

Specifications

General		transmitter	
Frequency Range	UHF: 400-470MHz, 450-520MHz VHF: 136-174MHz	RF Power Output	VHF Highpower: 5W VHF Low power: 1W UHF High power: 4W UHF Low power: 1W
Channel Capacity	32	FM Modulation	11K0F3E@12.5KHz 16K0F3E@25KHz
Capacity area	3	4FSK Digital Modulation	12.5KHz Data Only: 7K60FXD 12.5KHz Data & Voice: 7K60FXW
Channel Spacing	25/12.5KHz	Conducted/Radiated Emission	-36dBm <1GHz, -30dBm >1GHz
Operating Voltage	7.4V	Modulation Limiting	±2.5KHz@12.5KHz ±5.0KHz@25KHz
Battery	1500mAh (Li-Ion) 2000mAh (Li-Ion)	FM Hum & Noise	40dB @ 12.5Hz 45dB @ 25KHz
Battery Life (5/5/90)	Analog/Digital: 12/16 hours (1500mAh) 16/22 hours (2000mAh)	Adjacent Channel Power	60dB@12.5KHz, 70dB@25KHz
Weight	270g	Audio Response	+1~-3dB
Dimensions	112x55x31mm	Audio Distortion	γ3%
Frequency Stability	±0.5ppm	Digital Vocoder Type	AMBE++
Antenna Impedance	50γ	Digital-Protocol	ETSI-TS102 361-1,-2,-3
RFID Reading Range	up to 4cm	Environmental	
Sensitivity Digital) (	0.22γV / BER 5%	Operating Temperature	-30γ- +60γ
Sensitivity Analog) (	0.22γ (Typical) (12dB SIN AD) 0.4V(20dB SIN AD)γ 0.22γV (12dB SIN AD)	Storage temperature	-40γ- +85γ
Adjacent Selectivity	TIA-603 AND IF 60dB@12.5KHz/70dB@25KHz 60dB@12.5KHz/70dB@25KHz	ESD	IEC 61000-4-2 (Level 4) ±8kV (Contact) ±15kV (Air)
Spurious Response Rejection	TIA-603 AND IF 70dB @ 12.5/25KHz 70dB @ 12.5/25KHz	Dustproof & Waterproof	Standard IP54
Inter modulation	TIA-603 AND IF 70dB @ 12.5/25KHz 65dB @ 12.5/25KHz	Humidity	Per MIL-STD-810 C/D/E/F/G Standard
Hum&Noise	40dB@12.5KHz 45dB@25KHz	Shock & Vibration	Per MIL-STD-810 C/D/E/F/G Standard
Rated Audio Power Output	0.5W		
Rated Audio Distortion	γ3%		
Audio Response	+1~-3dB		
Conducted Spurious Emission	<-57dBm		

PD412, X=0, 2, 5.6 or 8, model number varies geographically. For details, please contact our regional sales representatives.  
All specifications are subject to change without notice due to continuous development.

i SERIES

Hytera

Digital

Radio Patrol

PD412

Compliant with DMR standard

Dual Mode Analog & Digital. Embedded RFID reader

Digital Patrol Radio

i SERIES

PD412



Hytera America

3315 Commerce Parkway, Miramar, FL 33025, United States  
Telephone: +1(954)846-1011

8 Whatney, Suite 200, Irvine, CA 92618, United States  
Telephone: +1(949)326-5740

1916 Wright Boulevard, Schaumburg, IL 60193, United States  
Telephone: +1 (213) 262-3578

i SERIES

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Compliant with DMR standard

Dual Mode Analog & Digital. Embedded RFID reader



# Features

## Voicecall

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: 112x55x31mm. 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. EAM12  
EHM19 POA71

## Dual Mode (Analog & Digital)

Dual modes (analog & digital) operation to ensure a smooth transition from analog to digital. C Style Earloop Earpiece, RFID Patrol Checkpoint (passive device) POA72

## 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. SM26M1

## Development Port for radio and RFID

Microphone without The HYTERA API facilitates third party applications development in emergency button (IP54) support of customized solutions. PC76

## Nickname Trunk (Optional)

Several talk groups share the same frequency, and each one of them can dynamically thing 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. CYN011 Data Programming Cable

## Roaming

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

## Additional Features

PD402i supports Radio Registration Service (RRS), Emergency Alarm & Call, Remote Monitor Decode (Optional), Radio Disabled Decode (Optional) and Priority Interrupt Decode (Optional). Li-ion battery (2000mAh)

## Embedded RFID

The PD412 radio reads RFID tag data and automatically transmits the data via the defined timeslot. An ideal application for safety training and resource management.

## Specifications

General	
Frequency Range	UHF: 400-470MHz, 450-520MHz VHF: 136-174MHz
Channel Capacity	32
Capacity area	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	112x55x31mm

Frequency	
Antenna Impedance	50j

## Stability Analog & Digital Mixed Channel

The PD412 radio is dual mode capable and 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 analog signal is received, the radio will respond in analog mode.

The PD412 will function with existing analog FM infrastructure. When the infrastructure is updated to digital, it will operate in digital TIA-603 mode, thus both protecting and future proofing your investment.

Receiver	
Sensitivity (Analog)	0.22V (Typical) (12dB SIN AD) y 0.4V (20dB SIN AD) y
Sensitivity (Digital)	0.22V (12dB SIN AD)
Adjacent Selectivity	60dB @ 12.5KHz/70dB @ 25KHz AND IF 60dB @ 12.5KHz/70dB @ 25KHz
Spurious Response Rejection	TIA-603 70dB @ 12.5/25KHz AND IF 70dB @ 12.5/25KHz
Inter modulation	TIA-603 70dB @ 12.5/25KHz AND IF 65dB @ 12.5/25KHz
Hum&Noise	40dB @ 12.5KHz 45dB @ 25KHz
Rated Audio Power Output	0.5W
Rated Audio Distortion	y3%
Audio Response	+1~-3dB
Conducted Spurious Emission	<-57dBm

transmitter	
RF Power Output	VHF Highpower: 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	y3%
Digital Vocoder Type	AMBE+2 TM
Digital-Protocol	ETSI-TS102 361-1,-2,-3

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

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## Standard

Li-ion battery (1500mAh) BL1504

belt clip BC08

## Options

EHM20

Swivel Earpiece with PTT&MIC cable ESM12

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

Earbud with On-MIC PTT and VOX switch

Remote Speaker PC76

Long antenna

Data Programming Cable

BL2010

Switching Power Adapter

hand strap

PD41X

digital mode  
analog mode

PD41X

## DMRA Direct Mode TDMA (True 2-slot)

In DMO (Direct Mode Operation) The PD412 supports two talk paths on one frequency.

Voice Call 1 (or data)

TIME SLOT 1

Voice Call 2 (or data)

## Hytera America

Address: 3315 Commerce Parkway  
Miramar, Florida 33025  
Phone: 800-845-1230 Fax: 954-846-1672  
http://www.hytera.us

## Target Markets



### Voicecall

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: 112x55x31mm. Weight: 270g.

### Long Battery Life

The digital mode 1500mAh battery provides 16 hours on a 5-5-90 duty cycles (5% transmit, 5% receive, 90% standby).

### Preprogrammed Text Messages

Preprogrammed Text Messages (passive device)

### One Touch Call/Text

One Touch Voice Calls and Preprogrammed Text Messages. (passive device)

### Dual Mode (Analog & Digital)

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

The VOX (Voice-operated Transmit) feature allows you to trigger the PTT (Push To Talk) switch in the radio without initiating a voice call by pressing the PTT (Push To Talk) switch for convenient use in a high pace working environment.

### Development Port for radio and RFID

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

## Features

### Embedded RFID

The PD412 radio reads RFID tag data and automatically transmits the data via the defined timeslot. An ideal application for patrol monitoring and resource management.

Frequency Range	UHF: 400-470MHz, 450-520MHz VHF: 136-174MHz	RF Power Output	VHF Highpower: 5W VHF Low power: 1W UHF High power: 4W UHF Low power: 1W
Channel Capacity	32	FM Modulation	11K0F3E @ 12.5KHz 16K0F3E @ 25KHz
Capacity area	3	4FSK Digital Modulation	12.5KHz Data Only: 7K60FXD 12.5KHz Data & Voice: 7K60FXW
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Battery	1500mAh (Li-Ion) 2000mAh (Li-Ion)	FM Hum & Noise	40dB @ 12.5KHz 45dB @ 25KHz
Battery Life (5/5/90)	Analog/Digital: 12/16 hours (1500mAh) 16/22 hours (2000mAh)	Adjacent Channel Power	60dB @ 12.5KHz, 70dB @ 25KHz
Weight	270g	Audio Response	+1~-3dB
Dimensions	112x55x31mm	Audio Distortion	γ3%
		Digital Vocoder Type	AMBE++
		Digital-Protocol	ETSI-TS102 361-1,-2,-3
		Operating Temperature	-30y~ +60y
		Storage temperature	-40y~ +85y
		ESD	IEC 61000-4-2 (Level 4) ±8kV (Contact) ±15kV (Air)
		Dustproof & Waterproof	Standard IP54
		Humidity	Per MIL-STD-810 C/D/E/F/G Standard
		Shock & Vibration	Per MIL-STD-810 C/D/E/F/G Standard

### Frequency Stability

±0.5ppm

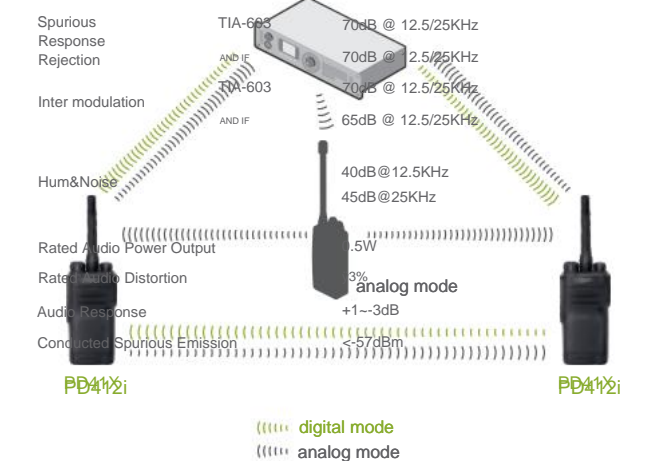
### Antenna Impedance

50y

### RFID Reading Range up to 4cm

The PD412 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 analog signal is received, the radio will respond in analog mode. The PD412 will function with existing analog F2D structures.

When the infrastructure is updated to digital, it will operate in digital mode. Selectivity mode protection protecting your investment.



## Standard



## Options



### DMRA Direct Mode TDMA (True 2-slot)

In DMO (Direct Mode Operation) The PD412 supports two talk paths on one frequency.



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Address: 3315 Commerce Parkway  
Miramar, Florida 33025  
Phone: 800-845-1230 Fax: 954-846-1672  
<http://www.hytera.us>



LIGHT & DURABLE DIGITAL VOICE CLEARER AND LOUDER  
EMBEDDED RFID READER  
ANALOG/DIGITAL MIXED MODE



RFID board  
RFID board

### Hytera PD412 Patrol System

Hytera PATROL System is a guard route management solution providing real-time resource tracking and management. The system includes PATROL Radios, Receiving Stations, PATROL Checkpoints, and a PATROL Application Software. When the PATROL Radio is used to pass the PATROL Checkpoint, the PATROL Radio automatically reads the Checkpoint RFID data and transmits RFID data to the Receiving Station. The Receiving Station is connected to the PATROL Application Software, which provides real-time data and data reports and highlights the relevant PATROL data. Checkpoints in the application PATROL screen. Additional features include: touch radio alarm, plan configuration, data query and data backup.

