



RD965

Outdoor DMR repeater

RD965 is Hytera's first digital/analog outdoor repeater which is developed in compliance with the ETSI DMR standard. Thanks to its compact design and the embedded mini duplexer the RD965 is easy to use. Equipped with a wide selection of components, RD965 easily fits into various application scenarios, whether carried on your back, wall-mounted or installed in an equipment rack. It supports a wide range of power supply plans to guarantee uninterrupted communication during emergencies. The repeater provides IP67 protection, making it reliable in any rough operating environment.



Repeater

RD965

Outdoor DMR repeater



Highlights

GPS

The GPS module enables emergency command centers to monitor the location of a small mobile network in real time if the repeater is used as mobile unit.

Smart Battery as backup (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 as backup power supply for outdoor or mobile operation. Compatible with the SMBus 1.1 standard, RD965 can monitor battery conditions such as estimated remaining capacity, used capacity percentage, and usage record. The repeater can also maximize the battery life through smart charge management to considerably enhance charging safety and reliability.

Repeater diagnostics and control

Through a PC-based application, the repeater can monitor, diagnose and control remote (connected to the Internet via an IP port) and local repeaters (via a USB port). 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. The RD965 repeater can be used together with RD985 in a network of repeaters.



Innovative design

Outdoor operation & IP67 protection

RD965 is strictly compliant with MIL-STD-810 C/D/E/F/G and IP67 standards, ensuring outstanding performance even in harsh environments.

Slim and portable

Based on a compact design, the device measures only 42mm and weighs less than 5 kg, (include the 10 Ah battery).

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.

Upgradable Software

This enables you to easily add functions through software upgrade without purchasing a new device.



Emergency port

The port allows power connection in emergencies.

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.

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.

Flexible applications

RD965 can be desk or wall-mounted for in-building coverage, installed in a mobile suitcase or cabinet for emergency communications, or carried on the back for forest firefighting. The RD965 repeater is suitable for providing radio coverage inside tunnels and underground facilities like parking garages or the like.

Technical Data

General data	
Frequency range	VHF: 136 – 174 MHz, UHF: 400 – 470 MHz
Channel capacity	16
Number of zones	1
Channel spacing (analog)	12.5 / 20 / 25 kHz
Channel spacing (digital)	12.5 kHz
Operating voltage	13.6 ± 15 % V _{DC} ; Storage battery: 14.8 V
Max. power consumption (in stand by)	≤ 0.8 A
Max. power consumption (during transmission)	≤ 3.5 A
Battery	10 Ah (lithium-ion battery)
Battery service life (5-5-90 duty cycle, high transmitting power)	approx. 8 hours
Frequency stability	± 0.5 ppm
Antenna impedance	50 Ω
Duty cycle	100%
Dimensions (H × W × D)	52 × 183 × 302 mm (repeater with protective housing) 42 × 172 × 280 mm (repeater without protective housing)
Weight	3.5 kg (without battery)

Receiver	
Sensitivity (analog)	0.3 μV (12 dB SINAD) 0.22 μV (typical) (12 dB SINAD) 0.4 μV (20 dB SINAD)
Sensitivity (digital)	0.3 μV / BER 5 %
Adjacent channel selectivity TIA-603 ETSI	65 dB at 12.5 kHz / 75 dB at 20 / 25 kHz 60 dB at 12.5 kHz / 70 dB at 20 / 25 kHz
Intermodulation TIA-603 ETSI	75 dB at 12.5 / 20 / 25 kHz 70 dB at 12.5 / 20 / 25 kHz
Spurious response rejection TIA-603 ETSI	75 dB at 12.5 / 20 / 25 kHz 70 dB at 12.5 / 20 / 25 kHz
Hum and noise	40 dB at 12.5 kHz; 43 dB at 20 kHz; 45 dB at 25 kHz
Nominal audio power output	0.5 W
Nominal audio distortion	≤ 3 %
Audio sensitivity	+ 1 dB to - 3 dB
Conducted spurious emission	< - 57 dBm

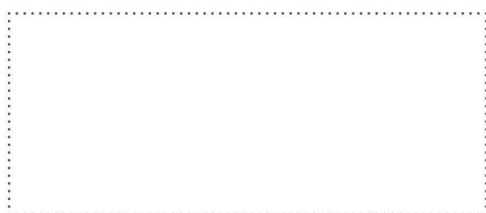
Transmitter	
Transmitting power	VHF: 1 / 10 W UHF: 1 / 10 W
Modulation	11 KΦF3E at 12.5 kHz 14 KΦF3E at 20 kHz 16 KΦF3E at 25 kHz
4FSK digital modulation	12.5 kHz (data only): 7K6ΦFXD 12.5 kHz (data and voice): 7K6ΦFXE
Interfering signals and harmonics	- 36 dBm (< 1 GHz) - 30 dBm (> 1 GHz)
Modulation limiting	± 2.5 kHz at 12.5 kHz ± 4.0 kHz at 20 kHz ± 5.0 kHz at 25 kHz
Noise suppression	40 dB at 12.5 kHz 43 dB at 20 kHz 45 dB at 25 kHz
Adjacent channel selectivity	60 dB at 12.5 kHz 70 dB at 20 / 25 kHz
Audio sensitivity	+ 1 dB to - 3 dB
Nominal audio distortion	≤ 3 %
Digital Vocoder Type	AMBE + +
ETSI standard	ETSI-TS102 361-1,-2,-3

Ambient data	
Operating temperature range	- 30 °C to + 60 °C
Storage temperature range	- 40 °C to + 85 °C
ESD	IEC 61000-4-2 (level 4), ± 8 kV (contact discharge) ± 15 kV (air discharge)
Protection against dust and moisture	IP67
Shock and vibration resistance	MIL-STD-810 C/D/E/F/G
Relative humidity	MIL-STD-810 C/D/E/F/G

GPS	
Time to first fix (TTFF) cold start	< 1 minute
Time to first fix (TTFF) warm start	< 10 seconds
Horizontal accuracy	< 10 meters

All technical indications were tested according to the corresponding standards. Subject to change on the basis of continuous development.

Your Hytera partner:



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