



MD785/MD785G

Versatile Digital Mobile Two-Way Radio

As a product built to the DMR standard, MD785/785G (MD785G is the model with GPS) is endowed with ergonomic design, all-round digital functions and remarkable quality to increase your management efficiency and enable you to be responsive to emergent situations.



- Large-size HD Transflective Color Display
- Superior Digital Voice



Optional Accessories



Pictures above are for reference only and may vary from actual products

Specifications

| Specifications | | |
|--|---|-----------------------------|
| Frequency Range | VHF: 136–174MHz UHF1: 400–470MHz UHF3: 350–400MHz | |
| Channel Capacity | 1024 | |
| Zone Capacity | 64(each with a maximum of 16 channels) | |
| Channel Spacing | 25 /20/12.5 KHz | |
| Operating Voltage | 13.6V ± 15% | |
| Current Drain | Standby | <0.6A |
| | Receive | <2.0A |
| | Transmit | <12A (45W/50W) <8A (25W) |
| Frequency Stability | ± 1.5ppm | |
| Antenna Impedance | 50Ω | |
| Dimensions (HXWXD) | 60 X 174 X 200 (mm) / 2.362 X 6.850 X 7.874 inch | |
| Weight | 1.7 kg / 3.75lbs | |
| Front Case | PC+ABS | |
| LCD Display | 220X176 pixels, 262000 colors 2.0 inch, 4 rows | |
| Receiver | | |
| Sensitivity(Analog) | 0.3 μ V (12dB SINAD) 0.22μV (Typical) (12dB SINAD) 0.4 μ V (20dB SINAD) | |
| Sensitivity(Digital) | 0.3 μ V/BER5% | |
| Selectivity TIA–603 ETSI | 65dB @ 12.5 kHz / 75dB @ 20/25 kHz 60dB @ 12.5 kHz / 70dB @ 20/25 kHz | |
| Intermodulation TIA–603 ETSI | 75dB @ 12.5/20/25 kHz 70dB @ 12.5/20/25 kHz | |
| Spurious Response Rejection TIA–603 ETSI | 75dB @ 12.5/20/25 kHz 70dB @ 12.5/20/25 kHz | |
| S/N | 40dB @ 12.5 kHz 43dB @ 20 kHz 45dB @ 25 kHz | |
| Rated Audio Power Output | 3W | |
| Rated Audio Distortion | ≤3% | |
| Audio Response | +1 ~ -3dB | |
| Conducted Spurious Emission | < -57 dBm | |
| GPS (For MD785G Only) | | |
| TTFF (Time To First Fix) Cold Start | <1 minute | |
| TTFF (Time To First Fix) Hot Start | <10 seconds | |
| Horizontal Accuracy | <10 meters | |

| Transmitter | |
|------------------------------|---|
| RF Power Output | VHF High Power: 50W VHF Low Power: 25W UHF1 High Power: 45W UHF1 Low Power: 25W UHF3: 25W |
| FM Modulation | 11KΦ F3E @ 12.5 kHz 14KΦ F3E @ 20 kHz 16KΦ F3E @ 25 kHz |
| 4FSK Digital Modulation | 12.5KHz Data Only: 7K6Φ FXD 12.5kHz Data & Voice: 7K6Φ FXW |
| Conducted/Radiated Emission | -36dBm < 1GHz -30dBm > 1GHz |
| Modulation Limiting | ± 2.5kHz @ 12.5 kHz ± 4.0kHz @ 20 kHz ± 5.0kHz @ 25 kHz |
| FM Noise | 40dB @ 12.5 kHz 43dB @ 20 kHz 45dB @ 25 kHz |
| Adjacent Channel Power | 60dB @ 12.5 kHz 70dB @ 20/25 kHz |
| Audio Response | +1 ~ -3dB |
| Audio Distortion | ≤3% |
| Digital Vocoder Type | AMBE++ or SELP |
| Digital Protocol | ETSI–TS102 361–1, 2&3 |
| Environmental Specifications | |
| Operating Temperature | -30°C ~ +60°C |
| Storage Temperature | -40°C ~ +85°C |
| ESD | IEC 61000-4-2 (level 4) ±8kV (contact) ±15kV(air) |
| American Military Standard | MIL–STD–810 C/D/E/F |
| Dust & Water Intrusion | IP54 Standard |
| Shock & Vibration | Per MIL-STD-810 C/D/E/F Standard |
| Humidity | Per MIL-STD-810 C/D/E/F Standard |

All Specifications are tested according to applicable standards and subject to change without notice due to continuous development.

Applicable Military Standards 810C/D/E/F

| Test Item | 810C | | 810D | | 810E | | 810F | |
|-------------------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|
| | Method | Procedure | Method | Procedure | Method | Procedure | Method | Procedure |
| Low Pressure | 500.1 | I | 500.2 | I, II | 500.3 | I, II | 500.4 | II |
| High Temperature | 501.1 | I, II | 501.2 | I, II | 501.3 | I, II | 501.4 | I, II |
| Low Temperature | 502.1 | I | 502.2 | I, II | 502.3 | I, II | 502.4 | I, II |
| Temperature Shock | 503.1 | I | 503.2 | I | 503.3 | I | 503.4 | I |
| Solar Radiation | 505.1 | I | 505.2 | I | 505.3 | I | 505.4 | I |
| Rain | 506.1 | II | 506.2 | II | 506.3 | I, II | 506.4 | I, II |
| Humidity | 507.1 | II | 507.2 | II, III | 507.3 | II, III | 507.4 | I |
| Salt Fog | 509.1 | I | 509.2 | I | 509.3 | I | 509.4 | I |
| Sand & Dust | 510.1 | I | 510.2 | I | 510.3 | I | 510.4 | I |
| Vibration | 514.2 | VIII, X | 514.3 | I | 514.4 | I | 514.5 | I/24 |
| Shock | 516.2 | I, II, V | 516.3 | I, IV | 516.4 | I, IV | 516.5 | I, IV |



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Higher Efficiency
Richer Experience



Product Features >>



User-centered Design

The large-size color display allows good visibility even under extremely strong light. And the seven programmable keys facilitate your communication in various conditions.

Reliable Quality

MD785/785G is strictly compliant with MIL-STD-810 C/D/E/F and IP54 standards, ensuring outstanding performance even under harsh environments.

Superior Voice

With the combined application of narrowband codec and digital error-correction technologies, MD785/785G is capable of ensuring you superior voice under noisy environments or at the edge of the coverage area. In addition, the adoption of the AGC technology also optimizes your voice.



With a built-in 5W speaker, MD785/785G ensures clear and crisp voice communication.

Higher Spectrum Efficiency, Higher Channel Capacity

Benefiting from the TDMA technology, MD785/785G allows twice the channels based on the same spectrum resource. This is a big help to relieve the stress of increasing shortage in spectrum resource.

Dual-slot Pseudo Trunk

With this feature, the free slot can be allocated to a member that needs to communicate, effectively enhancing frequency efficiency and allowing you to communicate timely under emergent situations.



Secure Communication

Besides the intrinsic encryption of the digital technology, MD785/785G provides enhanced encryption capability (such as 256-bit encryption algorithm) and the Scrambler feature (selectable).

Versatile Services

In addition to conventional communication services, MD785/785G features rich data services and selectable functions such as Message, Scan, Emergency, Emergency Footswitch, Channel Steering, Auto Registration*, High-speed Data Transmission* and Lone Worker*.

Further Development Port

The reserved port in MD785/785G allows users or any third party to further develop other helpful functions (Message, GPS, Call Control and Telemetry).

* Indicates functions available in later version.

Main Functions >>

▶ Dual Modes (Analog+Digital)

MD785/785G can operate in either analog or digital mode. It is compatible with the prevalent analog system, ensuring a smooth analog-to-digital transition.

▶ Versatile Voice Calls

Intelligent signaling of MD785/785G supports various voice call types, including Private Call, Group Call and All Call.

▶ GPS

MD785G supports viewing of GPS positioning information and sending of GPS text message.

▶ IP Service*

MD785/785G allows multiple IP functions if connected with a PC via IP address.

▶ Various Analog Signaling Types

MD785/785G supports various analog signaling types (HDC1200, DTMF*, 2-Tone* and 5-Tone*), providing higher function expansion capacity.

▶ Multiple Languages

MD785/785G supports 10 languages (English, Simplified Chinese, Traditional Chinese, German, Spanish, French, Italian, Polish, Russian and Turkish), allowing you to select as per your needs.

▶ Software Upgradable

With this capability, you can enjoy further features without buying a new machine.

* indicates functions available in later version.

Industrial Design Features >>



Large and easy to use knob (channel switch knob and volume knob in one)



2.0" High-definition Color TFT LCD



Innovative Ring-shaped LED to show clear status



Visual Pleasure with Dual-color Injection Molding



Effective Heat-sink Capability



Seven Programmable Keys



Rugged palm microphone port

Standard Accessories >>

Palm Microphone SM16A1

Microphone Hanger and Screws

Mounting Bracket Kit

GPS Antenna (For MD785G only)

Fuse

Power Cord