

# MOTOTRBO™ XiR M8600i SERIES

YOU'RE COMPLETELY CONNECTED



With this dynamic evolution of MOTOTRBO digital two-way radios, you're better connected, safer and more productive. The XiR M8600i 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 XiR M8600i Series is a family of DMR-standard digital radios that delivers operations-critical voice and data communications. Bluetooth® audio lets you talk without wires, integrated Wi-Fi enables remote software updates, and 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 XiR M8600i 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. XiR M8600i Series radios are also ideal as a dispatch solution, with desktop microphones and a rugged, durable design for everyday use.

### WHAT'S NEW IN THESE NEXT GENERATION RADIOS

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



|  | Alphanumeric Model       |             |             |             |                             | Numeric Model            |             |             |
|--|--------------------------|-------------|-------------|-------------|-----------------------------|--------------------------|-------------|-------------|
| Model Number                             | XiR M8668i / XiR M8660i* |             |             |             |                             | XiR M8628i / XiR M8620i* |             |             |
| Band                                     | VHF                      | 350         | UHF Band 1  | UHF Band 2  | 800                         | VHF                      | 350         | UHF Band 1  |
| <b>GENERAL SPECIFICATIONS</b>            |                          |             |             |             |                             |                          |             |             |
| Frequency                                | 136-174 MHz              | 350-400 MHz | 403-470 MHz | 450-527 MHz | 806-825 MHz,<br>851-870 MHz | 136-174 MHz              | 350-400 MHz | 403-470 MHz |
| Low Power Output                         | 1-25 W                   | -           | 1-25 W      | -           | -                           | 1-25 W                   | -           | 1-25 W      |
| High Power Output                        | 25-45W                   | 1-40W       | 25-40W      | 1-40W       | 10-35W                      | 25-45W                   | 1-40W       | 25-40W      |
| Channel Spacing                          | 12.5, 25 kHz             |             |             |             |                             |                          |             |             |
| Channel Capacity                         | 1000                     |             |             |             |                             | 64                       |             |             |
| 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                      |             |             |             |                             |                          |             |             |
| Max Current Drain, Transmit (Low Power)  | 11 A                     | -           | 11 A        | -           | -                           | 11 A                     | -           | 11A         |
| Max Current Drain, Transmit (High Power) | 14.5 A                   | 14.5 A      | 14.5 A      | 14.5 A      | 12 A                        | 14.5 A                   | 14.5 A      | 14.5 A      |

**BLUETOOTH 4.0 STANDARD**

|                 |  |
|-----------------|--|
| Frequency Range | 2400 - 2483.5 MHz                        |
| Channel         | 0 ~ 78                                   |
| BT ver < 4      | 0 ~ 39                                   |
| BT ver 4        | 0 ~ 39                                   |
| Max power       | Class 1 - 100 mW (20 dBm) ~ 1m W (0 dBm) |
| Max Bandwidth   | 1 MHz                                    |
| BT ver < 4      | 2 MHz                                    |
| BT ver 4        | 2 MHz                                    |
| Technology      | FHSS                                     |

**WIFI STANDARD**

|                                    |                          |
|------------------------------------|--------------------------|
| Frequency Range                    | 2400 - 2483.5 MHz        |
| Channel                            | 1 ~ 13                   |
| Max Bandwidth                      | 20 MHz b/g/n             |
| Range Frequency: (5 GHz)           | No                       |
| Max Channel Frequency: (149 - 161) | No                       |
| Max Bandwidth                      | 20 MHz                   |
| Max Power                          | Rated 14 dBm, max 16 dBm |
| Technology                         | b/g/n                    |



### 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:<br>7K60F1W |
| Digital Protocol                       | ETSI TS 102 361-1, -2, -3, -4   |
| Conducted/Radiated Emissions (TIA603D) | -36 dBm < 1GHz, -30 dBm > 1GHz  |
| Adjacent Channel Power                 | 60 dB (12.5 kHz channel),<br>70 dB (25 kHz channel)   |
| Frequency Stability                    | ± 0.5 ppm   |

### RECEIVER SPECIFICATIONS

|   |   |
|---|---|
| Analogue Sensitivity (12dB SINAD)                         | 0.22 uV typical   |
| Digital Sensitivity (5% BER)                              | 0.19 uV typical   |
| Intermodulation (TIA603D)                                 | VHF : 78dB<br>UHF1, UHF2, 350, 800 : 75dB   |
| Adjacent Channel Selectivity, (TIA603A)-1T                | VHF :<br>65 dB (12.5 kHz channel), 80 dB (25 kHz channel)<br>UHF1, UHF2, 350, 800 :<br>65 dB (12.5 kHz channel), 75 dB (25 kHz channel) |
| Adjacent Channel Selectivity, (TIA603D)-2T & (TIA603C)-2T | VHF :<br>50 dB (12.5 kHz channel), 80 dB (25 kHz channel)<br>UHF1, UHF2, 350, 800 :<br>50 dB (12.5 kHz channel), 75 dB (25 kHz channel) |
| Spurious Rejection (TIA603D)                              | VHF : 80 dB<br>UHF1, UHF2, 350, 800 : 75 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 (25 kHz channel)                                     |
| Conducted Spurious Emissions (TIA603D) | -57 dBm   |

### \*BLUETOOTH SPECIFICATIONS

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

### \*GNSS SPECIFICATIONS

|                               |             |
|-------------------------------|-------------|
| Constellation Support         | GPS, BEIDOU |
| 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 |

NOTES  
Specifications are subject to change without notice. All specifications shown are typical values  
\* XiR M8668i and XiR M8628i models include GNSS and Bluetooth as standard.  
Feature support for Bluetooth/Wi-Fi/GNSS will vary depending on the model support.

### 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        | II - Aggravated      |
| 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/<br>CurveW, XI | 514.3        | I/Cat10, II/<br>Cat3 | 514.4        | I/Cat10, III/<br>Cat3 | 514.5        | I/Cat24, II/<br>Cat5 | 514.6        | I/Cat24, II/<br>Cat5 |
| Shock           | 516.2        | I, II                    | 516.3        | I, IV                | 516.4        | I, IV                 | 516.5        | I, IV                | 516.6        | I, V, VI             |

### CONNECTION

- VHF Band, 45 W
- 350 Band, 40 W
- UHF Band, 40 W
- Alphanumeric Model: Colour Screen, 1000 Channels
- Numeric Model: Numeric Display, 64 Channels
- Analogue and Digital
- Voice and Data
- Integrated Wi-Fi
- Canned Text Messaging
- Freeform Text Messaging (Requires Keypad Mic)
- Multi-Constellation GNSS
- High Efficiency GNSS
- Event-Driven Location Update
- Bluetooth Audio
- Bluetooth Data
- Voice Announcement
- Bluetooth Permanent Discoverable Mode
- Bluetooth Indoor Location Tracking
- Text to Speech
- Option Board
- Home Channel Reminder

### AUDIO

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

### PERSONALISATION

- Wide Range of Accessories
- Multi-Button PTT
- 4 Programmable Buttons

### MANAGEMENT

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

### SAFETY

- Lone Worker
- AES 256 Encryption
- Transmit Interrupt
- Digital Emergency
- Emergency Search Tone
- Remote Monitor
- Radio Disable / Enable
- Waterproof to IP54
- Rugged to MIL-STD 810

### SYSTEMS

- Dual Capacity Direct Mode
- Conventional
- IP Site Connect
- Capacity Plus Single Site
- Capacity Plus Multi Site (formerly known as Linked Capacity Plus)
- Capacity Max
- Connect Plus

- Optional

## PRODUCT DATA SHEET

MOTOTRBO™ XiR M8600i SERIES  
DIGITAL TWO-WAY RADIOS

### 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 (26 ft) 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.



For more details on XiR M8600i accessories, please download the MOTOTRBO Professional Accessories Catalogue.

For more information, visit [motorolasolutions.com/MOTOTRBO](https://motorolasolutions.com/MOTOTRBO)

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