

Specifications

General	Frequencies		UHF1: 400-470MHz; UHF2: 450-520MHz UHF3: 350-400MHz; VHF: 136-174MHz	
	Channel Capacity		1024	
	Zone Capacity		64(each with a maximum of 16 channels)	
	Channel Spacing		12.5 KHz / 20 KHz / 25 KHz*	
	Operating Voltage		13.6 V ± 15%	
	Current Drain	Standby	< 0.6A	
		Receive	< 2.0A	
		Transmit	5W	< 5A
			25W	< 8A
	45W/50W		< 12A	
Frequency Stability		± 1.5ppm		
Antenna Impedance		50 Ω		
Dimensions (H × W × D)		60 × 174 × 200 mm (2.362 × 6.850 × 7.874 inch)		
Weight		1.7kg (3.75lbs)		
LCD Display		220 × 176 pixels, 262000 colors 2.0 inch, 4 rows		
Receiver	Sensitivity	Analog	0.3 μ V (12dB SINAD);0.22 μ V (Typical) (12dB SINAD) 0.4 μ V (20dB SINAD)	
		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*	
		Blocking TIA-603 ETSI	90dB 84dB	
	Hum and Noise		-40dB @ 12.5 kHz;-43dB @ 20KHz*; -45dB @ 25 kHz*	
	Rated Audio Power Output	Internal (@20 ohm load)	3W	
		External (@8 ohm load)	7.5W	
	Max Audio Power Output	Internal (@20 ohm load)	8W	
		External (@8 ohm load)	20W	
	Rated Audio Distortion		≤ 3%	
	Audio Response		+1 ~ -3dB	
	Conducted Spurious Emission		< -57 dBm	

Transmitter	RF Power Output	Low Power
		UHF1 (400-470MHz): 5-25W; UHF2 (450-520MHz): 5-25W UHF3 (350-400MHz): 5-25W; VHF (136-174MHz): 5-25W
		High Power
		UHF1 (400-470MHz): 5-45W; UHF2 (450-520MHz): 5-45W UHF3 (350-400MHz): 5-45W; VHF (136-174MHz): 5-50W
	FM Modulation	11K0F3E @ 12.5 kHz; 14K0F3E @ 20 kHz* 16K0F3E @ 25 kHz*
	4FSK Digital Modulation	12.5kHz Data Only: 7K60FXD 12.5kHz Data & Voice: 7K60FXW
	Conducted/Radiated Emission	-36dBm<1GHz; -30dBm>1GHz
	Modulation Limiting	± 2.5kHz @ 12.5 kHz; ± 4.0kHz @ 20 kHz*; ± 5.0kHz @ 25 kHz*
	FM Hum & Noise	-40dB @ 12.5 kHz; -43dB @ 20kHz*; -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℃ ~ +60℃
	Storage Temperature	-40℃ ~ +85℃
	ESD	IEC 61000-4-2 (level 4) ± 8kV (contact) ± 15kV (air)
	American Military Standard	MIL-STD-810 C/D/E/F/G
	Dust & Water Intrusion	IP54 Standard
	Humidity	Per MIL-STD-810 C/D/E/F/G Standard
	Shock & Vibration	Per MIL-STD-810 C/D/E/F/G Standard
	Accuracy specs are for long-term tracking(95th percentile values>5 satellites visible at a nominal -130dBm signal strength)	
	TTFF (Time To First Fix) Cold Start	<1 minute
	TTFF (Time To First Fix) Hot Start	<10 seconds
GPS (for MD785G only)	Horizontal Accuracy	<10 meters

* 20KHz/25KHz will not be available on new equipment in the U.S. after 1/1/2011.
All Specifications are tested according to applicable standards, and subject to change without notice due to continuous development.

Standard Accessories

Palm Microphone	Microphone Hanger	Microphone Hanger Screws	Mounting Bracket
Power Cord	Fuse	GPS Antenna (for MD785G only)	

Optional Accessories



External Speaker
SM09D1



Desktop Microphone
SM10A1



320W External Power Supply
PS22002



Programming Cable (USB Port)
PC37



Data Cable
PC40



Keypad Microphone
SM19A1*



Antenna



GPS Antenna



1DIN vehicle mounting bracket



Adaptor cable for
repeater accessory pin



Dispatch cable



Mobile Radio Remote Mount Kit

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



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MD785/785G

Versatile Digital Mobile Two-Way Radio

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



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MD785/785G

Higher Efficiency,
Richer Experience

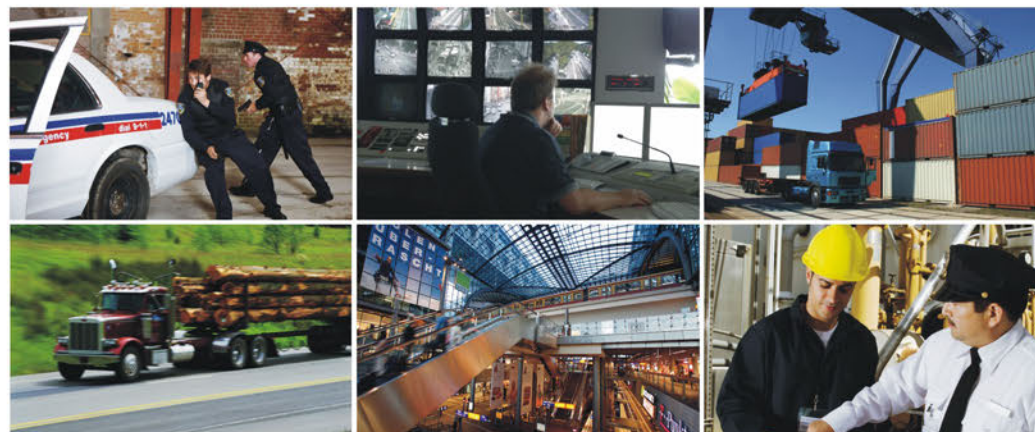
As a product built to the DMR standard, MD785/785G (MD785G is the model with GPS) is endowed with ergonomic design, all-round digital functions and remarkable quality to increase your management efficiency and enable you to be responsive to emergent situations.

Applications

Public Safety
Forest Industry

Public Utilities
Business

Transportation (port, airport, railway, etc.)
Manufacturing



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/G 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 4W 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 emergency 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 Text Message, Scan, Emergency, Channel Steering, Auto Registration, High-speed Data Transmission* and Lone Worker.
- **Further Development Port**
The reserved front and rear port in MD785/785G allows users or any third party partner to further develop other helpful applications to extend the radio functionalities!
- **Option Board Interface**
MD785/785G supports option board interfaces to radio, allowing third party partner to develop various applications to interconnect with radios to control the radio to expand its functionalities! Among the supported features are voice recording, encryption* etc. Please refer to the API Partner Programmed for more information!

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, All Call and Emergency Call.
- **GPS**
MD785G supports viewing of GPS positioning information and sending of GPS text message.
- **Data Services**
MD785/785G supports data capabilities of sending Private, Group text message. It also supports Third Party to control the radio via Third party API (GPS, Radio Registration Services, Radio Call Control, Telemetry*, Data Transfer*), via Telemetry control to radio.
- **Accessory Expansion**
MD785/785G supports third party to develop accessories expansion via front and rear port of the mobile. (Check out that features as channel steering, emergency footswitch has been supported via the back port!)
- **Various Analog Signaling Types**
MD785/785G supports various analog signaling types (HDC1200, DTMF*, 2-Tone and 5-Tone), various squelch control types (CTCSS/CDCSS), thus providing higher function expansion capacity to the analog world.
- **Supplementary Services**
MD785/785G supports supplementary services of Radio Check, Remote Monitor, Call Alert, Radio Enable and Radio Disable.
- **Multiple Languages**
MD785/785G supports 11 languages (English, Simplified Chinese, Traditional Chinese, German, Spanish, French, Italian, Polish, Russian, Turkish and Korean), allowing users to select it per their needs.
- **One Touch**
MD785/785G supports One Touch features that comprise of Text Message, Voice Calls and Supplementary Services.
- **Scan**
MD785/785G supports scanning of pure analog voice and signaling, pure Digital voice and data, and also mix mode scan that comprise of Analog and Digital activities.
- **Roaming**
MD785/785G supports automatic roaming of all sites in a IP Multi-site Connect system.
- **Privacy of Voice and Data**
MD785/785G supports analog scrambling, and digital encryption using Advanced Encryption Standard (AES) and ARCFOUR (ARC4) encryption methodology to both voice and data.
- **Analog/Digital Telephone Interconnect (via DTMF signaling)**
MD785/785G supports simplex voice communications between radio and telephone users. It allows a radio user to make a telephone call; or a telephone user to make either a Group or Private call to radio users. This feature utilizes the Commercial Off The Shelf (COTS) Analog Phone Patch boxes and a Plain Old Telephone Service (POTS) line to connect the radio users to the Corporate Office Phone System (PBX) or Public Switched Telephone Network (PSTN).
- **Software Upgradable**
With this capability, you can enjoy firmware upgrade without purchasing a new piece of radio hardware!

* indicates functions available in later version.