Hytera

PD78X/78XG
Versatile Digital Portable Two-Way Radio

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

DMR
DIGITAL MOBILE RADIO ASSOCIATION

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	Public Utility	Transportation (port, airport, railway, etc.)
Forest Industry	Business	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	MCU Rapid-rate Charger	Leather Strap
Power Adapter	Belt Clip	Antenna

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

Specifications
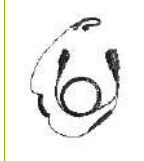
General		
Frequency Range		UHF1: 400–470MHz UHF2: 450–520MHz UHF3: 350–400MHz UHF5: 806–825MHz(TX only) 851–870MHz(TX&RX) 896–902MHz(TX only) 935–941MHz(TX&RX) VHF1:136–174MHz VHF3:210–270MHz
Channel Capacity		1024
Zone Capacity		64
Channel Spacing		12.5kHz / 20kHz / 25kHz
Operating Voltage		7.4V (rated)
Battery		2000mAh(Li-Ion)(Standard) 2500mAh(Li-Ion)(Optional)
Battery Life (5-5-90 Duty Cycle, High TX Power)		Digital: 20 Hours Analog:15.5 Hours
Frequency Stability		±0.5ppm
Antenna Impedance		50Ω
Dimensions (H×W×D) (with standard battery, without antenna)		125 x 55 x 37 mm
Weight (with antenna & standard battery)		355g
LCD Display		160 x128 pixels, 65536 colors, 1.8 inch, 6 rows

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 VHF: 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+2™,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 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 PD78KG only)	Accuracy specs are for long-term tracking (5 satellites visible at nominal -130dBm)	
	TTFF (Time To First Fix) Cold Start	<1 minute
	TTFF (Time To First Fix) Hot Start	<10 seconds
	Horizontal Accuracy	<5 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	Six-Unit Switching Powe PS7002	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