



| General Specifications | | |
|--|------------------------|----------------|
| Technical RF Output | 1-25 W* | 1-25 W* |
| Current Drain During Standby: Low Power | 1 A (1 A DC typical)* | |
| Current Drain During Transmit: Low Power | 3 A (10 A DC typical)* | |
| FCC Description | ABZ99FT3025 | ABZ99FT4025 |
| IC Description | 109AB-99FT3025 | 109AB-99FT4025 |

| Receiver | | |
|---|--|--|
| Frequencies | 136-174 MHz | 403-470 MHz |
| Channel Spacing | 12.5 kHz / 25 kHz | |
| Frequency Stability (-30° C, +60° C, +25° C) | ±0.5 ppm | |
| Analog Sensitivity (12 dB SINAD) | 0.30 uV 0.22 uV (typical) | |
| Digital Sensitivity | 5% BER: 0.3 uV | |
| Intermodulation (TIA603C) | 78 dB | 75 dB |
| Adjacent Channel Selectivity: TIA603 TIA603C | 65 dB @ 12.5 kHz, 80 dB @ 25 kHz 50 dB @ 12.5 kHz, 80 dB @ 25 kHz | 65 dB @ 12.5 kHz, 75 dB @ 25 kHz 50 dB @ 12.5 kHz, 75 dB @ 25 kHz |
| Spurious Rejection | 75 dB | |
| Audio Distortion @ Rated Audio | 3% (typical) | |
| Hum and Noise | -40 dB @ 12.5 kHz -45 dB @ 25 kHz | |
| Audio Response | TIA603C | |
| Conducted Spurious Emission | -57 dBm | |

| Transmitter | | |
|--|---|--------------------|
| Frequencies | 136-174 MHz | 403-470 MHz |
| Channel Spacing | 12.5 kHz / 25 kHz | |
| Frequency Stability (-30° C, +60° C, +25° C) | ±0.5 ppm | |
| Power Output: Low Power High Power | 1-25 W* 25-45 W | 1-25 W* 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 (TIA603C) | 60 dB @ 12.5 kHz 70 dB @ 25 kHz | |
| Audio Response | TIA603C | |
| Audio Distortion | 3% | |
| FM Modulation | 12.5 kHz: 11K0F3E 25 kHz: 16K0F3E | |
| 4FSK Digital Modulation | 12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE | |
| Digital Vocoder Type | AMBE++ | |
| Digital Protocol *Coming soon. | ETSI-TS102 361-1 | |

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.
Version 4 07/07

MOTOTRBO™

Professional Digital Two-Way Radio System



A **complete two-way radio system** that includes portable and mobile radios, repeaters, accessories, and applications

Uses Time-Division Multiple-Access (TDMA) digital technology which **doubles the number of users** you can have on a single licensed 12.5 kHz channel

Integrates voice and data to increase operational efficiency

Supports **integrated applications** including MOTOTRBO Text Messaging Services and MOTOTRBO Location Services

Provides **clearer voice communications** throughout the coverage area as compared to analog radios

Portables offer up to **40 percent longer battery** life between recharges as compared to typical analog radios

Enables additional functionality including **dispatch data, and enhanced call signaling**

Location coordinates for GPS models can be sent to dispatcher when emergency button is pressed

Allows **easy migration** from analog to digital as all units operate in both modes

Meets **IP57 submersibility standard** (portable models) along with U.S. Military Standards 810 C, D, E, and F and Motorola standards for durability and reliability

Is **intrinsically safe** and can be used in locations where flammable gas, vapors or combustible dust may be present

Portable radios meet **FM approvals**. Approved FM battery option is a 1400 mAh IMPRES™

slim Lilon FM battery Utilizes **state-of-the-art IMPRES technology** in batteries, chargers and audio accessories, providing longer talk time and clearer audio delivery

Backed by a two-year Standard Warranty **plus one-year Repair Service Advantage** (US) / Extended Warranty (Canada) and at least a one-year warranty for accessories

Portable and mobile radios available in Display and Non-Display, **GPS and Non-GPS models**



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Accelerate performance.

The next-generation professional two-way radio communications solution is here, with more performance, productivity and value—thanks to digital technology that delivers increased capacity and spectrum efficiency, integrated data communications and enhanced voice communications.

MOTOTRBO offers you a private, standards-based, cost-effective solution that can be tailored to meet your unique coverage and feature needs. This versatile portfolio provides a complete system of portable radios, mobile radios, repeaters, accessories and data applications.

MOTOTRBO™
Portable Radio

General Specifications

| | Display XPR 6500 / XPR 6550 | | Non-Display XPR 6300 / XPR 6350 | |
|--|---|---------------|--|---------------|
| | VHF | UHF | VHF | UHF |
| Frequency | 136-174 MHz | 403-470 MHz | 136-174 MHz | 403-470 MHz |
| Dimensions (HxWxT) w/ Lilon non-FM Battery | 131.5 x 63.5 x 35.2 mm | | 131.5 x 63.5 x 35.2 mm | |
| Weight (with Lilon non-FM Battery) (with Lilon FM Battery) (with NiMH Battery) | 12.7 oz (360 g) 13 oz (370 g) 15.2 oz (430 g) | | 11.63 oz (330 g) 11.98 oz (340 g) 14.09 oz (400 g) | |
| Power Supply | 7.2V nominal | | 7.2V nominal | |
| FCC Description | AZ489FT3815 | AZ489FT4876 | AZ489FT3815 | AZ489FT4876 |
| IC Description | 109U-89FT3815 | 109U-89FT4876 | 109U-89FT3815 | 109U-89FT4876 |
| IMPRES 1500 mAh Lilon Battery | Analog: 9 hrs Digital: 13 hrs | | Analog: 9 hrs Digital: 13 hrs | |
| IMPRES FM 1400 mAh Battery | Analog: 8.5 hrs Digital: 12 hrs | | Analog: 8.5 hrs Digital: 12 hrs | |
| NiMH 1300 mAh Battery | Analog: 8 hrs Digital: 11 hrs | | Analog: 8 hrs Digital: 11 hrs | |

Receiver

| | 136-174 MHz | 403-470 MHz | 136-174 MHz | 403-470 MHz |
|---|--|-------------|--|-------------|
| Frequencies | 136-174 MHz | 403-470 MHz | 136-174 MHz | 403-470 MHz |
| Channel Spacing | 12.5 kHz / 25 kHz | | 12.5 kHz / 25 kHz | |
| Frequency Stability (-30° C, +60° C, +25° C) | +/- 1.5 ppm (XPR 6500) +/- 0.5 ppm (XPR 6550) | | +/- 1.5 ppm (XPR 6300) +/- 0.5 ppm (XPR 6350) | |
| Analog Sensitivity (12 dB SINAD) | 0.35 uV 0.22 uV (typical) | | 0.35 uV 0.22 uV (typical) | |
| Digital Sensitivity | 5% BER: 0.3 uV | | 5% BER: 0.3 uV | |
| Intermodulation (TIA603C) | 70 dB | | 70 dB | |
| Adjacent Channel Selectivity TIA603 TIA603C | 60 dB @ 12.5 kHz, 70 dB @ 25 kHz 45 dB @ 12.5 kHz, 70 dB @ 25 kHz | | 60 dB @ 12.5 kHz, 70 dB @ 25 kHz 45 dB @ 12.5 kHz, 70 dB @ 25 kHz | |
| Spurious Rejection (TIA603C) | 70 dB | | 70 dB | |
| Rated Audio | 500 mW | | 500 mW | |
| Audio Distortion @ Rated Audio | 3% (typical) | | 3% (typical) | |
| Hum and Noise | -40 dB @ 12.5 kHz -45 dB @ 25 kHz | | -40 dB @ 12.5 kHz -45 dB @ 25 kHz | |
| Audio Response | TIA603C | | TIA603C | |
| Conducted Spurious Emission (TIA603C) | -57 dBm | | -57 dBm | |

Transmitter

| | 136-174 MHz | 403-470 MHz | 136-174 MHz | 403-470 MHz |
|--|---|-------------|---|-------------|
| Frequencies | 136-174 MHz | 403-470 MHz | 136-174 MHz | 403-470 MHz |
| Channel Spacing | 12.5 kHz / 25 kHz | | 12.5 kHz / 25 kHz | |
| Frequency Stability (-30° C, +60° C, +25° C) | +/- 1.5 ppm (XPR 6500) +/- 0.5 ppm (XPR 6550) | | +/- 1.5 ppm (XPR 6300) +/- 0.5 ppm (XPR 6350) | |
| Power Output Low Power High Power | 1 W 5 W | 1 W 4 W | 1 W 5 W | 1 W 4 W |
| Modulation Limiting | +/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz | | +/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz | |
| FM Hum and Noise | -40 dB @ 12.5 kHz -45 dB @ 25 kHz | | -40 dB @ 12.5 kHz -45 dB @ 25 kHz | |
| Conducted / Radiated Emission | -36 dBm < 1 GHz -30 dBm > 1 GHz | | -36 dBm < 1 GHz -30 dBm > 1 GHz | |
| Adjacent Channel Power | 60 dB @ 12.5 kHz 70 dB @ 25 kHz | | 60 dB @ 12.5 kHz 70 dB @ 25 kHz | |
| Audio Response | TIA603C | | TIA603C | |
| Audio Distortion | 3% | | 3% | |
| FM Modulation | 12.5 kHz: 11K0F3E 25 kHz: 16K0F3E | | 12.5 kHz: 11K0F3E 25 kHz: 16K0F3E | |
| 4FSK Digital Modulation | 12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE | | 12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE | |
| Digital Vocoder Type | AMBE++ | | AMBE++ | |

GPS

| | |
|---|--------------|
| Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal -130 dBm signal strength) | |
| TTF (Time To First Fix) Cold Start | < 2 minutes |
| TTF (Time To First Fix) Hot Start | < 10 seconds |
| Horizontal Accuracy | < 10 meters |

Factory Mutual Approvals

MOTOTRBO XPR Portable series radios have been certified by FM Approvals in accordance with Canada and U.S. Codes as intrinsically safe for use in Class I, II, III, Division 1, Groups C,D,E,F,G, when properly equipped with a Motorola FM approved battery option. They are also approved for use in Class I, Division 2, Groups A, B, C, D.

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.

Environmental Specifications

| | |
|-----------------------|--------------------|
| Operating Temperature | -30° C / +60° C* |
| Storage Temperature | -40° C / +85° C |
| Thermal Shock | Per MIL-STD |
| Humidity | Per MIL-STD |
| ESD | IEC-801-2KV |
| Water Intrusion | IEC 60529 - IP57 |
| Packaging Test | MIL-STD 810D and E |

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

MOTOTRBO™
Mobile Radio

General Specifications

| | Display XPR 4500 / XPR 4550 | | Numeric Display XPR 4300 / XPR 4350 | |
|---|--|--|--|--|
| | VHF | UHF | VHF | UHF |
| Channel Capacity | 160 | | 32 | |
| Typical RF Output Low Power High Power | 1-25 W* 25-45 W | 1-25 W 25-40 W | 1-25 W* 25-45 W* | 1-25 W 25-40 W |
| Frequency | 136-174 MHz | 403-470 MHz | 136-174 MHz | 403-470 MHz |
| Dimensions (HxWxL) | 2.01 x 6.89 x 8.11 in (51 x 175 x 206 mm) | | 2.01 x 6.89 x 8.11 in (51 x 175 x 206 mm) | |
| Weight | 4.0 lbs. (1.8 kg) | | 4.0 lbs. (1.8 kg) | |
| Current Drain: Standby Rx @ Rated Audio Transmit | 0.81 A max 2 A max 1-25 W - 11.0 A max 25-45 W - 14.5 A max | 0.81 A max 2 A max 1-25 W - 11.0 A max 25-40 W - 14.5 A max | 0.81 A max 2 A max 1-25 W - 11.0 A max 25-45 W - 14.5 A max | 0.81 A max 2 A max 1-25 W - 11.0 A max 25-40 W - 14.5 A max |
| FCC Description | 1-25 W - ABZ99FT3083 25-45 W - ABZ99FT3082 | 1-25 W - ABZ99FT4081 25-40 W - ABZ99FT4080 | 1-25 W - ABZ99FT3083 25-45 W - ABZ99FT3082 | 1-25 W - ABZ99FT4081 25-40 W - ABZ99FT4080 |
| IC Description | 1-25 W - 109AB-99FT3083 25-45 W - 109AB-99FT3082 | 1-25 W - 109AB-99FT4081 25-40 W - 109AB-99FT4080 | 1-25 W - 109AB-99FT3083 25-45 W - 109AB-99FT3082 | 1-25 W - 109AB-99FT4081 25-40 W - 109AB-99FT4080 |

Receiver

| | 136-174 MHz | 403-470 MHz | 136-174 MHz | 403-470 MHz |
|---|---|--|---|--|
| Frequencies | 136-174 MHz | 403-470 MHz | 136-174 MHz | 403-470 MHz |
| Channel Spacing | 12.5 kHz / 25 kHz | | 12.5 kHz / 25 kHz | |
| Frequency Stability (-30° C, +60° C, +25° C) | +/- 1.5 ppm (XPR 4500) +/- 0.5 ppm (XPR 4550) | | +/- 1.5 ppm (XPR 4300) +/- 0.5 ppm (XPR 4350) | |
| Analog Sensitivity (12dB SINAD) | 0.3 uV 0.22 uV (typical) | | 0.3 uV 0.22 uV (typical) | |
| Digital Sensitivity | 5% BER: 0.3 uV | | 5% BER: 0.3 uV | |
| Intermodulation (TIA603C) | 78 dB | 75 dB | 78 dB | 75 dB |
| Adjacent Channel Selectivity TIA603 TIA603C | 65 dB @ 12.5 kHz, 80 dB @ 25 kHz 50 dB @ 12.5 kHz, 80 dB @ 25 kHz | 65 dB @ 12.5 kHz, 75 dB @ 25 kHz 50 dB @ 12.5 kHz, 75 dB @ 25 kHz | 65 dB @ 12.5 kHz, 80 dB @ 25 kHz 50 dB @ 12.5 kHz, 80 dB @ 25 kHz | 65 dB @ 12.5 kHz, 75 dB @ 25 kHz 50 dB @ 12.5 kHz, 75 dB @ 25 kHz |
| Spurious Rejection (TIA603C) | 80 dB | 75 dB | 80 dB | 75 dB |
| Rated Audio | 3 W (Internal) 7.5 W (External - 8 ohms) 13 W (External - 4 ohms) | | 3 W (Internal) 7.5 W (External - 8 ohms) 13 W (External - 4 ohms) | |
| Audio Distortion @ Rated Audio | 3% (typical) | | 3% (typical) | |
| Hum and Noise | -40 dB @ 12.5 kHz -45 dB @ 25 kHz | | -40 dB @ 12.5 kHz -45 dB @ 25 kHz | |
| Audio Response | TIA603C | | TIA603C | |

Transmitter

| | 136-174 MHz | 403-470 MHz | 136-174 MHz | 403-470 MHz |
|--|---|-------------------|---|-------------------|
| Frequencies | 136-174 MHz | 403-470 MHz | 136-174 MHz | 403-470 MHz |
| Channel Spacing | 12.5 kHz / 25 kHz | | 12.5 kHz / 25 kHz | |
| Frequency Stability (-30° C, +60° C, +25° C) | +/- 1.5 ppm (XPR 4500) +/- 0.5 ppm (XPR 4550) | | +/- 1.5 ppm (XPR 4300) +/- 0.5 ppm (XPR 4350) | |
| Power Output Low Power High Power | 1-25 W* 25-45 W | 1-25 W 25-40 W | 1-25 W* 25-45 W* | 1-25 W 25-40 W |
| Modulation Limiting | +/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz | | +/- 2.5 kHz @ 12.5 kHz +/- 5.0 kHz @ 25 kHz | |
| FM Hum and Noise | -40 dB @ 12.5 kHz -45 dB @ 25 kHz | | -40 dB @ 12.5 kHz -45 dB @ 25 kHz | |
| Conducted / Radiated Emission | -36 dBm < 1 GHz -30 dBm > 1 GHz | | -36 dBm < 1 GHz -30 dBm > 1 GHz | |
| Adjacent Channel Power (TIA603C) | 60 dB @ 12.5 kHz 70 dB @ 25 kHz | | 60 dB @ 12.5 kHz 70 dB @ 25 kHz | |
| Audio Response | TIA603C | | TIA603C | |
| Audio Distortion | 3% | | 3% | |
| FM Modulation | 12.5 kHz: 11K0F3E 25 kHz: 16K0F3E | | 12.5 kHz: 11K0F3E 25 kHz: 16K0F3E | |
| 4FSK Digital Modulation | 12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE | | 12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE | |
| Digital Vocoder Type | AMBE++ | | AMBE++ | |
| Digital Protocol | ETSI-TS102 361-1 | | 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).

| | |
|------------------------------------|--------------|
| TTF (Time to First Fix) Cold Start | < 1 minute |
| TTF (Time to First Fix) Hot Start | < 10 seconds |
| Horizontal Accuracy | < 10 meters |

*Coming Soon.

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.

Environmental Specifications

| | |
|-----------------------|--------------------|
| Operating Temperature | -30° C / +60° C |
| Storage Temperature | -40° C / +85° C |
| Thermal Shock | Per MIL-STD |
| Humidity | Per MIL-STD |
| ESD | IEC-801-2KV |
| Water Intrusion | IEC 60529 - IP57 |
| Packaging Test | MIL-STD 810D and E |