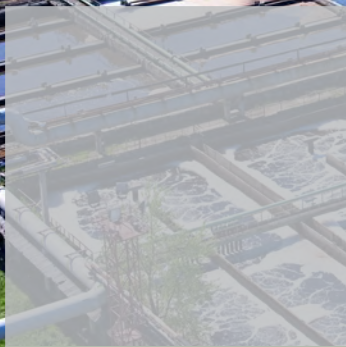# i SERIES

Hytera

Executive Digital Portable Radio

X1 i SERIES

- Slim Design for User Comfort and Covert Applications
- Built-in GPS, Bluetooth, and Man-Down Features

X1pi   X1ei

DMR DIGITAL MOBILE RADIO ASSOCIATION   **RATED IP67**

www.hytera.us

X1
i SERIES

The X1i 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 maximizes channel usage. Key features such as man down, vibration, a dedicated emergency button, and the large color display make this an ideal solution for mission critical communications. The radio's slim size enables a user to carry it covertly in a pocket or belt clip. The X1i Series also comes standard with a GPS chip that allows the radio to integrate with Hytera SmartDispatch or other 3rd party GPS dispatching software.
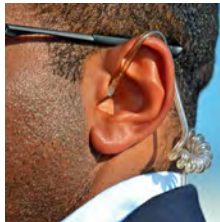
Applications

Security	Business	Education	Utilities	Manufacturing	Forestry

Product Features

- **Over-the-air Alias**
  X1i 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.

- **Voice with GPS**
  X1i Series 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.

- **Secure Communication**
  Besides the encryption inherent to digital technology, The X1ei and X1pi 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).

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

- **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.

- **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.

- **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 Push-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.

- **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.

Accessories

Included
- Li-Ion Battery
- MCU Rapid-rate Charger
- Power Adapter
- Antenna

See website for full list

Optional

| Detachable Earpiece with Transparent Acoustic Tube EHN22 | Carrying Case Belt Clip PCN005 | Programming Cable (USB Port) PC45 | Wireless Push To Talk POA47 |

Specifications

General			
Frequency Range			VHF: 136 - 174MHz ; UHF1: 400 - 470MHz UHF2: 450-520MHz ; UHF3: 350 - 400MHz UHF5: 806-941MHz (only for DMR Trunking)
Channel Capacity	X1ei		48
	X1pi		1024
Zone Capacity (each with a maximum of 16 channels)	X1ei		3
	X1pi		64
Channel Spacing			25 / 20 / 12.5KHz
Operating Voltage			7.4V (rated)
Battery			1800mAh (Li-Ion)
Battery Life (5-5-90 Duty Cycle, High TX Power)	Analog		Approx. 11hrs
	Digital		Approx. 15hrs
Frequency Stability			±0.5ppm
Antenna Impedance			50 Ω
Dimensions (HxWxD)	X1ei		4.7 x 2.24 x 1.02 inches
	X1pi		4.7 x 2.24 x 0.91 inches
Weight	X1ei		9.17 oz
	X1pi		9.88 oz
LCD (X1pi)			160 x 128 pixels, 65536 colors,1.8in, 4 rows
FCC ID			See website for full list
Industry Canada ID			See website for full list

Environmental Specs	
Operating Temperature	-22°F ~ +140°F
Storage Temperature	-40°F~ +185°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: Low 1W - High 5W ; UHF1,2,3: Low 1W - High 4W ; UHF5: Low 1W - High 3W
FM Modulation (Analog Emissions Designator)		11K φF3E @ 12.5KHz ; 14KφF3E @ 20KHz ; 16KφF3E @ 25KHz
4FSK Digital Modulation (Digital Emissions Designator)		12.5KHz Data Only: 7K6φFXD 12.5KHz Data & Voice: 7K6φFXW
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	0.3μ V (12dB SINAD) ; 0.22μ V (Typical) (12dB SINAD); 0.4μ V (20dB SINAD)
	Digital	0.3μ 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

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