



PD78X/78XG

Versatile Digital Portable Two-Way Radio

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





PD78X/78XG

Higher Efficiency,
Richer Experience

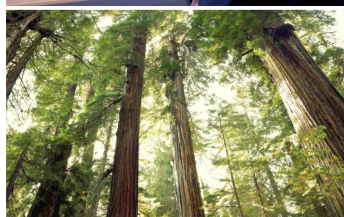
As a product built to the DMR standard, PD78X/78XG (PD78XG is the model with GPS) is endowed with ergonomic design, all-round digital functions and remarkable quality to increase your management efficiency and enable you to be responsive to emergent situations.

Applications

Public Safety
Forest Industry

Public Utility
Business

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



Product Highlights

● Ergonomic Design

The large color display is visible even under strong sunlight. The globally patented industrial and antenna design ensure convenient operation and remarkable GPS performance.

● Reliable Quality

PD78X/78XG 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 narrowband codec and digital error-correction technologies, PD78X/78XG delivers superior voice under noisy environments. The AGC technology maintains a suitable voice volume, and the built-in 1W speaker further ensures clear and crisp voice.

● Durable Battery

Compared with an analog radio, PD78X/78XG can obtain an extra 40% operation time.

● Dual-slot Pseudo Trunk

The free slot can be allocated to enhance frequency efficiency and timely response under emergency.

● Secure Communication

PD78X/78XG provides advanced encryption (such as 256-bit encryption algorithm) and scrambler features to secure communication.

● Versatile Services

In addition to voice services, PD78X/78XG offers data services and selectable features, such as Text Message, Scan, Emergency, Man Down (optional), Vibration, Auto Registration, High-speed Data Transmission, Lone Worker etc.

● Secondary Development

The third party partner can develop applications via accessory port to extend radio functionality.

● Option Board Interface

PD78X/78XG supports option board interface. This allow third party partner to develop various applications to interconnect with the radio. They could control the radio to expand its functionalities including, voice recording, encryption etc. Please refer to the API Partner Programmed for more information.

Features

● Dual Modes (Analog+Digital)

PD78X/78XG 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

PD78X/78XG supports various voice call types, including Private Call, Group Call, All Call and Emergency Call.

● Positioning Service

PD78XG can display positioning information and transmits positioning message.

● Data Services

PD78X/78XG can send private and group test message. The third party application can control the radio via API (GPS, Radio Registration Services, Call Control, Telemetry, Data Transfer).

● Various Analog Signaling Types

PD78X/78XG supports various analog signals (HDC1200, DTMF phone, 2-Tone and 5-Tone), various squelch signals (CTCSS/CDCSS), providing higher expansion capacity to the analog system.

● Supplementary Services

PD78X/78XG supports supplementary services of Radio Check, Remote Monitor, Call Alert, Radio Enable and Radio Disable.

● Multiple Languages

PD78X/78XG supports 15 languages, including English, English, Simplified Chinese, Traditional Chinese, Thai, Arabic, Farsi, Korean, Portuguese, Italian, Russian, Polish, Turkish, French, Spanish and German.

● One Touch

PD78X/78XG supports One Touch features that comprise of Text Message, Voice Calls and Supplementary Services.

● Scan

PD78X/78XG 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

PD78X/78XG supports automatic roaming among all sites in a IP Multi-site Connect system.

● Voice and Data Safety

PD78X/78XG supports Analog scrambling, and digital encryption using Advanced Encryption Standard (AES) and ARCFOUR (ARC4) encryption methodology to secure both voice and data services

● Analog/Digital Telephone Interconnect (via DTMF signaling)

PD78X/78XG 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 Upgradeable

New features can be enabled via software upgrade. Moreover, PD78X/78XG can switch between MPT and DMR trunking modes through license.

Standard Accessories

Li-Ion Battery
Power Adapter

MCU Rapid-rate Charger
Belt Clip

Leather Strap
Antenna

Specifications
















General	Frequency Range	UHF1: 400-470MHz UHF3: 350-400MHz VHF: 136-174MHz	UHF2: 450-520MHz UHF5: 806-941MHz
	Channel Capacity	1024	
	Zone Capacity	64 (each with a maximum of 256 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: 20 Hours @2000mAh 24 Hours @2500mAh 28 Hours @3000mAh	Analog: 15.5 Hours @2000mAh 18.5 Hours @2500mAh 21 Hours @3000mAh
	Frequency Stability	±0.5ppm	
	Antenna Impedance	50Ω	
	Dimensions (H×W×D) (with standard battery, without antenna)	125 x 55 x 37 mm (2000mAh) 125 x 55 x 42 mm (2500mAh) 125 x 55 x 42 mm (3000mAh)	
Weight (with antenna & standard battery)	355g (2000mAh) 380g (2500mAh) 385g(3000mAh)		
LCD Display	160 x 128 pixels, 65536 colors, 1.8 inch, 6 rows		
Memory (Optional)	Expandable up to 32GB with Micro SD card		
Receiver	Sensitivity	Analog	0.22 μV (12dB SINAD); 0.18 μV (Typical) (12dB SINAD)
		Digital	0.22 μV /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 UHF5: 1W/3W(806-870MHz) UHF5: 1W/2.5W(896-941MHz)	VHF: 1W/5W
	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+2™	
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/G	
	Dust & Water Protection	IP67	
	Humidity	Per MIL-STD-810 C/D/E/F/G	
	Shock & Vibration	Per MIL-STD-810 C/D/E/F/G	

GPS (for D70xG only)	Accuracy specs are for long-term tracking (5 satellites visible at nominal -130dBm)	
	TTF (Time To First Fix) Cold Start	<1 minute
	TTF (Time To First Fix) Hot Start	<10 seconds
	Horizontal Accuracy	<5m (50% probable) <10m (95% probable)

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	Six-Unit Switching Power P57002	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	Receive-only Earpiece ESS10	Receive-only Earpiece EAS03	2-wire Earpiece with Wireless Earphone and Neck Loop(Beige) EWN09			

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



Hytera Communications Corporation Limited

Address: Hytera Tower, Hi-Tech Industrial Park North, Beihuan Rd.,
Nanshan District, Shenzhen, China

Tel: +86-755-2697 2999 Fax: +86-755-8613 7139 Post: 518057

Http://www.hytera.com Stock Code: 002583.SZ

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