

momentum™

HDM150 Mobile

VHF, UHF



The HDM150 mobile is a multimode, software defined radio (SDR) that integrates impressive performance with durable construction to support a wide range of user requirements and applications.

Standards-based Technology

The HDM150 and the Momentum family of products use Digital Mobile Radio (DMR) standards-based technology to provide reliable, cost effective, open architecture communications solutions.

Intuitive Ergonomic Design

The HDM150 features a large full-color thin film transistor (TFT) LCD display for superior contrast in bright light, large multifunction volume and channel selector knob, a large internal speaker or optional external speaker and user-defined "softkeys" to allow easy operation.

FCC Narrowband Compliant

The HDM150 mobile radio meets FCC and IC (Industry Canada) requirements for 12.5 kHz or 6.25 kHz equivalent spectrum efficiency. In analog mode the HDM150 operates on 12.5 kHz channels. While in digital, DMR, mode the HDM150 provides 2-slot TDMA on a 12.5 kHz channel. This allows two simultaneous voice and/or data transmissions on a 12.5 kHz channel.

Three-year warranty

Secure Communications

Communications security is ensured by the air interface encryption algorithms defined in the DMR standard and implemented in the radio. Advanced Encryption Standard (AES) options and the Scrambler/Encrypt features are available for increased communications security.

Durable Design

The HDM150 is designed to withstand day-to-day operation when and where you need to work. The radio meets Military Standards for rain, sand and dust, shock and vibration. When configured with an optional desktop microphone and power supply the HDM150 can operate as a desktop control station.

Feature Rich

Integrated GPS, Voice Annunciation, Text Messaging, Group and Individual Calls, Telemetry, Remote Monitor, Remote Enable/Disable, and various analog signaling types, including MDC 1200, make this radio a leader in performance and flexibility.

GENERAL

| | |
|--|---|
| Frequency Range VHF 136-174 MHz UHF1 400-470 MHz UHF2 450-520 MHz | Frequency Stability ±1.5 ppm |
| Channel Capacity 1024 | Antenna Impedance 50Ω |
| Zone Capacity 64 (Each with a maximum of 16 channels) | Dimensions (HxWxD) <i>(With std. battery, without antenna)</i> 60 x 174 x 200 mm / 2.4 x 6.9 x 7.9 in |
| Channel Spacing 25/20/12.5 KHz | Weight 3.75 lbs (1.7 kg) |
| Operating Voltage 13.6V±15% | Front Case PC and ABS |
| Current Drain Standby <0.6A Receive <2.0A Transmit <12A (45W/50W) <8A (25W) | LCD Display 220 x 176 pixels, 262k colors, 2 in, 4 rows |

TRANSMITTER

| | |
|--|---|
| RF Power Output VHF High Power 50W VHF Low Power 25W UHF High Power 45W UHF Low Power 25W | FM Hum and Noise -40db @ 12.5 kHz -43db @ 20 kHz -45db @ 25 kHz |
| FM Modulation 11K0F3E @ 12.5 kHz 14K0F3E @ 20 kHz 16K0F3E @ 25 kHz | Adjacent Channel Power 60dB @ 12.5 kHz 70dB @20/25kHz |
| 4FSK Digital Modulation 12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXW | Audio Response +1 ~-3dB |
| Conducted/Radiated Emission -36dBm<1GHz -30dBm>1GHz | Audio Distortion ≤3% |
| Modulation Limiting ±2.5 kHz @ 12.5 kHz ±4.0 kHz @ 20 kHz ±5.0 kHz @ 25 kHz | Digital Vocoder Type AMBE++ or SELP |
| | Digital Protocol ETSI-TS102 361-1, 2&3 |

RECEIVER

| | |
|--|--|
| Sensitivity (Analog) 0.3µV (12dB SINAD) 0.22µV (Typical) (12dB SINAD) 0.4µV (20dB SINAD) | Hum and Noise -40dB @ 12.5 kHz -43dB @ 20 kHz -45dB @ 25 kHz |
| Sensitivity (Digital) 0.3µV / BER 5% | Rated Audio Power Output 3W |
| Selectivity TIA-603 65dB @ 12.5 kHz / 75dB @ 20/25 kHz | Rated Audio Distortion ≤3% |
| ETSI 60dB @ 12.5 kHz / 70dB @ 20/25 kHz | Audio Response +1 ~-3dB |
| Intermodulation TIA-603 75dB @ 12.5/20/25 kHz ETSI 70dB @ 12.5/20/25 kHz | Conducted Spurious Emission <-57 dBm |
| Spurious Response Rejection TIA-603 75dB @ 12.5/20/25 kHz ETSI 70dB @ 12.5/20/25 kHz | |

GPS

| | |
|---|---|
| TTFF (Time To First Fix) Cold Start < 1 minute | Horizontal Accuracy < 10 meters (32.8 feet) |
| TTFF (Time To First Fix) Hot Start < 10 seconds | |

ENVIRONMENTAL SPECIFICATIONS

| | |
|--|--|
| Operating Temperature -22 to +140°F (-30 to +60°C) | American Military Standard MIL-STD-810 C/D/E/F |
| Storage Temperature -40 to +185°F (-40 to +85°C) | Dust and Water Intrusion IP54 Standard |
| ESD IEC 61000-4-2 (Level 4) ±8kV (Contact) ±15kV (Air) | Humidity Per MIL-STD-810 C/D/E/F Standard |
| | Shock and Vibration Per MIL-STD-810 C/D/E/F Standard |

REGULATORY DATA

| Frequency Range (MHz) | RF Output (W) | FCC Type Acceptance Number | Applicable FCC Rules | Industry Canada Certification Number | Applicable Industry Canada Rules |
|-----------------------|---------------|----------------------------|----------------------|--------------------------------------|----------------------------------|
| 136-174 | 50W | OWDTR-0083-E | 90 | 3636B-0083 | RSS-119 |
| 400-470 | 45W | OWDTR-0094-E | 90 | 3636B-0084 | RSS-119 |
| 450-520 | 45W | OWDTR-0095-E | 90 | - | - |

APPLICABLE MILITARY STANDARDS

| Test Items | 810C Methods & Procedures | 810D Methods & Procedures | 810E Methods & Procedures | 810F Methods & Procedures |
|-------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Low Pressure | 500.1; 1 | 500.2; 1, 2 | 500.3; 1, 2 | 500.4; 2 |
| High Temperature | 501.1; 1, 2 | 501.2; 1, 2 | 501.3; 1, 2 | 501.4; 1, 2 |
| Low Temperature | 502.1; 1 | 502.2; 1, 2 | 502.3; 1, 2 | 502.4; 1, 2 |
| Temperature Shock | 503.1; 1 | 503.2; 1 | 503.3; 1 | 503.4; 1 |
| Solar Radiation | 505.1; 1 | 505.2; 1 | 505.3; 1 | 505.4; 1 |
| Rain | 506.1; 2 | 506.2; 2 | 506.3; 1, 2 | 506.4; 1, 2 |
| Humidity | 507.1; 2 | 507.2; 2, 3 | 507.3; 2, 3 | 507.4 |
| Salt Fog | 509.1; 1 | 509.2; 1 | 509.3; 1 | 509.4; 1 |
| Sand and Dust | 510.1; 1 | 510.2; 1 | 510.3; 1 | 510.4; 1 |
| Vibration | 514.2; 8, 10 | 514.3; 1 | 514.4; 1 | 514.5; 1/2/4 |
| Shock | 516.2; 1, 2, 5 | 516.3; 1, 4 | 516.4; 1, 4 | 516.5; 1, 4 |

Technical specifications are subject to change without notice.
Product sales are subject to applicable U.S. export control laws.

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