



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

- **Software Upgradeable**

Phone System (PBX) or Public Switched Telephone Network (PSTN). 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: 806-825MHz UHF2: 806-825MHz(TX only) 851-870MHz(TX&RX) UHF5: 806-825MHz(TX only) 851-870MHz(TX&RX) 896-902MHz(TX only) 935-941MHz(TX&RX)	
	Channel Capacity	1024	
	Zone Capacity	64	
	Channel Spacing	12.5kHz / 20kHz / 25kHz	
	Operating Voltage	2000mAh(Li-Ion)(Standard) 2500mAh(Li-Ion)(Optional)	
	Battery Life	Digital: 20 Hours Analog: 15 Hours	
	Frequency Stability	±0.5ppm	
	Antenna Impedance	50Ω	
	Dimensions (H×W×D)	125 x 55 x 37 mm	
	Weight	355g	
Receiver	LCD Display	160 x128 pixels, 65536 colors, 1.8 inch, 6 rows	
	Sensitivity	Analog	0.22 μV (12dB SINAD); 0.18 μV (Typical) (12dB SINAD)
		Digital	0.22 μV /BER5%
	Selectivity	60dB @ 12.5kHz / 70dB @ 20/25kHz	
	Intermodulation	60dB @ 12.5kHz / 70dB @ 20/25kHz	
	Spurious Response Rejection	70dB @ 12.5/20/25kHz	
	ETSI Hum and Noise	40dB @ 12.5kHz; 43dB @ 20kHz;	
	Rated Audio Power Output	45dB @ 25kHz 0.5W	
	Rated Audio Distortion	≤3%	
	Audio Response	+1 ~ -3dB	
Conducted Spurious Emission	< -57dBm		

Transmitter	RF Power Output	UHF1/UHF2/UMFB: 1W/1.5W/1.5W UHF5: 1W/3W(806-870MHz)
	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™, SELP
Environmental Specifications	Operating Temperature	-30°C ~ +60°C
	Digital Protocol	ETS1-TS102 361-1,-2,-3
	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
	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	
Accuracy	<5 meters	

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

Optional Accessories

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.		



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