Hytera
Respond & Achieve

RD625

DMR repeater

The RD625 is a digital repeater designed specifically to provide reliable radio coverage in buildings and tunnels. The RD625 has been developed in accordance with the Digital Mobile Radio (DMR) open ETSI standard and can be operated with either digital or analog signals.

DMR
DIGITAL MOBILE RADIO ASSOCIATION

www.hytera-mobilfunk.com

Repeater

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Highlights

Flexible IP networking
Hytera's DMR repeater can be connected to an IP-based communication network with multiple sites. The roaming function is used to provide radios in this radio network with voice and data services across cells.

Connecting VoIP private automatic branch exchanges
The RD625 repeater provides a connection to existing VoIP telephone systems on the DMR radio network as SIP subscriber. This allows DMR radio subscribers to hold half-duplex conversations with participants from the telephone network. Telephone subscribers have the option of making either individual or group calls in the radio network.

Analog and digital operation with the ability to switch automatically
The RD625 repeater can be operated both in analog and in digital mode and is completely compatible with analog systems currently in use. The device can automatically change between digital and analog mode depending on the type of receiver signal, saving both time and money by eliminating the need to configure frequencies and channels manually.

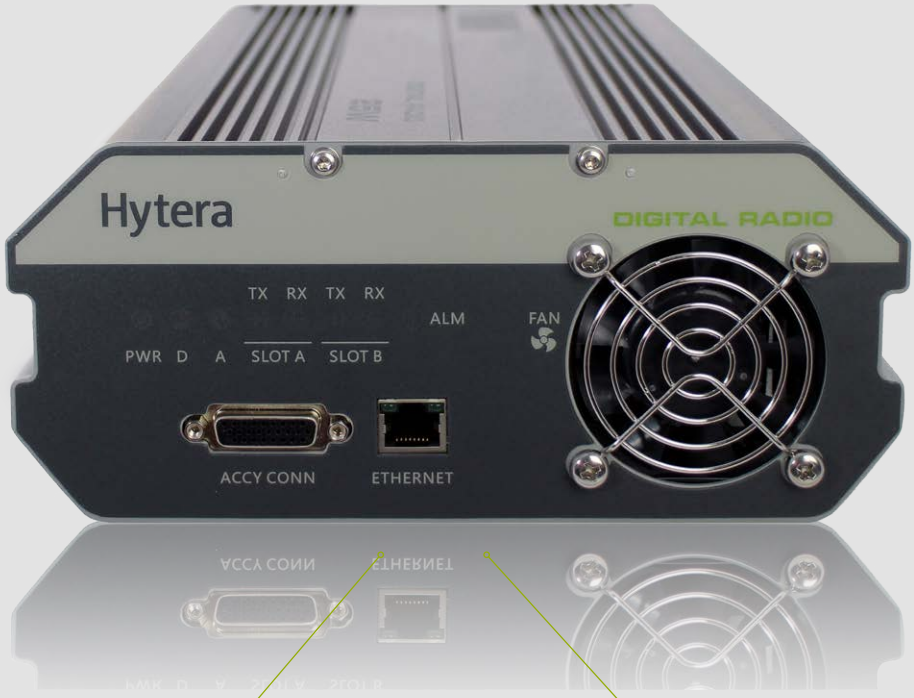
Automatic AC/DC switchover
The integrated power supply of the RD625 automatically chooses between alternating current and direct current. This makes it possible to provide a fail-safe radio signal by connecting the repeater to an independent source of direct current (UPS) in addition to the normal supply of power. If the AC supply fails, the RD625 switches to the second power supply automatically.

Encryption of the Air Interface
With air interface encryption signaling and communications data between radios and repeaters are transmitted with reliable protection.

Increased reliability with repeater redundancy
Particularly in operationally critical communications it is essential to be able to rely on the radio infrastructure. To make doubly sure, spare repeaters can be connected to the radio system to act as backup. If the main repeater fails, the spare repeater can automatically take over.

Easy installation
The RD625's well-engineered design makes wall mounting easy using the optionally available wall bracket. This makes it possible to install the repeater flexibly and conveniently in buildings.

Compact all-in-one design
The RD625 combines transmitter and receiver components, the power supply and the duplexer (optional) in its compact chassis.



Repeater diagnostics and control system (RDAC)
A PC-based application can be used to monitor, inspect and control the RD625.
The software gives access to all the repeaters available on the transport network and allows administrators to monitor the DMR radio network.

Repeater access management
To ensure a high level of security, the RD625 features a repeater access monitor that protect the radio network from unauthorized access attempts.

Accessories available (extract)


EU AC power cable PWC03


Wall bracket BRK21


DC power cable PWC06


Programming cable (USB) PC40


Back-to-Back data cable PC49


Fine-wire fuse POA15

Technical Data

General data	
Frequency range	VHF: 136 – 174 MHz UHF: 400 – 470 MHz 450 – 527 MHz
Supported operating modes	• DMR Tier II in acc. with ETSI TS 102 361-1/2/3 • Analog
Number of channels	1024
Number of zones	1
Channel spacing	12.5 / 20 / 25 kHz
Operating voltage	13.6 ± 15% V_{DC} 90 V – 264 V_{AC}
Max. power consumption (in stand by)	≤ 0.5 A at 13.6 V_{DC}
Max. power consumption (during transmission)	≤ 5.5 A at 13.6 V_{DC}
Frequency stability	±0.5 ppm
Antenna impedance	50 Ω
Dimensions (H × B × T)	210 x 348 x 108 mm
Weight	2870 g

Transmitter	
Transmitting power	1 – 25 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
Hum and noise	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
Audio distortion	≤ 3 %
Digital vocoder type	AMBE +2™

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
Audio distortion	≤ 3 %
Audio sensitivity	+1 to -3 dB
Conducted spurious emission	< -57 dBm

Environmental conditions	
Operating temperature range	-30 °C to +60 °C
Storage temperature range	-40 °C to +85 °C

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

Your Hytera partner:

Further information can be found at:
www.hytera-mobilfunk.com

Contact us if you are interested in sales, distribution or application partnership: ✉ info@hytera.de

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