



**MOTOROLA**

# MOTOTRBO™

DP 3400 / DP 3401 / DP 3600 / DP 3601

PROFESSIONAL DIGITAL TWO-WAY PORTABLE RADIOS

## MOTOTRBO PROFESSIONAL DIGITAL TWO-WAY RADIO SYSTEM THE FUTURE OF TWO-WAY RADIO

Motorola is a company of firsts with a rich heritage of innovation. We continue to invent what's next, connecting people, delivering mobility and making technology personal. Versatile and powerful, MOTOTRBO combines the best in two-way radio functionality with digital technology, making it the ideal communication solution for your business. You get enhanced features, increased capacity, integrated data applications, exceptional voice quality and extended battery performance. This means more productive employees and lower operating costs for your business.



- **Integrates voice and data** into one device to increase your operational efficiency and support integrated applications including MOTOTRBO Text Messaging Services. Also features an integrated GPS module for use with third-party location-tracking applications.
- Uses Time-Division Multiple-Access (TDMA) digital technology to provide **twice the calling capacity** (as compared to analogue or FDMA radios) for the price of one frequency license. A second call doesn't require a second repeater, saving you equipment costs.
- In digital mode, provides **clearer voice communications** throughout the coverage area, as compared to analogue 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 analogue radios.
- Provides **easy migration** from analogue to digital with the ability to operate in both analogue and digital modes and utilising the

- dynamic mixed mode** repeater functionality allows for automatic switching between analogue and digital mode on the same repeater.
- **Enables additional functionality** including dispatch data, enhanced call signaling, basic and enhanced privacy-scrambling and option board expandability.
- 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**, when purchased and equipped with an FM battery, and can be used in locations where flammable gas, vapors or combustible dust may be present.
- Utilises Motorola's **state-of-the-art IMPRES™ technology** in batteries, chargers and audio accessories, providing longer talk time and clearer audio delivery.
- Designed to comply with the globally recognised European Telecommunications Standard Institute (ETSI) Digital Mobile Radio (DMR) Tier 2 standard for professional two-way radio users.

- Features the **transmit interrupt** suite, voice interrupt, remote voice dekey, emergency voice interrupt or data over voice interrupt, to help prioritise critical communication exactly when needed.
- The **IP Site Connect** digital solution uses an IP network to extend coverage of your MOTOTRBO communication system to users anywhere in the world for dramatically improved customer service and increased productivity.
- **Capacity Plus** is a scalable, single-site digital trunking solution that can expand the capacity of your MOTOTRBO communication to over a thousand radio users.
- **Motorola's Professional Radio Application Partner Programme** enables the development of customised data applications that adapt MOTOTRBO radios to meet the unique needs of your business.
- Backed by a **two-year Standard warranty**. Extended Care Option available.

## STANDARDS BASED, FUTURE READY SOLUTION

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

DMR is widely backed by industry leading two-way radio manufacturers, and it is the

most widely deployed digital mobile radio technology for professional radio users around the world. This open standard assures long-term stability and develops a community of manufacturers who build interoperable equipment that can compete on features, benefits and price.

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



# MOTOTRBO™ DP 3400 / DP 3401 / DP 3600 / DP 3601 PORTABLE RADIO SPECIFICATIONS

## General Specifications

|  | Display DP 3600 / DP 3601  | Non-Display DP 3400 / DP 3401  |
|--|--|--|
| Channel Capacity   | 1000   | 32   |
| Frequency  | 136-174 MHz (VHF)<br>403-470 MHz (UHF1)<br>450-512 MHz (UHF2)  | 136-174 MHz (VHF)<br>403-470 MHz (UHF1)<br>450-512 MHz (UHF2)  |
| Dimensions (HxWxL)<br>with NiMH Battery 1300mAh<br>with Lilon Std Battery 1500mAh<br>with Lilon HiCap Battery 2200mAh<br>with Lilon FM Battery 1400mAh | 131.5 x 63.5 x 37.2 mm<br>131.5 x 63.5 x 35.2 mm<br>131.5 x 63.5 x 39.2 mm<br>131.5 x 63.5 x 37.2 mm   | 131.5 x 63.5 x 37.2 mm<br>131.5 x 63.5 x 35.2 mm<br>131.5 x 63.5 x 39.2 mm<br>131.5 x 63.5 x 37.2 mm   |
| Weight<br>with NiMH Battery<br>with Lilon FM Battery<br>with Lilon HiCap Battery<br>with Lilon Std Battery   | 430 g<br>370 g<br>375 g<br>360 g   | 430 g<br>340 g<br>345 g<br>330 g   |
| Power Supply   | 7.2V nominal   | 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<br>IMPRES Lilon HiCap Battery<br>IMPRES FM Lilon Battery<br>NiMH Battery  | Analogue: 9 hrs / Digital: 13 hrs<br>Analogue: 13.5hrs / Digital: 19 hrs<br>Analogue: 8.5 hrs / Digital: 12 hrs<br>Analogue: 8 hrs / Digital: 11 hrs | Analogue: 9 hrs / Digital: 13 hrs<br>Analogue: 13.5hrs / Digital: 19 hrs<br>Analogue: 8.5 hrs / Digital: 12 hrs<br>Analogue: 8 hrs / Digital: 11 hrs |
| Digital Protocol   | ETSI-TS 102 361-1, 2 & 3   | ETSI-TS 102 361-1, 2 & 3   |

## Receiver

|   | Display DP 3600 / DP 3601  | Non-Display DP 3400 / DP 3401  |
|---|--|--|
| Frequency                                       | 136-174 MHz (VHF)<br>403-470 MHz (UHF1)<br>450-512 MHz (UHF2)                    | 136-174 MHz (VHF)<br>403-470 MHz (UHF1)<br>450-512 MHz (UHF2)                    |
| Channel Spacing                                 | 12.5 kHz/ 20 kHz/ 25 kHz   | 12.5 kHz/ 20 kHz/ 25 kHz   |
| Frequency Stability<br>(-30° C, +60° C, +25° C) | +/- 1.5 ppm (DP 3600)<br>+/- 0.5 ppm (DP 3601)                                   | +/- 1.5 ppm (DP 3400)<br>+/- 0.5 ppm (DP 3401)                                   |
| Analogue Sensitivity                            | 0.35 uV (12 dB SINAD)<br>0.22 uV (typical) (12 dB SINAD)<br>0.4 uV (20 dB SINAD) | 0.35 uV (12 dB SINAD)<br>0.22 uV (typical) (12 dB SINAD)<br>0.4 uV (20 dB SINAD) |
| Digital Sensitivity                             | 5% BER: 0.3 uV   | 5% BER: 0.3 uV   |
| Intermodulation                                 | 65 dB  | 65 dB  |
| Adjacent Channel Selectivity                    | 60 dB @ 12.5 kHz<br>70 dB @ 20/25 kHz  | 60 dB @ 12.5 kHz<br>70 dB @ 20/25 kHz  |
| Spurious Rejection                              | 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<br>-45 dB @ 20/25 kHz  | -40 dB @ 12.5 kHz<br>-45 dB @ 20/25 kHz  |
| Audio Response                                  | +1, -3 dB  | +1, -3 dB  |
| Conducted Spurious Emission                     | -57 dBm  | -57 dBm  |

## Transmitter

|   | Display DP 3600 / DP 3601  | Non-Display DP 3400 / DP 3401  |
|---|--|--|
| Frequency                                       | 136-174 MHz (VHF)<br>403-470 MHz (UHF1)<br>450-512 MHz (UHF2)        | 136-174 MHz (VHF)<br>403-470 MHz (UHF1)<br>450-512 MHz (UHF2)        |
| Channel Spacing                                 | 12.5 kHz/ 20 kHz/ 25 kHz   | 12.5 kHz/ 20 kHz/ 25 kHz   |
| Frequency Stability<br>(-30° C, +60° C, +25° C) | +/- 1.5 ppm (DP 3600)<br>+/- 0.5 ppm (DP 3601)                       | +/- 1.5 ppm (DP 3400)<br>+/- 0.5 ppm (DP 3401)                       |
| Power Output<br>UHF1 and UHF2<br>VHF            | 1W and 4 W<br>1W and 5 W   | 1W and 4 W<br>1W and 5 W   |
| Modulation Limiting                             | +/- 2.5 kHz @ 12.5 kHz<br>+/- 4 kHz @ 20 kHz<br>+/- 5.0 kHz @ 25 kHz | +/- 2.5 kHz @ 12.5 kHz<br>+/- 4 kHz @ 20 kHz<br>+/- 5.0 kHz @ 25 kHz |
| FM Hum and Noise                                | -40 dB @ 12.5 kHz<br>-45 dB @ 20/25 kHz                              | -40 dB @ 12.5 kHz<br>-45 dB @ 20/25 kHz                              |
| Conducted / Radiated Emission                   | -36 dBm < 1 GHz<br>-30dBm > 1GHz                                     | -36 dBm < 1 GHz<br>-30dBm > 1GHz                                     |
| Adjacent Channel Power                          | -60 dB @ 12.5 kHz<br>-70 dB @ 20/25 kHz                              | -60 dB @ 12.5 kHz<br>-70 dB @ 20/25 kHz                              |
| Audio Response                                  | +1, -3 dB  | +1, -3 dB  |
| Audio Distortion                                | 3%   | 3%   |
| Digital Vocoder Type                            | AMBE+2   | AMBE+2   |

## GPS

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

|                                     |              |
|-------------------------------------|--------------|
| TTFF (Time To First Fix) Cold Start | < 2 minutes  |
| TTFF (Time To First Fix) Hot Start  | < 10 seconds |
| Horizontal Accuracy                 | < 10 meters  |

## Environmental Specifications

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

Specifications subject to change without notice. All specifications shown are typical.  
Radio meets applicable regulatory requirements. Version 9 03/10

For more information please contact your local Motorola Authorised Dealer or Distributor



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Motorola, Ltd. Jays Close, Viabes Industrial Estate,  
Basingstoke, Hampshire, RG22 4PD, UK