

## RD985

### DMR repeater

#### Digital heart

The digital repeater RD985 is the heart for multi-cell conventional DMR radio networks and was developed according to the ETSI standard for DMR. It offers an ergonomic design, reliability and outstanding digital functions for sophisticated communication. RD985 – Your digital advantage over your competitors!

#### Flexible networking

All the repeaters from Hytera can be connected in digital mode via IP connection to a comprehensive radio network. In analog mode, the repeaters can be connected together back-to-back.

#### Dual mode and automatic switching

The RD985 can automatically change between digital and analog mode depending on the type of receiver signal.

#### High transmitting power

The repeater offers an adjustable transmitting power of up to 50 Watt and thereby satisfies the high requirements for modern PMR radio systems.



# Technical Data RD985

General data	
Frequency range	VHF: 136 – 174 MHz UHF: 400 – 470 MHz / 450 – 520 MHz
Supported operating modes	<ul style="list-style-type: none"> <li>▪ DMR Tier II (ETSI TS 102 361-1/2/3)</li> <li>▪ Analog</li> </ul>
Number of channels	16
Number of zones	1
Channel spacing	12.5 / 20 / 25 kHz (analog) 12.5 kHz (digital)
Operating voltage	13.6 ± 15% V <sub>DC</sub>
Max. power consumption (in stand by)	≤ 0.8 A
Max. current consumption (during transmission)	≤ 11 A
Frequency stability	± 0.5 ppm
Antenna impedance	50 Ω
Dimensions (H × B × T)	88 x 483 x 366 mm
Weight	8.5 kg
LCD display	220 x 176 pixels, 262,000 colors, 2.0 inches, 4 rows

Environmental conditions	
Operating temperature range	- 30 °C to + 60 °C
Storage temperature range	- 40 °C to + 85 °C
Relative humidity	< 95 %

Transmitter	
Transmitting power	1 – 50 W
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 +2™

Receiver	
Sensitivity (analog)	0.28 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 65 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	80 dB at 12.5 / 20 / 25 kHz 80 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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