







Accessories

					
Li-Ion Battery (2000mAh) BI2006	Switching Power Adapter PS1014	MCU Rapid-rate Charger (for Li-Ion/ Ni-MH batteries) CH10A04	Belt Clip BC12	Leather Strap RO04	UHF&GPS ANTENNA AN0435H02

Optional Accessories

							
Remote Speaker Microphone (IP57) SM18N2	Earpiece with on-MIC PTT & Transparent Acoustic Tube EAN16	D-earset with in-Line Microphone EHN12	Earbud with on-MIC PTT ESN10	3-Wire Surveillance Earpiece with Transparent Acoustic Tube (beige) EAN17	Six-Unit Switching Power PS7002	Leather Carrying Case (swivel) LCY003	Programming Cable (USB Port) PC38

Specifications

General	
Frequency Range	400-470MHz
Channel Capacity	256
Zone Capacity	32 (each with a maximum of 16 channels)
Channel Spacing	25 /20 / 12.5 KHz
Operating Voltage	7.4V (rated)
Battery	2000mAh (Li-Ion)
Battery Life (5-5-90 Duty Cycle, High TX Power) High-capacity 2000mAh Li-Ion Battery	Analog: Above10.5 Hours Digital: Above 14 Hours
Frequency Stability	±1.5ppm
Antenna Impedance	50Ω
Dimensions (W*H*L)	119 X 55 X 33mm / 4.69*2.2*1.3 (inch)
Weight	320g /11.3oz
Military Standard	MIL-STD-810C/D/E/F
Front Case	PC+ABS
LCD Display	160*128 pixels, 65535 colors

Receiver	
Sensitivity (Analog)	0.3μV (12dB SINAD) 0.22μV (Typical) (12dB SINAD) 0.4μV (20dB SINAD)
Sensitivity (Digital)	0.3μV /BER5%
Adjacent Channel Selectivity TIA603 ETSI	60dB @ 12.5 kHz/70dB @ 20/25 kHz 60dB @ 12.5 kHz/70dB @ 20/25 kHz
Intermodulation TIA603 ETSI	70dB @ 12.5/20/25 kHz 65dB @ 12.5/20/25 kHz
Spurious Response Rejection TIA603 ETSI	70dB @ 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	0.5W
Rated Audio Distortion	≤3%
Audio Response	+1~-3dB
Conducted Spurious Emission	-57 dBm

Transmitter	
RF Power Output	4W/1W
FM Modulation	16KΦF3E @ 12.5 kHz 14KΦF3E @ 20 kHz 11KΦF3E @ 25 kHz
4FSK Digital Modulation	12.5kHz Data Only: 7K60FXD 12.5kHz Data & Voice: 7K60FXE
Spurious and Harmonics	-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 @ 20KHz 45dB @ 25 kHz
Adjacent Channel Power	60dB @ 12.5 kHz 70dB @ 20/25 kHz
Audio Response	+1~-3dB
Audio Distortion	≤3% (Typical)
Digital Vocoder Type	AMBE++ /SELP
Digital Protocol	ETSI-TS102 361-1,2&3

Environmental Specifications	
Operating Temperature	-30℃ ~ +60℃
Storage Temperature	-40℃ ~ +85℃
Dust & Water Intrusion	Per MIL-STD-810 C/D/E/F and IP57 Standards
Shock & Vibration	Per MIL-STD-810 C/D/E/F Standards
Humidity	Per MIL-STD-810 C/D/E/F Standards

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

Applicable Military Standards 810 E/F

MIL-STD	810E		810F	
	Method	Procedure	Method	Procedure
Low Pressure	500.3	II	500.4	II
High Temperature	501.3	I/A, II/A1	501.4	I/Hot, II/Hot
Low Temperature	502.3	I/C3, II/C1	502.4	I/C3, II/C1
Temperature Shock	503.3	I/A, I/C3	503.4	I
Solar Radiation	505.3	I	505.4	I
Rain	506.3	I, II	506.4	I, III
Humidity	507.3	II	507.4	-
Salt Fog	509.3	I	509.4	I
Dust	510.3	I	510.4	I
Vibration	514.4	I/10, II/3	514.5	I/24
Shock	516.4	I, IV	516.5	I, IV



PD785  
Digital Two-Way Radio

Fully compliant to the DMR standard, the PD785 keeps users well-informed in various scenarios, while offering a solution of efficient real-time communication and fleet management with versatile functionalities. This radio has an ergonomic design and a user-friendly interface. The PD785 is your way of optimizing your organization's efficiency on the job.



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## Product Highlights »



**Superior Voice**  
With the combined application of advanced codec and digital error-correction technology, the PD785 is capable of ensuring you superior voice with a wider coverage.

**High Frequency Spectrum Efficiency**  
Benefiting from TDMA technology, PD785 allows twice the users to share the same channel. This is a big help to relieve the stress of increasing shortage in spectrum resource.

**Durable Battery**  
Compared with an analog radio, the PD785 can obtain an extra 40% operating time at the same output power.

**Dual Modes**  
The PD785 can operate in either analog or digital mode. Accordingly, you can get rid of worries about its compatibility with the analog system that you are using, and just enjoy the benefits it brings.

**Secure Communication\***  
The PD785 is furnished with an enhanced digital encryption capability. Eavesdropping issues are no longer a problem now that your communications are fully secured.



**IP57**  
**Ergonomic Design**  
- Compact and light weight structural design makes the PD785 easy to carry and operate.  
- Large-sized HD color LCD display and big push-buttons facilitate your access to various functions.  
- The globally patented antenna design ensures convenient operation and remarkable GPS\* performance.

**Reliable Quality**  
The PD785 is strictly compliant with MIL-STD-810 C/D/E/F and IP57 standards, ensuring outstanding performance in harsh environments.



**Versatile Services**  
In addition to conventional communication services, PD785 features rich digital services and optional functions such as Message, GPS\*, High-speed Data Transmission\*, Man Down

**Further Development Port**  
The reserved port in PD785 allows users or any third party to further develop other helpful functions.

## Additional Features »

- ▶ **Versatile Voice Calls**  
Intelligent signaling of PD785 supports various voice call types, including Individual Call, Group Call, All Call and Late Entry.
- ▶ **Message**  
PD785 supports transmission and reception of short text message and predefined status message.
- ▶ **Emergency**  
PD785 is equipped with multiple emergency alarm methods such as Man Down and Silent Emergency, enabling you to get instant help in case of a critical event.
- ▶ **Scan**  
This function allows you to listen to communication activities on other channels so that you can keep a close track of your team members.
- ▶ **DM & RM Operation Modes**  
RM: radios can communicate with each other via a repeater.  
DM: radios can communicate with each other directly.
- ▶ **Multiple Signalings Available**  
PD785 supports 2-Tone\*, 5-Tone\*, HDC1200\* and CTCSS/CDCSS.
- ▶ **12.5 /20 /25kHz Channel Spacing**
- ▶ **Vibration alert**  
Get voice call and message in time in noisy environment or low volume mode, no information omitted.
- ▶ **Software Upgradable**  
With this function, you can enjoy more powerful features without buying a new machine.

## Industrial Design Features »





Standard Accessories



Optional Accessory



Specifications

General		
Frequency Range	400-470MHz	
Channel Capacity	256	
Zone Capacity	32 (each with a maximum of 16 channels)	
Channel Spacing	25 /20/12.5 KHz	
Operating Voltage	13.6±15%	
Current Drain	Standby (Max.)	0.6A
	Receive (Max.)	2.0A
	Transmit (Max.)	12A (5-45W)
		8A (5-25W)
Frequency Stability	±1.5ppm	
Antenna Impedance	50Ω	
Dimensions (W*H*L)	174 X 60 X 200 mm / 6.9*2.4*7.9 inch	
Weight	1.7 Kg /60 oz	
Military Standard	MIL-STD-810C/D/E/F	
Front Case	PC+ABS	
LCD Display	220*176 pixels, 262000 colors	
Receiver		
Sensitivity (Analog)	0.3μV (12dB SINAD) 0.22μV (Typical) (12dB SINAD) 0.4μV (20dB SINAD)	
Sensitivity (Digital)	0.3uV/BER5%	
Adjacent Channel Selectivity TIA603 ETSI	65dB @ 12.5 kHz / 75dB @ 20 & 25 kHz 60dB @ 12.5 kHz / 70dB @ 20 & 25 kHz	
Intermodulation TIA603 ETSI	75dB @ 12.5/20/25 kHz 70dB @ 12.5/20/25 kHz	
Spurious Response Rejection TIA603 ETSI	75dB @ 12.5/20/25 kHz 75dB @ 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 ~ -3 dB	
Conducted Spurious Emission	-57 dBm	

Transmitter	
RF Power Output	Low Power: UHF1 (400-470MHz), 5-25W;
	High Power: UHF1 (400-470MHz), 5-45W;
FM Modulation	16KΦF3E @ 12.5 kHz
	14KΦF3E @ 20 kHz
	11KΦF3E @ 25 kHz
4FSK Digital Modulation	12.5kHz Data Only: 7K60FXD
	12.5kHz Data & Voice: 7K60FXE
Spurious and Harmonics	-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 @ 20KHz
	45dB @ 25 kHz
Adjacent Channel Power	60dB @ 12.5 kHz
	70dB @ 20/25KHz
Audio Response	
Audio Distortion	
Digital Vocoder Type	
Digital Protocol	
Environmental Specifications	
Operating Temperature	
Storage Temperature	
Dust & Water Intrusion	
Shock & Vibration	
Humidity	

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Applicable Military Standards 810 E1F				
MIL-STD	810E		810F	
	Method	Procedure	Method	Procedure
Low Pressure	500.3	II	500.4	II
High Temperature	501.3	I/A, II/A1	501.4	I/Hot, II/Hot
Low Temperature	502.3	I/C3, II/C1	502.4	I/C3, II/C1
Temperature Shock	503.3	I/A, I/C3	503.4	I
Solar Radiation	505.3	I	505.4	I
Rain	506.3	I, II	506.4	I, III
Humidity	507.3	II	507.4	-
Salt Fog	509.3	I	509.4	I
Dust	510.3	I	510.4	I
Vibration	514.4	I/10, II/3	514.5	I/24
Shock	516.4	I, IV	516.5	I, IV



MD785  
Digital Mobile Radio

Fully compliant to the DMR standard, the MD785 keeps users well-informed in various scenarios, while offering a solution of efficient real-time communication and fleet management with versatile functionalities. This radio has an ergonomic design and a user-friendly interface. The MD785 is your way of optimizing your organization's efficiency on the job.



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Additional Features >>

- ▶ Versatile Voice Calls  
Intelligent signaling of MD785 supports various voice call types, including Individual Call, Group Call, All Call & Late Entry.

▶ Message  
MD785 supports transmission and reception of text message.

▶ Scan  
This function allows you to listen to communication activities on other channels so that you can keep a close track of your team members.

▶ DM & RM Operation Modes  
RM: radios can communicate with each other via a repeater.  
DM: radios can communicate with each other directly.

▶ Multiple Signalings Available  
MD785 supports 2-Tone\*, 5-Tone\*, HDC1200\* and CTCSS/CDCSS.
- ▶ 12.5 /20 /25kHz Channel Spacing

▶ Emergency  
MD785 is equipped with multiple emergency alarm methods such as Man Down and Silent Emergency, enabling you to get instant help in case of a critical event.

▶ Sonorous Sound Output  
MD785 can output sonorous sound with a built-in high-power loudspeaker (6W).

▶ Software Upgradable  
With this function, you can enjoy more powerful features without buying a new machine.

Product Highlights >>



**Superior Voice**  
With the combined application of advanced codec and digital error-correction technology, MD785 is capable of ensuring you superior voice with a wider coverage.

**Dual Modes**  
MD785 can operate in either analog or digital mode. Accordingly, you can get rid of worries about its compatibility with the analog system that you are using, and just enjoy the benefits it brings.

**High Frequency Spectrum Efficiency**  
Benefiting from TDMA technology, MD785 allows twice the users to share the same channel. This is a big help to relieve the stress of increasing shortage in spectrum resource.

**Secure Communication**  
MD785 is furnished with enhanced digital encryption capability. Eavesdropping that haunts analog radio is no longer a problem, and your communication is fully secured.



**Reliable Quality**  
MD785 is strictly compliant with MIL-STD-810 C/D/E/F and IP54 standards, ensuring outstanding performance in harsh environments.

**User-friendly UI and Button Design**  
MD785 is furnished with TFT high definition color LCD. With a large-sized keypad and six ergonomically designed programmable keys, you can achieve high-effective communication rapidly.



**Versatile Services**  
In addition to conventional communication services, MD785 features rich digital services and optional functions such as Message, GPS Dispatching\*, High-speed Data Transmission\*.

**Further Development Port**  
The reserved port in MD785 allows users or any third party to further develop other helpful functions.

Industrial Design Features >>



Specifications

General		Transmitter	
Frequency Range		400–470MHz	
Channel Capacity		1	
Channel Spacing		25/20/12.5 kHz	
Operating Voltage		13.6 ± 15% V DC	
Current	Standby (Max.)	0.8A	
Drain	Transmit (Max.)	11A	
Frequency Stability		± 0.5ppm	
Antenna Impedance		50 Ω	
Duty Cycle		100%	
Dimensions (W*H*L)		483 X 88 X 366 mm	
Weight		8.5 Kg	
LCD Display		220*176 pixels, 262,000 colors	
Receiver		Transmitter	
Sensitivity (Analog)		RF Power Output	
0.3 μ V (12dB SINAD)		5–50W (continuous)	
0.22 μ V (typical) (12dB SINAD)		FM Modulation	
0.4 μ V (20dB SINAD)		16KΦ F3E @ 12.5 kHz	
Sensitivity (Digital)		14KΦ F3E @ 20 kHz	
0.3uV/BER5%		11KΦ F3E @ 25 kHz	
Adjacent Channel Selectivity		4FSK Digital Modulation	
TIA–603		12.5kHz (Data Only): 7K6EEXD	
ETSI		12.5kHz (Data & Voice): 7K6EEXE	
Intermodulation		Conducted / Radiated Emission	
TIA-603		–36dBm <1GHz	
ETSI		–30dBm >1GHz	
Spurious Response Rejection		Modulation Limiting	
TIA-603		± 2.5kHz @ 12.5 kHz	
ETSI		± 4.0 kHz @ 20 kHz	
85dB @ 12.5/20/25 kHz		± 5.0kHz @ 25 kHz	
80dB @ 12.5/20/25 kHz		FM Noise	
S/N		40dB @ 12.5 kHz	
43dB @ 20 kHz		43dB @ 20 kHz	
45dB @ 25 kHz		45dB @ 25 kHz	
Rated Audio Power Output		Adjacent Channel Power	
0.5W		60dB @ 12.5 kHz	
Rated Audio Distortion		70dB @ 20/25KHz	
3%		Audio Response	
Audio Response		+1 ~ –3dB	
Conducted Spurious Emission		Audio Distortion	
–57 dBm		3%	
		Digital Vocoder Type	
		AMBE++/SELP	
		Digital Protocol	
		ETSI–TS102 361–1, 2&3	
Environmental Specifications		Environmental Specifications	
Operating Temperature		–30℃ ~ +60℃	
Storage Temperature		–40℃ ~ +85℃	

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



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RD985  
Digital Repeater

As a product built to the DMR standard, the RD985 series repeater is engineered with the end-user in mind, ergonomic design, reliable performance and exceptional digital features to deliver an advanced communication solution. RD985, your digital advantage to beat the competition!







## Technical Features »



### Dual-Mode Operation and Auto-Switch\*

The repeater can operate in digital or analog mode, allowing you to enjoy digital delights without worrying about its compatibility with your existing analog system. What's more, it can switch between digital and analog modes intelligently based on the type of signals received from subscriber radio, saving you the trouble of manually configuring frequency or channel.

### 100% Duty Cycle

The repeater is capable of 100% duty cycle at full power (50W), meeting demanding requirements of any conventional or trunking system.

### Flexible Installation

The repeater can be perfectly mounted in a 2RU/19" standard cabinet. Alternatively, you can choose to mount it in a rack, bracket or on a desk with ease. In addition, the space reserved inside the repeater for an optional duplexer helps it maintain a compact body.



### High Frequency Spectrum Efficiency

Benefiting from TDMA technology, the repeater allows twice the users to share the same channel, compared with analog or FDMA digital systems. This is a big help to relieve the stress of increasing shortage in spectrum resource, and to save your costs on system equipment and frequency license.

### Secure Communication

The RD985 is furnished with an enhanced digital encryption capability. Eavesdropping issues are no longer a problem now that your communications are fully secured.

### Superb Cooling Performance

Levering on the built-in heat pipe, the power amplifier can dissipate its heat at exceptional rate. Additionally, the heatsink is also equipped with a cooling fan, ensuring stable operation of the transmitter at high power.



### Repeater/Base Mode Operation

When the repeater operates on an analog channel, you can choose to make it operate in Repeater mode or in Base mode. In the latter mode, the repeater can be used as a duplex transceiver.

### Solid Reliability

As a modularized product built to military standard, the repeater can deliver solid reliability and remarkable performance for a long time. The test result from a 3rd party lab proves that its MTBF (Mean Time Between Failures) runs up to 100,000 hours, meeting demanding requirements in harsh environments.

## Industrial Design Features »

### 2RU

Standard 19" , 2RU rack-mount design, compatible with desktop housing as well

### LED

Colored LEDs for clear status indication



Advanced heat sink design with thermal-controlled cooling fan



Ergonomics handle design makes handling more comfortable



Programmable buttons for customized application

2.0" TFT LCD and menu navigation knob to facilitate service and maintenance



Internal installation for mobile duplexer

## Standard Accessories »



Duplexer Installation Kit



Power Cord

## Optional Accessories »



External Power Supply (320W backup battery applicable)  
Ps22002



Programming Cable (USB Port) Pc37



Palm Microphone SM16A1



Desktop Microphone SM10A1



Omni-directional Antenna



Directional Antenna