

Specifications

Frequencies		UHF1: 400-470MHz; UHF2: 450-520MHz UHF3: 350-400MHz; 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) VHF: 11h 10h (G) Digital: UHF1: 15.5h 14h (G) UHF2: 14.5h 12.5h (G) UHF3: 4.5h 12.5h (G) VHF: 13.5h 12h (G)
Frequency Stability		± 0.5ppm
Antenna Impedance		50 Ω
Dimensions (H x W x D) (with standard battery, without antenna)		125 X 55 X 37mm
Weight (with antenna & standard battery)		355g
LCD Display		160 x 128 pixels, 65535 colors 1.8 inch, 4 rows
Sensitivity	Analog	0.3 μV (12dB SINAD); 0.22 μV (Typical) (12dB SINAD) 0.4 μV (20dB SINAD)
	Digital	0.3 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
	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

RF Power Output		UHF1/UHF2/UHF3 High Power: 4W UHF1/UHF2/UHF3 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
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 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

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.



PD78X/78XG

Versatile Digital Portable Two-Way Radio

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



Standard Accessories

Li-Ion Battery
Power Adapter

MCU Rapid-rate Charger
Belt Clip

Leather Strap
Antenna

Optional Accessories



Remote Speaker Microphone (IP57) SM18N2 | Earpiece with On-MIC PTT & Transparent Acoustic Tube EAN16 | D-earset with In-Line Microphone EHN12 | Earbud with On-MIC PTT ESN10 | 3-Wire Surveillance Earpiece with Transparent Acoustic Tube (beige) EAN17 | Six-Unit Switching Power PS7002 | Carrying Case (for thick battery) (leather) (swivel) LCY003 | Programming Cable (USB Port) PC38 | 2500mAh Li-Ion Battery BL2503

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





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 PseudoTrunk**
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**
PD78X/78XG 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*, DataTransfer*), via Telemetry control to radio.
- **Various Analog Signaling Types**
PD78X/78XG supports various analog signaling types (HDC1200, DTMF*, 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 13 languages, including English, Simplified Chinese, Traditional Chinese, German, Spanish, French, Italian, Polish, Russian, Turkish, Greece, Portuguese and Korean, 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**
With this capability, you can enjoy firmware upgrade without purchasing a new piece of radio hardware!

* indicates functions available in later version.

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 Utilities
Business

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

