

RD965

Outdoor DMR repeater

Versatile

RD965 is Hytera's first digital/analog repeater for outdoor use that is compatible with the DMR standard. Its compact construction makes the device especially easy to handle and to adapt to different usage scenarios: whether carried on your back, mounted on a wall or installed in an equipment rack.

Outdoor operation and IP67 degree of protection

The RD965 DMR repeater fully complies with the MIL-STD-810 C/D/E/F/G standards and conforms to the IP67 degree of protection, ensuring exceptional performance even in harsh conditions.

Digital/analog connection

A back-to-back connection between two repeaters can be used to connect analog radio networks to the DMR radio system, which makes it significantly easier to switch from analog to digital radio technology without any problems.

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, mobile radios can use voice and data services even when in roaming mode.



Technical Data RD965

General data	
Frequency range	VHF: 136 – 174 MHz UHF: 350 – 400 MHz, 400 – 470 MHz
Supported operating modes	<ul style="list-style-type: none"> ▪ DMR Tier II (ETSI TS 102 361-1/2/3) ▪ Analog
Number of channels	1024
Number of zones	1
Channel spacing	12.5 / 20 / 25 kHz (analog) 12.5 kHz (digital)
Operating voltage	13.6 ± 15% V _{DC} Battery: 14,8 V
Max. power consumption (in stand by)	≤ 0.8 A
Max. current consumption (during transmission)	≤ 3.5 A
Standard battery	10 Ah (lithium-ion battery)
Battery service life (5-5-90 duty cycle, high transmitting power, standard battery)	approx. 8 hours
Frequency stability	± 0.5 ppm
Antenna impedance	50 Ω
Dimensions (H × B × T)	<ul style="list-style-type: none"> ▪ 52 x 183 x 302 mm (repeater with protective housing) ▪ 42 x 172 x 280 mm (repeater without protective housing)
Weight	3.5 kg (without standard battery))

Environmental conditions	
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), ± 15 kV (air)
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

Transmitter	
Transmitting power	1 – 10 W (adjustable)
Modulation	11 K0F3E at 12.5 kHz 14 K0F3E at 20 kHz 16 K0F3E at 25 kHz
4FSK digital modulation	12.5 kHz (data only): 7K60FXD 12.5 kHz (data and voice): 7K60FXW
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 cancellation	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 response (TIA-603D)	+ 1 dB to - 3 dB
Audio distortion	≤ 3 %
Digital vocoder type	AMBE ++

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
Signal-noise ratio (S/N)	40 dB at 12.5 kHz 43 dB at 20 kHz 45 dB at 25 kHz
Nominal audio power output	0.5 W
Audio distortion	≤ 3 %
Audio response (TIA-603D)	+ 1 dB to - 3 dB
Conducted spurious emission	< - 57 dBm

All technical information was determined at the factory and in accordance with the corresponding standards. Subject to change on the basis of continuous development.



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SGS Certificate DE11/81829313

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