i SERIES

Hytera

Digital Patrol Radio
PD412 *i*SERIES

Compliant with DMR standard

Dual Mode Analog & Digital. Embedded RFID reader

i SERIES

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DMR DIGITAL MOBILE RADIO ASSOCIATION

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Features

Voice Call

Voice call capability includes private, group and all call.

Rugged & Reliable

Compliant with MIL-STD-810 C/D/E/F/G standards. IP54 rated.

Small, Sleek, Light

Size: 112×55×31mm. Weight: 270g.

Long Battery Life

In digital mode, the 1500mAh battery provides 16 hours on a
5-5-90 duty cycle. (5% transmit; 5% receive, 90% standby)

Preprogrammed Text Messages

One Touch Call/Text

One Touch Voice Calls and Preprogrammed Text Messages.

Dual Mode (Analog & Digital)

Dual modes (analog & digital) operation to ensure a smooth
migration from analog to digital.

VOX

The VOX (Voice-operated Transmit) feature allows you to trigger the
voice transmission by speaking into the radio rather than initiating a
voice call by pressing the PTT (Push To Talk) switch for convenient
use at high pace working environment.

Development Port for radio and RFID

The HYTERA API facilitates third party applications development in
support of customized solutions.

Psuedo Trunk (Optional)

Several talk groups share the same frequency, and each one of
them can dynamically chose to use one of the slots to talk.
This is a two-slot-trunked mode. While time-slot 1 is busy,
MD612i will use time-slot 2 to transmit.

Roaming

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

Additional Features

PD402i support Radio Registration Service (RRS), Emergency Alarm & Call, Remote
Monitor Decode (Optional), Radio Disabled Decode (Optional) and Priority
Interrupt Decode (Optional).

Specifications

General	
Frequency Range	UHF: 400-470MHz, 450-520MHz VHF: 136-174MHz
Channel Capacity	32
Zone Capacity	3
Channel Spacing	25/12.5KHz
Operating Voltage	7.4V
Battery	1500mAh (Li-Ion) 2000mAh (Li-Ion)
Battery Life (5/5/90)	Analog/Digital: 12/16 hours (1500mAh) 16/22 hours (2000mAh)
Weight	270g
Dimensions	112×55×31mm
Frequency Stability	±0.5ppm
Antenna Impedance	50Ω
RFID Reading Range	up to 4cm

Receiver		
Sensitivity (Digital)		0.22μV / BER 5%
Sensitivity (Analog)		0.22μV (Typical) (12dB SIN AD) 0.4μV (20dB SIN AD) 0.22μV (12dB SIN AD)
Adjacent Selectivity	TIA-603	60dB @ 12.5KHz/70dB @ 25KHz
	ETSI	60dB @ 12.5KHz/70dB @ 25KHz
Spurious Response Rejection	TIA-603	70dB @ 12.5/25KHz
	ETSI	70dB @ 12.5/25KHz
Inter-modulation	TIA-603	70dB @ 12.5/25KHz
	ETSI	65dB @ 12.5/25KHz
Hum & Noise		40dB @ 12.5KHz 45dB @ 25KHz
Rated Audio Power Output		0.5W
Rated Audio Distortion		≤3%
Audio Response		+1 ~ -3dB
Conducted Spurious Emission		<-57dBm

Transmitter	
RF Power Output	VHF High power: 5W VHF Low power: 1W UHF High power: 4W UHF Low power: 1W
FM Modulation	11K0F3E @ 12.5KHz 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 ±5.0KHz @ 25KHz
FM Hum & Noise	40dB @ 12.5KHz 45dB @ 25KHz
Adjacent Channel Power	60dB @ 12.5KHz, 70dB @25KHz
Audio Response	+1 ~ -3dB
Audio Distortion	≤3%
Digital Vocoder Type	AMBE+2 ™
Digital Protocol	ETSI-TS102 361-1,-2,-3

Environmental	
Operating Temperature	-30℃~ +60℃
Storage Temperature	-40℃~ +85℃
ESD	IEC 61000-4-2 (Level 4) ±8kV (Contact) ±15kV (Air)
Dustproof & Waterproof	IP54 Standard
Humidity	Per MIL-STD-810 C/D/E/F/G Standard
Shock & Vibration	Per MIL-STD-810 C/D/E/F/G Standard

All specifications are subject to change without notice due to continuous development.

Target Markets

- **Bank**
- **Residence**
- **Hotel** (24)
- **Warehouse**

Standard

Li-ion battery (1500mAh) BL1504

Belt clip BC08

General MCU Rapid-rate Charger (for Li-Ion/Ni-MH batteries) CH10A07

Short antenna

Switching Power Adapter

Hand strap

Options

- **EAM12** — Detachable Transparent Acoustic Tube Earpiece with PTT&MIC cable
- **EHM19** — C Style Earloop Earpiece with On-MIC PTT
- **POA71** — RFID Patrol Checkpoint (passive device)
- **EHM20** — Swivel Earpiece with PTT&MIC cable
- **POA72** — RFID Patroller ID card (passive device)
- **ESM12** — Earbud with On-MIC PTT and VOX switch
- **SM26M1** — Remote Speaker Microphone without emercency button (IP54)
- **PC76** — Data Programming Cable
- Long antenna
- **MCA08** — MCU Multi-unit Rapid rate Charger
- **BL2010** — Li-ion battery (2000mAh)
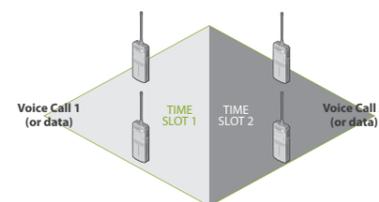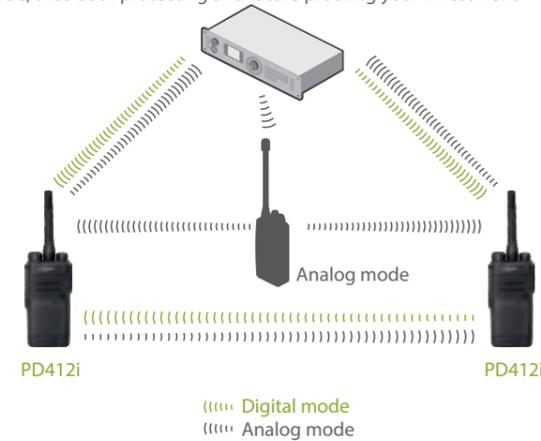- **NCN011** — Nylon Carrying Jacket

Features

Embedded RFID

The PD412i radio reads RFID tag data and automatically transmits the data via the defined timeslot. An ideal application for patrol monitoring and resource management.

RFID

Analog & Digital Mixed Channel

The PD412i radio is dual mode capable, it automatically detects whether the received signal is analog or digital. If a digital signal is received the radio will transmit its response in digital mode, if an analogue signal is received, the radio will respond in analogue mode. The PD412i will function with existing analogue FM infrastructure. When the infrastructure is updated to digital, it will operate in digital mode, thus both protecting and future proofing your investment

Analog mode

PD412i

PD412i

(((Digital mode
(((Analog mode

Voice Call 1 (or data)

TIME SLOT 1

TIME SLOT 2

Voice Call 2 (or data)

LIGHT & DURABLE.DIGITAL VOICE,CLEARER AND LOUDER

EMBEDDED RFID READER

ANALOG & DIGITAL MIXED MODE

RFID board

Hytera PD412i Patrol System

The Hytera PATROL System is a tour guard or route management solution providing real-time resource tracking and management. The system comprises PATROL Radios, Receiving Stations, PATROL Checkpoints and PATROL Application Software. When the PD412i PATROL Radio is close to the PATROL Checkpoint, the PATROL Radio automatically reads the Checkpoint RFID data, transmits RFID data in real-time to the Receiving Station. The Receiving Station which is connected to a PC running the PATROL application, records the incoming data, time and date stamps it and highlights the relevant PATROL Checkpoint in the application on screen. Additional features include, one-touch radio alarm, PATROL data resend, simple or advanced PATROL plan configuration, data query and data backup.

Operating Center

Indoor Checkpoint

Patrol Receiving Station

Basement Checkpoint

Public Place Checkpoint