



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

- **Slim and Portable**

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



Main Functions

- **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 remote control (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. This guarantees 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 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.. When a professional terminal is insufficient to accomplish the tasks required 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. These include private call, group call and all call. Every Hytera dispatcher client console is able to dispatch up to 8 voice channels. Through these dispatch channels, the Hytera dispatch system can 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

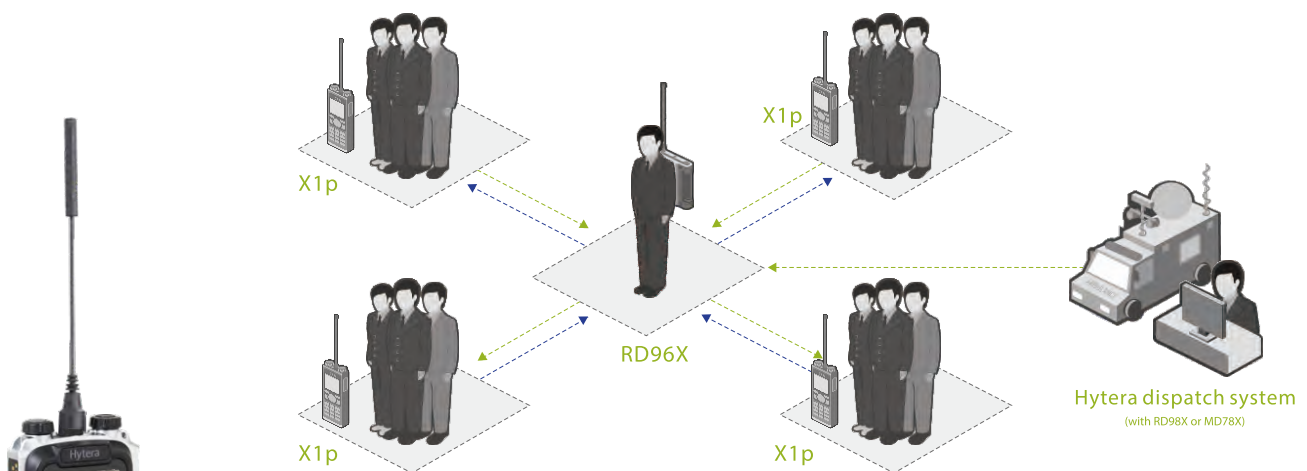
All incoming calls and outgoing calls will be recorded in Hytera dispatch system server. This includes all types of DMR voice calls and PSTN interconnected calls. Users can retrieve recorded voice and playing back at any time. All voice records can easily be searched through by time, caller ID or callee 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 has been stolen. The killed radio is able to power on but not able to transmit or receive. 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 to check and help when the route of a patrol has halted.



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 | 50Ω | |
| | Duty Cycle | 100% | |
| | Dimensions (HxWxD) | 301x184x51mm (with protective shell) 291x172x41mm (without protective shell) | |
| | Weight | <3.0kg | |
| | Receiver | Sensitivity | Analog 0.28μV (12dB SINAD) ; 0.22μV (Typical) (12dB SINAD); 0.4 μV (20dB SINAD) |
| Digital 0.3μV/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 | |
| 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 | 11K0F3E @ 12.5kHz; 14K0F3E @ 20kHz; 16K0F3E @ 25kHz |
| | 4FSK Digital Modulation | 12.5kHz Data Only: 7K60 FXD 12.5kHz Data & Voice: 7K60 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++, SELP, NVOC, COMM |
| | Digital Protocol | ETSI-TS102 361-1, -2, -3 |
| | Operating Temperature | -30°C ~ +60°C |
| | Storage Temperature | -40°C ~ +85°C |
| | Environmental Specifications | ESD |
| 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.



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