



# RD96X

## Digital Portable Repeater

- Slim and Portable
- Built-in Duplexer





## RD96X

RD96X is Hytera's first digital/analog portable repeater that is compatible with the DMR standard. Compact and embedded with a mini duplexer, the device is fairly wieldy. It supports a range of power supply plans to guarantee uninterrupted communications during emergencies; its API and 100 Mbps network port combine to support an extended array of applications; the device provides IP67 protection, making it reliable in any hostile operating environment.

## Applications

Public Safety

Forest Industry

Firefighters

Hotels



## Product Features

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- **Slim and Portable**

Based on a compact design, the device measures only 41mm and weighs less than 3kg. Built-in Duplexer:Embedded with an optional mini duplexer, RD96X can be slimmer in size.

- **External Battery**

With an external large-capacity battery, the device delivers an extended battery life to guarantee uninterrupted communications.

- **Emergency Port**

The port allows for power connection in emergencies.

- **IP67 Protection**

Compatible with the IP67, the device can operate properly under immersion test (1meter for up to 30 minutes).

- **Reliable and Durable**

Compatible with the American military standard MIL-STD-810 C/D/E/F/G and HALTverified, the device can perform excellently in hostile operating environments.

- **User-friendly Panel**

The operating panel provides a wide range of channel status indicators, a button for channel adjustment, and a port for palm microphone or remote speaker microphone.



RD96X, X=0, 2, 5 or 8, model number varies geographically.  
For details, please contact our regional sales representatives.

## Main Functions

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- **Smart Battery (optional)**

A 10Ah smart Li-Ion battery can support at least eight hours of work when working at 50% duty cycle and high TX power. Compatible with the smbus1.1 standard, RD96X can monitor battery conditions such as estimated remaining capacity, used capacity percentage, and usage record; the device can also maximize the battery life; through smart charge management, it can automatically recharge the battery for use anytime; powered by three levels of battery protection, the device considerably enhances charging safety and reliably.

- **Repeater Diagnostics and Control**

Through a PC-based application, the product can monitor, diagnose and control remote (connected to the Internet via an IP port) and local repeaters (via a USB port), thus increasing the productivity. Hytera's RDAC software supports network access at multiple points and allows the administrator to monitor networked two-way radios.

- **Voice Input/output via Dual Time Slots: easy for monitoring and voice recording**

In digital mode, the device supports voice input and output via dual time slots and enables users to record calls continuously.

- **Digital/analog Compatibility and Smart Switching**

Back to back interconnection of digital & analog network can be achieved by wired or wireless IP, ensuring a smooth analog-to-digital transition.

- **Flexible Networking**

By connecting geographically distributed repeaters that run at the same or different frequencies to form an IP-based and location-independent wireless communication network, IP-based repeater interconnection allows mobile radios to obtain voice and data services while roaming.

- **16 Channels**

The product supports up to 16 channels. You can switch between channels using PCbased RDAC software, the channel selector knob on the front panel, or the external interface on the repeater.

- **Digital-analog Interconnection for Smooth Transition**

The feature enables two-way radios with digital and analog capabilities, and digital and analog users to intercommunicate in different operating modes to guarantee users' seamless transition from analog to digital capabilities.

- **GPS**

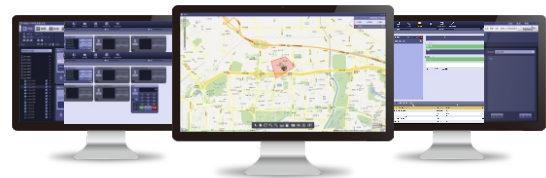
The GPS module supports GPS data transmission and enables emergency command centers to monitor the location of a small mobile network in real time.

# Work with Hytera dispatch system dispatcher system and Ultra-thin full power keypad digital portable radio X1p to achieve flexible networking & dispatching

For mission critical users like special police, anti-drug/anti-smuggling officer, senior guard, senior executives, etc., only a professional terminal is not enough to accomplish tasks and ensure safety. This is where a complete communications solution is demanded.

## Hytera dispatch system

A digital dispatching system developed on the Hytera digital platform in compliance to ETSI DMR open standard, is designed for efficient communication, management and dispatching of professional users.



- All types of voice calls

Hytera dispatch system supports all types of calls that meet your various dispatching operational needs, include private call, group call, all call. Every Hytera dispatch system dispatcher client console is able to dispatch up to 8 voice dispatching channels. Through these dispatching channels, Hytera dispatch system could receive all types of calls as well as trigger any type of call through user friendly and easy to operate user interface.

- Voice recording & playback

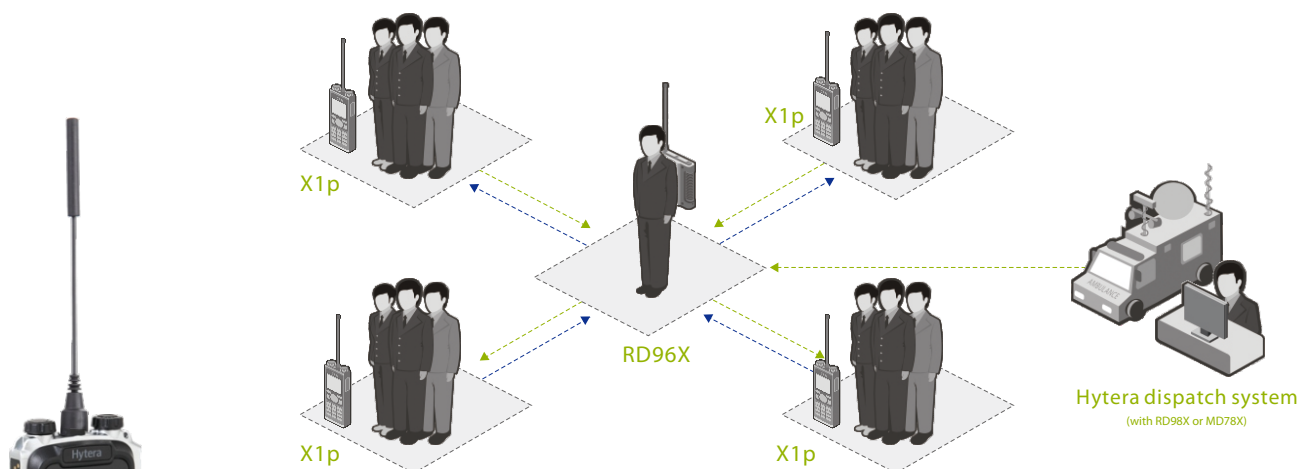
All incoming calls and outgoing calls will be recorded in Hytera dispatch system server. This includes all types of DMR voice calls and PSTN interconnected calls. Users can retrieve recorded voice and playing back at any time. All recorded voices are easily can be searched through time, caller ID or callee ID.

- Radio kill & radio revive

Hytera dispatch system is able to kill a radio unit remotely when the radio unit is under illegal usage or being stolen. The killed radio is able to power on but not able to perform transmitting or receiving. Hytera dispatch system is also able to activate a killed radio when necessary.

- Real-time tracking

This feature allows Hytera dispatch system to track the location of any radio units in real-time. Users have an option to display the location route on the mapping. On critical missions, the dispatcher can send staff nearby for check and help when the route of a patroller halted.



**X1p** Ultra-thin full power keypad digital portable radio

Learn more about Hytera dispatch system and the Ultra-thin full power keypad digital portable radio, please visit [dmr.hytera.com](http://dmr.hytera.com) or contact our local dealers and sales representatives.

# Accessories



Nylon Backpack  
(for portable repeater only)(black)  
NCN010



Power Management System  
PV3001



Power Adapter for Portable Repeater  
PS7502



Multi-Functional Installation Bracket  
BRK17

Optional antenna designed by Hytera is highly recommended.  
\*Outdoor use of RD96X with antenna should avoid thunderstorms.



Waterproof Remote  
Speaker Microphone ( IP67 )  
SM18A1

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



# Specifications

General	Frequency Range	VHF : 136-174MHz UHF1 : 400-470MHz ; UHF3 : 350-400MHz	
	Channel Capacity	16	
	Channel Spacing	25/20/12.5KHz	
	Operating Voltage	DC: 13.6 V ± 15% Battery: 14.8V	
	Current Drain	Standby	<0.5A
		Transmit	<2.5A
	Battery	10Ah ( Li-Ion )	
	Battery Life(50-50 Duty Cycle, High TX Power)	8h	
	Frequency Stability	± 0.5ppm	
	Antenna Impedance	50	
	Duty Cycle	100%	
	Dimensions (HxWxD)	301x184x51mm (with protective shell) 291x172x41mm (without protective shell)	
	Weight	<3.0kg	
Receiver	Sensitivity	Analog 0.3 μ V (12dB SINAD) ; 0.22 μ V (Typical) (12dB SINAD); 0.4 μ V (20dB SINAD)	
		Digital 0.3 μ V/BER5%	
	Selectivity TIA-603 ETSI	65dB @ 12.5KHz / 75dB @ 20/25KHz 60dB @ 12.5KHz / 70dB @ 20/25KHz	
	Intermodulation TIA-603 ETSI	75dB @ 12.5/20/25KHz 70dB @ 12.5/20/25KHz	
	Spurious Response Rejection TIA-603 ETSI	75dB @ 12.5/20/25KHz 70dB @ 12.5/20/25KHz	
	Blocking TIA-603 ETSI	90dB 84dB	
	S/N	40dB @ 12.5KHz; 43dB @ 20KHz; 45dB @ 25KHz	
	Rated Audio Distortion	3%	
	Audio Response	+1 ~ -3dB	
	Conducted Spurious Emission	< -57dBm	

Transmitter	RF Power Output	1-10W (adjustable)
	FM Modulation	11K F3E @ 12.5KHz; 14K F3E @ 20KHz; 16K F3E @ 25KHz
	4FSK Digital Modulation	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++or SELP
	Digital Protocol	ETSI-TS102 361-1 , 2&3
	Operating Temperature	-30 ~ +60
	Storage Temperature	-40 ~ +85
Environmental Specifications	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	TTF (Time To First Fix) Cold Start
TTF (Time To First Fix) Hot Start		<10 seconds
Horizontal Accuracy		<10 meters

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



## Hytera Communications Corporation Limited

Address: Hytera Tower, Hi-Tech Industrial Park North, Beihuan Rd.,  
Nanshan District, Shenzhen, China

Tel: +86-755-2697 2999 Fax: +86-755-8613 7139 Post: 518057

Http: //www.hytera.com Stock Code: 002583.SZ



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