# MOTOTRBO™ DM4000e SERIES

YOU'RE COMPLETELY CONNECTED.

The DM4000e Series is designed for the skilled professional who refuses to compromise. With high performance integrated voice and data, and advanced features for efficient operation, these next-generation radios deliver complete connectivity to your organisation.

## CONNECTED

The MOTOTRBO DM4000e Series is a family of ETSI DMR Standards compliant digital radios that delivers operation critical voice and data communications. Bluetooth® audio lets you talk without wires, integrated Wi-Fi® enables remote software updates, while indoor and outdoor location-tracking capabilities give you total visibility of your resources. With support for trunking as well as legacy analogue technology, you can keep your organisation connected as it grows.

## SAFE

Safeguard your staff with responsive push-to-talk technology. The quick access buttons on DM4000e Series radios can summon help with one touch, using Transmit Interrupt to clear a channel when necessary. A range of safe driving accessories allow your workers to communicate hands-free, and Text-to-Speech technology helps your drivers keep their eyes on the road.

## PRODUCTIVE

Text messaging and Work Order Ticketing simplify complex communications, and data capabilities support advanced applications. Featuring a high power audio amplifier, these radios deliver loud, clear speech, with background noise cancellation for better intelligibility. DM4000e Series radios are also ideal as a dispatcher solution, with desktop microphones and a rugged, durable design for everyday use.

## NEXT GENERATION FEATURES

- Bluetooth 4.0
- Indoor location tracking
- Multi-constellation GNSS for increased location accuracy
- Intergrated Wi-Fi
- Over-the-air software updates



MOTOROLA SOLUTIONS

## LONG RANGE WIRELESS MOBILE MICROPHONE

Designed for customers who depend on their high power mobile radio but must work outside of their vehicle, the Long Range Wireless Mobile Microphone keeps you connected and communicating up to 100m (330 ft) from your vehicle. With instant touch pairing and in-vehicle charging cradles, you can maintain critical communications even on remote job sites.

## HANDHELD CONTROL HEAD

When space is tight, and you need the flexibility to operate your radio from anywhere in the vehicle, opt for the Handheld Control Head. Its colour screen, full keypad and extendable cord gives you complete control within 8 m of the radio.

## BLUETOOTH AUDIO

Improve the mobility of your work teams without wires getting tangled. Your delivery driver can sort through packages on the back of the delivery truck, your bus driver can check students in the back of the bus, and your limousine driver can open the door for their passengers and stay connected.

## CONNECT AND COORDINATE EFFORTLESSLY

IMPRES™ Smart Audio accessories communicate with the radio to suppress ambient noise, improve voice intelligibility and amplify loudness. Choose from a range of standard and heavy duty microphones, with or without keypads and navigation buttons.

## INTERACT SAFELY WITHOUT DISTRACTIONS

To help your drivers keep their eyes on the road, you can customise your installation with the IMPRES Visor Microphone and Remote Push-to-Talk.

| | Numeric Model | | | | Alphanumeric Model | | | |
|---|---|---|---|---|---|---|---|---|
| Model Number | DM4401e / DM4400e[1] | | | | DM4601e / DM4600e[1] | | | |
| Band | VHF | 300MHz | UHF Band 1 | UHF Band 2 | VHF | 300MHz | UHF Band 1 | UHF Band 2 |
| **GENERAL SPECIFICATIONS** | | | | | | | | |
| Frequency | 136-174 MHz | 300-360 MHz, | 403-470 MHz | 450-527 MHz | 136-174 MHz | 300-360 MHz, | 403-470 MHz | 450-527 MHz |
| Low Power Output | 1-25 W | – | 1-25 W | – | 1-25 W | – | 1-25 W | – |
| High Power Output | 25-45 W | 1-40 W | 25-40 W | 1-40 W | 25-45 W | 1-40W | 25-40 W | 1-40W |
| Channel Spacing | 12.5, 20[2], 25 kHz | | | | | | | |
| Channel Capacity | 99 | | | | 1000 | | | |
| Dimensions (H x W x D) | 53 x 175 x 206 mm | | | | | | | |
| Weight | 1.8 kg | | | | | | | |
| Power Supply (Nominal) | 12 V | | | | | | | |
| Max Current Drain, Standby | 0.8 A | | | | | | | |
| Max Current Drain, Receive | 2 A | | | | | | | |
| Transmit Current Draw, Low Power | 11 A | – | 11 A | – | 11 A | – | 11 A | – |
| Transmit Current Draw, High Power | 14.5 A | 14.5 A | 14.5 A | 12 A | 14.5 A | 14.5 A | 14.5 A | 12 A |

## CONNECTION

- VHF Band, 45 W
- 300MHz Band, 40 W
- UHF Band, 40 W
- Alphanumeric Model: Colour Screen, 1000 Channels
- Numeric Model: Numeric Display, 99 Channels
- Analogue and Digital
- Voice and Data
- ○ Integrated Wi-Fi
- Canned Text Messaging
- Freeform Text Messaging (Requires Keypad Mic)
- Work Order Ticketing
- Multi-Constellation GNSS for outdoor location tracking
- High Efficiency GNSS
- Event-Driven Location Update
- Bluetooth Audio
- Bluetooth Data
- ○ Bluetooth Permanent Discoverable Mode
- ○ Bluetooth Indoor Location Tracking
- Voice Announcement
- Text to Speech
- ○ Option Board
- Home Channel Reminder

## AUDIO

- Intelligent Audio
- IMPRES Audio
- SINC+ Noise Cancellation
- Acoustic Feedback Suppressor
- Microphone Distortion Control
- User-Selectable Audio Profiles
- Trill Enhancement

## PERSONALISATION

- Wide Range of Accessories
- 4 Programmable Buttons

## MANAGEMENT

- Radio Management
- Over-the-Air Programming
- ○ Over-the-Air Software Update

## SAFETY

- Lone Worker
- Basic Privacy
- Enhanced Privacy
- ○ AES256 Encryption
- Transmit Interrupt (decode)
- Transmit Interrupt (encode)
- Digital Emergency
- Emergency Search Tone
- Remote Monitor
- Radio Disable / Enable
- Rated IP54
- Rugged to MIL-STD 810

## SYSTEMS

- Direct Mode (including Dual Capacity Direct Mode)
- IP Site Connect (Single and Multi-Site)
- Capacity Plus (Single and Multi-Site)
- ○ Capacity Max

○ Optional

## TRANSMITTER SPECIFICATIONS

| | |
|---|---|
| 4FSK Digital Modulation | 12.5 kHz Data: 7K60F1D and 7K60FXD,<br>12.5 kHz Voice: 7K60F1E and 7K60FXE,<br>Combination of 12.5 kHz Voice and Data: 7K60F1W |
| Digital Protocol | ETSI TS 102 361-1, -2, -3 |
| Conducted/Radiated Emissions (TIA603D) | -36 dBm < 1 GHz, -30 dBm > 1 GHz |
| Adjacent Channel Power | 60 dB (12.5 kHz channel),<br>70dB (20[2] / 25 kHz) |
| Frequency Stability | ± 0.5 ppm |

## RECEIVER SPECIFICATIONS

| | |
|---|---|
| Analog Sensitivity (12dB SINAD) | 0.18 uV |
| Digital Sensitivity (5% BER) | 0.16 uV |
| Intermodulation (TIA603D) | 70 dB |
| Adjacent Channel Selectivity, (TIA603A)-1T | 60 dB (12.5 kHz channel),<br>70 dB (20[2] / 25 kHz) |
| Adjacent Channel Selectivity, (TIA603D)-2T | 45 dB (12.5 kHz channel),<br>70 dB (20[2] / 25 kHz) |
| Spurious Rejection (TIA603D) | 70 dB |

## AUDIO SPECIFICATIONS

| | |
|---|---|
| Digital Vocoder Type | AMBE+2™ |
| Audio Response | TIA603D |
| Rated Audio | 3 W (internal speaker)<br>7.5 W (external 8 ohm speaker)<br>13 W (external 4 ohm speaker) |
| Audio Distortion at Rated Audio | 3% |
| Hum and Noise | -40 dB (12.5 kHz channel),<br>-45 dB (20[2] / 25 kHz) |
| Conducted Spurious Emissions (TIA603D) | -57 dBm |

## BLUETOOTH SPECIFICATIONS

| | |
|---|---|
| Version | 4.0 |
| Range | Class 2, 10 m |
| Supported Profiles | Bluetooth Headset Profile (HSP),<br>Serial Port Profile (SPP),<br>Motorola Solutions fast push-to-talk. |
| Simultaneous Connections | 1 x audio accessory and 1 x data device |
| Permanent Discoverable Mode | Optional |

## GNSS SPECIFICATIONS

| | |
|---|---|
| Constellation Support | GPS, GLONASS |
| Time To First Fix, Cold Start | < 60 s |
| Time To First Fix, Hot Start | < 10 s |
| Horizontal Accuracy | < 5 m |

## Wi-Fi SPECIFICATIONS

| | |
|---|---|
| Standards Supported | IEEE 802.11b, 802.11g, 802.11n |
| Security Protocol Supported | WPA, WPA-2, WEP |
| Maximum Number of SSIDs | 128 (64 for Numeric Models) |

## ENVIRONMENTAL SPECIFICATIONS

| | |
|---|---|
| Operating Temperature | -30 °C to +60 °C |
| Storage Temperature | -40 °C to +85 °C |
| Electrostatic Discharge | IEC 61000-4-2 Level 4 |
| Dust and Water Intrusion | IEC 60529 - IP54 |
| Packaging Test | MIL-STD 810C, D, E, F, and G |

## MILITARY STANDARDS

| | MIL-STD 810C | | MIL-STD 810D | | MIL-STD 810E | | MIL-STD 810F | | MIL-STD 810G | |
|---|---|---|---|---|---|---|---|---|---|---|
| | METHOD | PROCEDURE | METHOD | PROCEDURE | METHOD | PROCEDURE | METHOD | PROCEDURE | METHOD | PROCEDURE |
| Low Pressure | 500.1 | I | 500.2 | II | 500.3 | II | 500.4 | II | 500.5 | II |
| High Temp | 501.1 | I, II | 501.2 | I/A1, II/A1 | 501.3 | I/A1, II/A1 | 501.4 | I/Hot, II/Hot | 501.5 | I/A1, II/A1 |
| Low Temp | 502.1 | I | 502.2 | I/C3, II/C1 | 502.3 | I/C3, II/C1 | 502.4 | I/C3, II/C1 | 502.5 | I/C3, II/C1 |
| Temp Shock | 503.1 | I | 503.2 | A1/C3 | 503.3 | A1/C3 | 503.4 | I | 503.5 | I-C |
| Solar Radiation | 505.1 | II | 505.2 | I/Hot-Dry | 505.3 | I/Hot-Dry | 505.4 | I/Hot-Dry | 505.5 | I/A1 |
| Rain | 506.1 | I, II | 506.2 | I, II | 506.3 | I, II | 506.4 | I, III | 506.5 | I, III |
| Humidity | 507.1 | II | 507.2 | II/Hot-Humid | 507.3 | II/Hot-Humid | 507.4 | - | 507.5 | I/Hot-Humid |
| Salt Fog | 509.1 | I | 509.2 | I | 509.3 | I | 509.4 | - | 509.5 | - |
| Dust | 510.1 | I, II | 510.2 | I, II | 510.3 | I, II | 510.4 | I, II | 510.5 | I, II |
| Vibration | 514.2 | VIII/CatF/ CurveW, XI | 514.3 | I/Cat10, II/Cat3 | 514.4 | I/Cat10, III/Cat3 | 514.5 | I/Cat24, II/Cat5 | 514.6 | I/Cat24, II/Cat5 |
| Shock | 516.2 | I, II | 516.3 | I, IV | 516.4 | I, IV | 516.5 | I, IV | 516.6 | I, V, VI |

NOTES
[1] DM4401e and DM4601e models include GNSS and Bluetooth as standard.
[2] 20 kHz channel not available for 300MHz models.

To get connected with MOTOTRBO, visit www.motorolasolutions.com/mototrbo or find your closest Motorola representative or authorised Partner at www.motorolasolutions.com/contactus

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