Hytera
Respond & Achieve

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

Product Features

- **Ergonomic Design**
  The large-size color display allows good visibility even under extremely strong light. The globally patented industrial design 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 the combined application of narrowband codec and digital error-correction technologies, PD78X/78XG is capable of ensuring you 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, PD78X/78XG ensures clear and crisp voice communication.

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

- **Higher Spectrum Efficiency, Higher Channel Capacity**
  Benefiting from the TDMA technology, PD78X/78XG 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, PD78X/78XG provides enhanced encryption capability (such as 256-bit encryption algorithm) and the Scrambler feature (selectable).

- **Versatile Services**
  In addition to conventional communication services, PD78X/78XG 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 PD78X/78XG allows users or any third party partner to further develop other helpful applications to extend the radio functionalities!

- **Option Board Interface**
  PD78X/78XG supports option board interfaces to radio, allowing third party partner to develop various applications to interconnect with radios to 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)**
  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**
  Intelligent signaling of PD78X/78XG supports various voice call types, including Private Call, Group Call , All Call and Emergency Call.

- **GPS**
  PD78XG supports viewing of GPS positioning information and sending of GPS text message.

- **Data Services**
  PD78X/78XG supports data capabilities of sending Private, Group text message. It also supports Third Party to control the radio via Third party API (GPS, Radio Registration Services, Radio and Call Control, Telemetry, Data Transfer), via Telemetry control to radio.

- **Various Analog Signaling Types**
  PD78X/78XG 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.

- **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, allowing users to select it per their needs.

- **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 of all sites in a IP Multi-site Connect system.

- **Privacy of Voice and Data**
  PD78X/78XG 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)**
  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 Upgradable**
  Upgrade software enables new features without buying a new radio; PD78X/78XG could also be switched into MPT and DMR trunking modes with corresponding license applied in 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 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* VHF: 136-174MHz	
Channel Capacity	1024	
Zone Capacity	64 (each with a maximum of 16 channels)	
Channel Spacing	12.5KHz / 20KHz / 25KHz	
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: UHF1: 13.5h 12h (G) UHF2: 12.5h 11h (G) UHF3: 12.5h 11h (G) UHF5*: 9.5h 8.5h(G) VHF: 11h 10h (G)	Digital: UHF1: 15.5h 14h (G) UHF2: 14.5h 12.5h (G) UHF3: 14.5h 12.5h (G) UHF5*: 12h 11h(G) VHF: 13.5h 12h (G)
Frequency Stability	± 1.5ppm	
Antenna Impedance	50	
Dimensions (H× W× D) (with standard battery, without antenna)	125 X 55 X 37mm	
Weight (with antenna & standard battery)	355g	
LCD Display	160× 128 pixels, 65536 colors, 1.8 inch, 4 rows	

Receiver		
Sensitivity	Analog	0.3 μ V (12dB SINAD); 0.22 μ V (Typical) (12dB SINAD) 0.4 μ V (20dB SINAD)
	Digital	0.3μ V /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
Blocking TIA-603 ETSI		80dB 84dB
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 High Power 4W UHF1/UHF2/UHF3 Low Power 1W UHF5* High Power: 3W (806-870MHz), 2.5W (896-941MHz); U5* Low Power: 1W VHF High Power 5W; VHF Low Power 1W	
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 PD7/8XG 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

* This frequency band is only available for DMR trunking mode.

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 ESS07

Receive-only Earpiece ESS08

2-wire Earpiece with Wireless Earphone and Neck Loop(Beige) EWN06

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