Hytera

Versatile Digital Portable Two-Way Radios

PD7 *i* SERIES

- Superior Digital Audio Clarity and Features
- GPS Option and Integration with Data Applications

PD782i

PD702i

PD752i

DMR
DIGITAL MOBILE RADIO ASSOCIATION

www.hytera.us

PD7
*i*SERIES

The PD7i Series is built to the DMR Standard and is rich in features for both voice and data communication. The design is approved to rigorous IP67 and MIL-STD 810 testing. The pseudo-trunking feature maximizes channel usage. Key features such as vibration, a dedicated emergency button, and the large color display make this an ideal solution for mission critical communications. The PD7i Series also comes with an optional GPS chip that allows the radio to integrate with Hytera Dispatch System or other 3rd party GPS dispatching software.
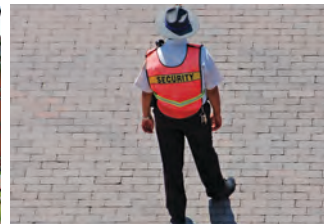
Applications

Education   Utilities   Forestry   Manufacturing   Transportation   Security   Hospital

Accessories

Included
- Li-Ion Battery
- MCU Rapid-rate Charger
- Power Adapter
- Antenna
- Belt Clip
- Leather Strap

See website for full list

Optional

| Remote Speaker Microphone (IP57) SM18N2 | MCU Multi-Unit Charger (For Thick Battery) MCA08 | Programming Cable (USB Port) PC38 | Earset Swivel EHN17 |

Product Features

- **User Friendly 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. Vibration alerts the user of voice calls and text messages.

- **Rugged & Reliable**
  Complies with MIL-STD-810 C/D/E/F/G standards. The Ingress Protection reaches IP67 (6: Totally protected against dust; 7: Protected against the effects of immersion up to 1m for 30 minutes). It's the highest IP level for land-based wireless radio application.

- **Superior Voice**
  With the adoption of the AGC technology in combination with the application of narrowband codec and digital error correction technologies, The PD7i Series radios are capable of ensuring your voice is clear and crisp even in noisy environments or at the edge of the coverage area.

- **Higher Spectrum Efficiency, Higher Channel Capacity**
  The TDMA technology allows twice the channels based on the same spectrum resource. This relieves the stress of increasing shortage in spectrum resource.

- **Secure Communication**
  Besides the encryption inherent to digital technology, The PD7i Series radios provide enhanced encryption capabilities (such as 256-bit encryption algorithm). This process includes end-to-end encryption and over-the-air encryption. It has analog scrambling, and digital encryption using Advanced Encryption Standard (AES) and ARCFOUR (ARC4) encryption methodology to both voice and data. (A feature for both DMR conventional and Tier III Trunked operation mode.)

- **Roaming**
  Automatic roaming of all sites in an IP Multi-site Connect system.

- **Voice with GPS**
  PD7i is able to transmit GPS data in the same channel during transmitting voice. This gives the customer an option to upload location information once pushing to talk. It helps to target where the speaker is immediately.

- **Scan**
  The PD7i Series is capable of scanning analog voice and signaling, as well as digital voice and data. These radios are also capable of mix mode scanning which monitors analog and digital channels.

- **GPS Positioning**
  The PD782iG / PD752iG supports viewing of GPS positioning information and sending of GPS text message.

- **OTAP**
  OTAP for Conventional Repeater System: Over the Air Programming modifies the parameters of remote terminals through the air interface signaling, including digital conventional channel parameters and part parameters of the terminal. It saves time and manpower to operate and maintain a radio system.

- **Enhanced Quick GPS**
  Enhanced Quick GPS: Compressed GPS data can be packaged in a single frame to greatly increase the capacity up to 450 units/min, which is tripled in DMR Tier II system. This enhancement improves channel efficiency for data and reduce hardware cost.

- **Dual Mode: Analog & Digital**
  Dual mode (analog & digital) operation ensures a smooth analog to digital migration.

- **Various Analog Signaling Types**
  The PD7i Series is capable of various analog signaling types such as HDC1200, DTMF Encode (PD782i), 2-Tone, and 5-Tone, various squelch control types (CTCSS / CDCSS), providing higher functionality in analog mode.

- **Versatile Voice Calls**
  The intelligent signaling of the PD7i Series radios support various voice call types, including Private Call, Group Call , All Call and Emergency Call.

- **Software Upgradeable**
  Upgradeable software enables new features without buying a new radio; The PD7i Series radios can also be switched into DMR trunking modes with corresponding trunking license applied in the same hardware.

- **One Touch Call/Text**
  Supports One Touch features that comprise of Preprogrammed Text Messages, Voice Calls and Supplementary Features.

- **Pseudo Trunk**
  This virtual trunking feature allocates a free timeslot for urgent communications. This effectively enhances frequency efficiency and allows you to communicate in a timely manner in emergency situations.

- **Data Features**
  The PD782i / PD752i Supports data capabilities of sending Private and Group text messages. It also supports a Third Party to control the radio via Third party API (GPS, Radio Registration Services, Radio Call Control, Telemetry, Data Transfer), via Telemetry control to radio.

- **Trunked & Conventional Switch**
  Trunking & Conventional Switch: By pressing a single button or twisting the channel knob, it enables radios to be switched between DMR Tier 3 trunking and conventional mode without restarting. During this process, registration & deregistration in trunking system is done automatically, and over the air authentication is still available.

- **Optimized Pushed to talk**
  Optimized Push-to-talk: It allows a radio to set up audio buffer and store what the user speaks before the call is established. Then it sends the stored audio together with the coming real-time audio after the call is established. Therefore, users can talk right after pressing PTT without waiting for the "go-ahead tone''. This feature also enhances the handover function without dropping communications in Tier III system during sites switch.

- **Out of range Notification in RMO**
  Out-of-range Notification in RMO: A radio is always notified when it has left the repeater coverage. The users can realize if they are in the talk range all the time by paying attention to the alert tone.

- **Over the air alias**
  PD7i Series can support sending radio alias over the air when PTT. The radio receives the call can decide to create a new contact or overwrite the old one automatically. It gives a great convenience to the customer to manage the fleet with the correct contact stored in each radio without touching each unit for re-programming.

Specifications

General

Frequency Range (VHF and UHF3 only PD702i / PD782i)		VHF: 136 - 174MHz ; UHF1: 400 - 470MHz UHF2: 450-520MHz ; UHF3: 350 - 400MHz UHF5: 806-941MHz (only for DMR Trunking)
Channel Capacity	PD702i	32
	PD782i PD752i	1024
Zone Capacity (each with a maximum of 16 channels)	PD702i	3
	PD782i PD752i	64
Channel Spacing		25 / 20 / 12.5KHz
Operating Voltage		7.4V (rated)
Battery		2000mAh (Li-Ion)
Battery Life (5-5-90 Duty Cycle, High TX Power) (Range of hrs depends on Frequency and GPS)	Analog	Approx. 8 - 12hrs
	Digital	Approx. 11 - 15hrs
Frequency Stability		± 0.5ppm
Antenna Impedance		50 Ω
Dimensions (HxWxD)	PD702i	4.9 x 2.17 x 1.38 inches
	PD782i PD752i	4.9 x 2.17 x 1.46 inches
Weight	PD702i	11.82 oz
	PD782i PD752i	12.52 oz
LCD Display (PD782i / PD752i)		160 128 pixels, 65535 colors 1.8 inch, 4 rows
FCC ID		See website for full list
Industry Canada ID		See website for full list

Environmental Specs

Operating Temperature	-22º F ~ +140º F
Storage Temperature	-40º F~ +185º F
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

TTFF (Time To First Fix) Cold Start	<1 minute
TTFF (Time To First Fix) Hot Start	<10 seconds
Horizontal Accuracy	<10 meters

Transmitter

RF Power Output	VHF: High 5W - Low 1W UHF: High 4W - Low: 1W
FM Modulation (Analog Emissions Designator)	11K φF3E @ 12.5KHz ; 14KφF3E @ 20KHz ; 16KφF3E @ 25KHz
4FSK Digital Modulation (Digital Emissions Designator)	12.5KHz Data Only: 7K6 FXD 12.5KHz Data & Voice: 7K6 FXW
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

Receiver

Sensitivity	Analog	0.22μ V (12dB SINAD) ; 0.22μ V (Typical) (12dB SINAD); 0.4μ V (20dB SINAD)
	Digital	0.22μ V/BER5%
Selectivity TIA-603 ETSI		60dB @ 12.5KHz / 75dB @ 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
S/N		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

Your Local Dealer

20KHz / 25KHz will not be available on new equipment in the U.S. after January 1st , 2011

Hytera reserves the right to change product designs or specifications at any time. If you have any questions regarding the accuracy of this information please contact your local sales representative or Hytera directly.

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