30° C / +60° C
Storage Temperature	-40° C / +85° C
Temperature Shock	Per MIL-STD
Humidity	Per MIL-STD
Water and Dust Intrusion	IP54, MIL-STD

MILITARY STANDARDS

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

Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements.
Version 2 11/17/06

DM 3400/3401 Numeric Display Mobile Radios

Specifications

GENERAL SPECIFICATIONS

Channel Capacity	32
Typical RF Output	
Low Power	1-25 W
High Power	25-40 W
Frequency	403-470 MHz
Dimensions (HxWxL)	51 x 175 x 206 mm
Weight	1.8 kg
Current Drain:	
Standby	0.81 A max
Rx @ Rated Audio	2 A max
Transmit	1-25W: 11.0A max
	25-40W: 14.5A max

RECEIVER

Frequency	403-470 MHz
Channel Spacing	12.5 kHz/ 25 kHz
Frequency Stability	+/- 1.5 ppm (DM 3400)
(-30° C, +60° C, +25° C)	+/- 0.5 ppm (DM 3401)
Analogue Sensitivity	0.30 uV (12 dB SINAD)
	0.22 uV (typical) (12 dB SINAD)
	0.4 uV (20 dB SINAD)
Digital Sensitivity	5% BER: 0.3 uV
Intermodulation	70 dB
Adjacent Channel Selectivity	60 dB @ 12.5 kHz,
	70 dB @ 25 kHz
Spurious Rejection	70 dB
Rated Audio	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
Audio Response	+1, -3 dB
Conducted Spurious Emission	-57 dBm

TRANSMITTER

Frequency	403-470 MHz
Channel Spacing	12.5 kHz / 25 kHz
Frequency Stability	+/- 1.5 ppm (DM 3400)
(-30° C, +60° C, +25° C)	+/- 0.5 ppm (DM 3401)
Power Output	
Low Power	1-25 W
High Power	25-40 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	-60 dB @ 12.5 kHz
	-70 dB @ 25 kHz
Audio Response	+1, -3 dB
Audio Distortion	3%
Digital Vocoder Type	AMBE++
Digital Protocol	ETSI-TS102 361-1

GPS

Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength)

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

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30° C / +60° C
Storage Temperature	-40° C / +85° C
Temperature Shock	Per MIL-STD
Humidity	Per MIL-STD
Water and Dust Intrusion	IP54, MIL-STD

MILITARY STANDARDS

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

Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements.
Version 2 11/17/06

MOTOTRBO Repeater Specifications

DR 3000 - REPEATER

Specifications

GENERAL SPECIFICATIONS

Channel Capacity	1
Typical RF Output	
Low Power	1-25 W
High Power	25-40 W
Frequency	403-470 MHz
Dimensions (HxWxL)	132.6 x 482.6 x 296.5 mm
Weight	14 kg
Voltage Requirements	100-240 V AC (13.6 V DC)
Current Drain: Standby	0.5A (1A DC typical)
Transmit	1.5A (11A DC typical)
Operating Temperature Range	-30°C to +60°C
Max Duty Cycle	100%

RECEIVER

Frequencies	403-470 MHz
Channel Spacing	12.5 kHz / 25 kHz
Frequency Stability	+/- 0.5 ppm
(-30° C, +60° C, +25° C)	
Analogue Sensitivity	0.30 uV (12 dB SINAD)
	0.22 uV (typical) (12 dB SINAD)
	0.4uV (20 dB SINAD)
Digital Sensitivity	5% BER: 0.3 uV
Intermodulation	70 dB
Adjacent Channel Selectivity	60 dB @ 12.5 kHz,
	70 dB @ 25 kHz
Spurious Rejection	70 dB
Audio Distortion @ Rated Audio	3% (typical)
Hum and Noise	-40 dB @ 12.5 kHz
	-45 dB @ 25 kHz
Audio Response	+1, -3 dB
Conducted Spurious Emission	-57 dBm < 1GHz

TRANSMITTER

Frequencies	403-470 MHz
Channel Spacing	12.5 kHz / 25 kHz
Frequency Stability	+/- 0.5 ppm
(-30° C, +60° C, +25° C)	
Power Output	
Low Power	1-25 W
High Power	25-40 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	-60 dB @ 12.5 kHz
	-70 dB @ 25 kHz
Audio Response	+1, -3 dB
Audio Distortion	3%
Digital Vocoder Type	AMBE++
Digital Protocol	ETSI-TS102 361-1

Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements.
Version 2 11/17/06

IMPRES Smart Energy System - A Unique Battery Charging and Reconditioning Solution

IMPRES Smart Energy system automates battery maintenance, optimises cycle life and maximises talk time, so you can offer a radio system that's charged and ready to go whenever your customers need it.

No manual battery maintenance
Forget tracking and recording battery use. IMPRES uses a unique communications protocol to facilitate adaptive reconditioning that diminishes the memory effect that results when batteries are continually charged before they're fully discharged. No guesswork, no time wasted reconditioning batteries prematurely.

Optimised cycle life
IMPRES batteries may be left in IMPRES chargers for extended periods without heat damage. So IMPRES is ideal for applications requiring that batteries be always in a ready state.

Chargers that communicate
IMPRES multi-unit chargers are available with a two-line display module. This informs your customers of battery capacity and voltage while charging, time remaining to complete the rapid recharge process (NiCad and NiMH only), current battery status, as well as each battery's serial number, kit number and chemistry.

Charger compatibility with non-IMPRES batteries
Yet another way MOTOTRBO enables easy migration from legacy systems.

Extended battery warranties
When used exclusively with IMPRES chargers, IMPRES batteries have six months more capacity warranty coverage than Motorola Premium batteries.

MOTOROLA ORIGINAL

Portable Radio

The MOTOTRBO radio portfolio is supported by a range of genuine Motorola accessories to enhance functionality and ensure the highest performance of the radio solution. Whether it is harsh working conditions, noisy environments, long shifts or the focus is on discrete communication, the MOTOTRBO accessories range will meet the need. The versatile range of accessories allows users to focus on the job at hand whether that is ensuring the safety of people or equipment, maintaining production efficiency or moving goods or people. All accessories are engineered and tested to the same demanding standards as the radios. They are designed with the user in mind and the ergonomic and easy to use accessories helps ensure the team keeps in contact.

Audio Solutions

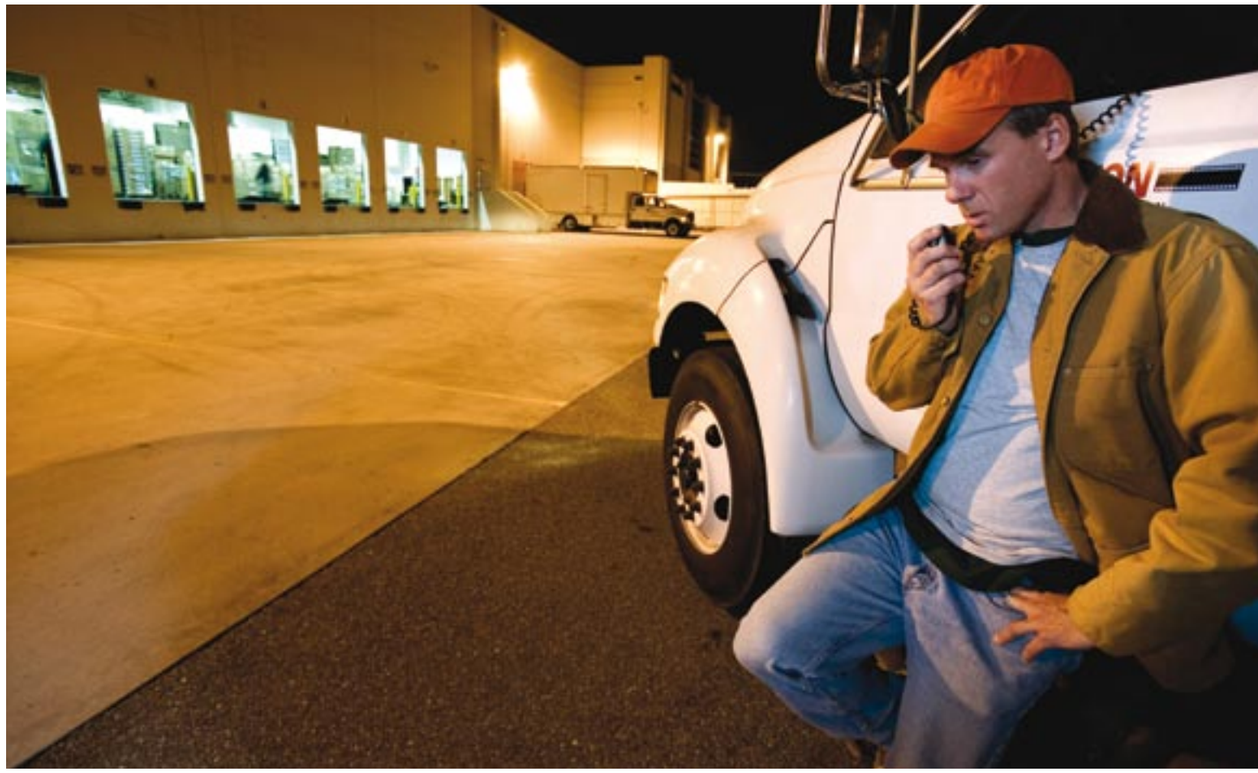
Remote- and Public Speaker Microphones are versatile and reliable accessories allowing users to remain in full contact without removing the radio from its position at the belt, in a case or a charger. The range of Speaker Microphones offered with MOTOTRBO utilises different technologies to offer enhanced background reduction, reduced water intrusion and enhanced coverage along with earjack and programmable buttons.
A versatile range of audio accessories ensures that users have full advantage of the services offered by MOTOTRBO. Tailored solutions ensure efficiency for safety organisations, covert, commercial and industrial users.

Battery and Charging Solutions

The power to communicate is vital and requires efficient battery and charging solutions. MOTOTRBO offers different types of battery solutions depending on customer requirements.

Carrying solutions

The ability to perform the job while staying in contact requires good carrying solutions. MOTOTRBO offers a wide range of solutions including belt clips, nylon- and leather carry cases, shoulder straps and chest packs. All designed to optimise user performance and enhance functionality such as ruggedness as well as water and dust resistance.



Mobile Radio

A range of Motorola accessories are available to support the MOTOTRBO mobile radios. Mobile accessories are an important piece of the mobile solution in terms of installation and operational requirements. MOTOTRBO's range of mobiles is supported by accessories enabling flexible installation and operation in vehicles or desktop use.

Audio Solutions

Mobile Microphones enhances functionality of the mobile solution and helps ensure contact with the user and the team. Various microphones are available for different needs including standard microphone, keypad microphone to allow users to navigate menus and heavy duty microphone with enhanced durability and easier handling while wearing gloves. A visor microphone with enhanced audio is also available to be used with external PTT accessories to allow users hands free operation.

Other accessories are available for MOTOTRBO with specific needs in mind. An emergency footswitch is available allowing users to discretely 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.

MOTOTRBO Accessories

Portable Radio

Part Number	Description	Benefits
Audio		
PMMN4025	Remote Speaker Microphone with Enhanced Audio	These advanced Remote Speaker Microphones utilise 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)	
RMN5058	Lightweight Headset	Lightweight headsets offer comfortable, extended wear use while providing high clarity and discreet communication in moderate noise environments
RLN5878	Receive Only Surveillance Kit, Black	These compact units offer tremendous audio dynamics and leave hands free and face unobscured, so the user retains the ability for direct hearing and speaking.
RLN5879	Receive Only Surveillance Kit, Beige	
RLN5880	2 Wire Surveillance Kit, Black with Enhanced Audio	
RLN5881	2 Wire Surveillance Kit, Beige with Enhanced Audio	
RLN5882	2 Wire Surveillance Kit with Translucent Tube, Black with Enhanced Audio	
RLN5883	2 Wire Surveillance Kit with Translucent Tube, Beige with Enhanced Audio	
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	
RLN5887	Surveillance Extreme Noise Kit	
RLN4941	Receive Only Earpiece	These receive only earpieces plug into the PMMN4024 and PMMN4025 Remote Speaker Microphones and allow the user to receive communications discretely.
AARLN4885	Receive Only Earbud	
WADN4190	Over the Ear Receiver	
PMLN4620	D-Shell Receive Only Earpiece	
Batteries		
PMNN4066	IMPRES Li-ion 1500 mAh Submersible (IP57) Battery	Offer superior, long lasting performance. Automated maintenance and a six month extended capacity warranty when used with IMPRES chargers. Can be charged and reconditioned without being removed from the radio.
PMNN4069	IMPRES Li-ion 1400 mAh Submersible (IP57) Battery - Intrinsically Safe (FM)	
PMNN4065	NiMH 1300 mAh Submersible (IP57) Battery	NiMH chemistry offers an attractive combination of capacity, weight and cost.
Chargers		
WPLN4232	IMPRES Single Unit Charger	Provides adaptive, automatic reconditioning for IMPRES batteries to maximise talk time and cycle life. Advanced charging algorithm keeps batteries cooler 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 with Displays	
Carry Devices		
PMLN4651	2" Belt Clip	
PMLN4652	2.5" Belt Clip	
PMLN5015	Nylon Carry Case with 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 with 3" Fixed Belt Loop for Display Radio	
PMLN5019	Hard Leather Carry Case with 2.5" Swivel Belt Loop for Display Radio	
PMLN5020	Hard Leather Carry Case with 3" Swivel Belt Loop for Display Radio	
PMLN5024	Nylon Carry Case with 3" Fixed Belt Loop for Non-Display Radio	
PMLN5030	Hard Leather Carry Case with 3" Fixed Belt Loop for Non-Display Radio	
PMLN5028	Hard Leather Carry Case with 2.5" Swivel Belt Loop for Non-Display Radio	
PMLN5029	Hard Leather Carry Case with 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-a-way tabs that allow the entire pack to be pulled off with approximately 10 lbs. of pressure.
1505596Z02	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. Used typically over the shoulder.
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 GPS / UHF 403-433 MHz Folded Monopole Antenna	Optimum length antenna designed for higher gain to maximise range. This rugged, stylish, capless design provides maximum flexibility and build in capability to operate at GPS frequencies.
PMAE4024	Combination GPS / UHF 430-470 MHz Folded Monopole Antenna	
PMAE4021	Combination GPS / UHF 403-433 MHz Stubby 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.
PMAE4023	Combination GPS / UHF 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 for optimal radiation characteristics.

MOTOROLA ORIGINAL

Mobile Radio

Part Number	Description	Benefits
Audio		
RMN5052	Compact Microphone	Standard microphone for MOTOTRBO.
RMN5065	Keypad Microphone with Enhanced Audio	The Enhanced Keypad Microphone allows the user to navigate radio menus from the microphone.
RMN5053	Heavy Duty Microphone with Enhanced Audio	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	Visor Microphone with Enhanced Audio	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.
Loudspeakers		
RSN4002	13 Watt External Speaker	External speakers ideal for extremely noisy environments.
RSN4003	7.5 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 switchmode 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	
Antennas		
The following antennas combine UHF and GPS capability.		
PMAE4030	Combination GPS / UHF 403-430 MHz, 1/4 Wave Roof Mount Antenna	Combination 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	Combination GPS / UHF 406-420 MHz, 3.5 dB Gain Roof Mount Antenna	
PMAE4031	Combination GPS / UHF 450-470 MHz, 1/4 Wave Roof Mount Antenna	
PMAE4033	Combination GPS / UHF 450-470 MHz, 3.5 dB Gain Roof Mount Antenna	
PMAE4034	Combination GPS / UHF 450-470 MHz, 5 dB Gain Roof Mount Antenna	
The following antennas are intended for customers who have existing mobile antennas and need to add GPS capability.		
PMAN4000	Fixed 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
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 Roof Mount Antenna	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 Roof Mount Antenna	
HAE4010	UHF 406-420 MHz, 3.5dB Gain Roof Mount Antenna	These antennas are designed to direct the signal more towards the horizon, making them ideal for applications in more geographically flat regions where signal coverage is sparse and must cover a larger area.
HAE4011	UHF 450-470 MHz, 3.5dB Gain Roof Mount Antenna	
RAE4004	UHF 450-470 MHz, 5dB Gain Roof Mount 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 Accessories for DR 3000

Part Number	Description	Benefits
Duplexers		
HFE8400	UHF Untuned Duplexer, 406-450MHz	
RFE4000	UHF Untuned Duplexer, 450-470MHz	
Antennas		
RDE4556	UHF 3.8dB Gain Antenna	
Mounting		
PMLE4476	Wall Mount Kit for DR 3000	
Preselector		
HFE8459	UHF Preselector, 440-474MHz	
Lightening Protection Accessories:		
RRX4032	Tower Mounting Hardware	
RRX4038	Surge Suppressor	

MOTOTRBO Marketing Support

Promote MOTOTRBO to your customers and prospects using the specially designed marketing tools provided with the introduction of MOTOTRBO.

Product Brochures

Four different product brochures are available to assist you in providing information to your customers, whether it be for the complete MOTOTRBO system, or any of its components.

System Brochure | Mobile Brochure | Portable Brochure | Repeater Brochure

Spec Sheets

Specification sheets provide an overview of the product features and also contain detailed product specifications.

Mobile DM 3600/3601 | Mobile DM 3400/3401 | Portable DP 3600/3601 | Portable DP 3400/3401 | Repeater DR3000

Vertical Market Brochures

Vertical market brochures are available for key targeted markets for MOTOTRBO. These brochures provide an overview of MOTOTRBO and highlight the benefits most pertinent to the specific vertical market.

Local Government | Manufacturing | Transportation | Construction | Small Campus

Application Developer Kit (ADK) Paper

The MOTOTRBO ADK paper provides an overview of the application development opportunities to partners and 3rd party application developers. The paper describers how the MOTOTRBO subscriber's capabilities can be extended through defined application programming interfaces. Additionally it provides information about Motorola's Application Partner Programme and the service and support provide for application development.

White Paper

"ETSI DMR Standard - For Professional Two-Way Radio Communications" The white paper is a detailed paper describing the ETSI Digital Mobile Radio (DMR) Standard and the benefits it brings for professional users. It describes the market and how the ETSI DMR standard fits with existing technologies.

E-invites & Printed Invites

MOTOTRBO templates that can be used when e-mailing and mailing information about MOTOTRBO or sending out invites

Poster and Folders

A set of posters and A4 folder with insert is a available for you to use at trade shows and with introduction packages

Photo ressources

A range of high quality application-, product- and application photography is available in high resolution for printed materials and low resolution for presentations and other on-screen viewing.

E-support materials

To help promote your dealership towards your customers a range of e-support materials are available to use for presentations, websites and more. Materials are flash animation, introduction video, screen saver and electronic banners

Event Support

Various items will be available to help support your introduction and launch activities. Alongside invite templates, introduction videos and e-support; other items such as banners and graphic walls made available

Public Relations Kit

A PR kit will be available to support you in preparing articles and specific event press releases

Microsite

A MOTOTRBO specific website will be available with details about the digital technology, the MOTOTRBO product platform, vertical markets, FAQ, resource downloads and contact information. This is a good introduction an overview which partners can also link to on their own websites

Digital Toolkit

Motorola has a Digital Toolkit available for all our partners. The Digital Toolkit provides partners access to electronic versions of brochures, spec sheets, photography and more. Both high and low resolutions are available and a certain degree of customization is possible. MOTOTRBO marketing material can also be found at the Digital Toolkit. For access to the Digital Toolkit please ask in you region

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MD-TRBO/DLRBROCH