PD70X/70XG

Versatile Digital Portable Two-Way Radio

- Superior Digital Voice
- Submersible with IP67 Rating

DMR
DIGITAL MOBILE RADIO ASSOCIATION

PD70X/70XG
Higher Efficiency, Richer Experience

As a product built to the DMR standard, PD70X/70XG (PD70XG is the model with GPS) is endowed with ergonomic design, all-round digital functions and remarkable quality. These features improve your experience and enables you to be responsive to emergent situations.

Applications

Public Safety	**Public Utilities**	**Transportation (port, airport, railway, etc.)**
Forest Industry	**Business**	**Manufacturing**

Product Features

- **Ergonomic Design**

  The globally patented industrial and antenna design ensure convenient operation and remarkable GPS performance.

- **Reliable Quality**

  PD70X/70XG is strictly compliant with MIL-STD-810 C/D/E/F/G and IP67 standards, ensuring outstanding performance even in harsh environments.

- **Superior Voice**

  With the combined application of narrowband codec and digital error-correction technologies, PD70X/70XG is capable of ensuring you of superior voice in 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 1W speaker, PD70X/70XG ensures clear and crisp voice communication.

- **Durable Battery**

  Compared with an analog radio, PD70X/70XG can obtain an extra 40% operation time.

- **Higher Spectrum Efficiency, Higher Channel Capacity**

  Benefiting from the TDMA technology, PD70X/70XG 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, PD70X/70XG provides enhanced encryption capability (such as 256-bit encryption algorithm) and the Scrambler feature (selectable).

- **Versatile Services**

  In addition to conventional communication services, PD70X/70XG features rich data services and selectable functions such as Text Message, Scan, Emergency, Man Down (optional), vibration Auto Registration, High-speed Data Transmission and Lone Worker.

- **Further Development Port**

  The reserved side port in PD70X/70XG allows users or any third party partner to further develop other helpful applications to extend the radio functionalities!

- **Option Board Interface**

  PD70X/70XG supports option board interfaces to the radio. This allows third party partner to develop various applications to interconnect with the radio. They could 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)**

  PD70X/70XG 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 PD70X/70XG supports various voice call types, including Private Call, Group Call , All Call and Emergency Call.

- **Various Analog Signaling Types**

  PD70X/70XG supports various analog signaling types (HDC1200, DTMF phone, 2-Tone and 5-Tone), various squelch control types (CTCSS/CDCSS), thus providing higher function expansion capacity to the analog world.

- **One Touch**

  PD70X/70XG supports One Touch features that comprise of Text Message, Voice Calls and Supplementary Services.

- **Scan**

  PD70X/70XG 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**

  PD70X/70XG supports automatic roaming of all sites in a IP Multi-site Connect system.

- **Privacy of Voice and Data**

  PD70X/70XG 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)**

  PD70X/70XG 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**

  Upgrade software enables new features without buying a new radio; PD70X(G) can also be switched into MPT and DMR trunking modes with corresponding license applied to the same hardware.

Standard Accessories

Li-Ion Battery	MCU Rapid-rate Charger	Leather Strap
Power Adapter	Belt Clip	Antenna

Notes: PD78X/78XG, X=0, 2, 5, 6 or 8, model number varies geographically. For details, please contact our regional sales representatives.

Specifications
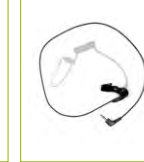
General	Frequency Range	UHF1: 400-470MHz; UHF2: 450-520MHz UHF3: 350-400MHz; UHF5: 806-941MHz VHF1: 136-174MHz; VHF3: 210-270MHz VHF4: 66-88MHz
	Channel Capacity	1024
	Zone Capacity	16 (each with a maximum of 16 channels)
	Channel Spacing	12.5kHz / 20kHz / 25kHz
	Operating Voltage	7.4V (rated)
	Battery	2000mAh (Li-Ion), 2500mAh (Li-Ion), 3000mAh (Li-Ion)
	Battery Life (5-5-90 Duty Cycle, High TX Power)	Digital: Analog: 16.5 Hours @2000mAh 13 Hours @2000mAh 20.5 Hours @2500mAh 16 Hours @2500mAh 24.5 Hours @3000mAh 19.5 Hours @3000mAh
	Frequency Stability	±1.5ppm
	Antenna Impedance	50Ω
	Dimensions (H×W×D) (with standard battery, without antenna)	125 x 55 x 35 mm (2000mAh) 125 x 55 x 40 mm (2500mAh) 125 x 55 x 40 mm (3000mAh)
	Weight (with antenna & standard battery)	335g (2000mAh) 360g (2500mAh) 365g (3000mAh)

Receiver	Sensitivity	Analog	0.28μV (12dB SINAD) 0.22μV (Typical) (12dB SINAD) 0.4μV (20dB SINAD)
		Digital	0.3μV /BER5%
	Selectivity TIA-603 ETSI		60dB @ 12.5kHz / 70dB @ 20/25kHz 60dB @ 12.5kHz / 70dB @ 20/25kHz
	Intermodulation TIA-603 ETSI		70dB @ 12.5/20/25kHz 65dB @ 12.5/20/25kHz
	Spurious Response Rejection TIA-603 ETSI		70dB @ 12.5/20/25kHz 70dB @ 12.5/20/25kHz
	Hum and Noise		40dB @ 12.5kHz; 43dB @ 20kHz; 45dB @ 25kHz
	Rated Audio Power Output		0.5W
	Rated Audio Distortion		≤3%
	Audio Response		+1 ~ -3dB
	Conducted Spurious Emission		< -57dBm

Transmitter	RF Power Output	UHF1/UHF2/UHF3: 1W/ 4W VHF1/VHF3/VHF4: 1W/ 5W UHF5:1W/ 3W (806-870MHz) UHF5:1W/ 2.5W (896-941MHz)
	FM Modulation	11K0F3E @ 12.5kHz; 14K0F3E @ 20kHz 16K0F3E @ 25kHz
	4FSK Digital Modulation	12.5kHz Data Only: 7K60FXD 12.5kHz Data & Voice: 7K60FXW
	Conducted/Radiated Emission	-36dBm<1GHz; -30dBm>1GHz
	Modulation Limiting	±2.5kHz @ 12.5kHz; ±4.0kHz @ 20kHz; ±5.0kHz @ 25kHz
	FM Hum & Noise	40dB @ 12.5kHz; 43dB @ 20kHz; 45dB @ 25kHz
	Adjacent Channel Power	60dB @ 12.5kHz; 70dB @ 20/25kHz
	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	IP67 Standard
	Humidity	Per MIL-STD-810 C/D/E/F/G Standard
	Shock & Vibration	Per MIL-STD-810 C/D/E/F/G Standard

GPS (For PD70XG only)	**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
	Horizontal Accuracy	<10 meters

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

Optional Accessories

Remote Speaker Microphone (IP57) SM18N2

C-Earset EHN16

Swivel Earset EHN17

Earbud ESN12

3-Wire Surveillance Earpiece with Transparent Acoustic Tube (beige) EAN17

Receive-only Earpiece EAS03

Carrying Case (for thick battery) (leather) (swivel) LCY003

Programming Cable (USB Port) PC38

2500mAh Li-Ion Battery BL2503

Battery Optimizing System MCA05

MCU Multi-unit Charger (for Thick Battery) MCA08

3-wire Surveillance Earpiece with Transparent Acoustic Tube(Black) EAN18

2-wire Earpiece with Wireless Earphone and Neck Loop(Beige) EWN09

Receive-only Earpiece ESS10

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

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