



# PD505

DMR handheld radio

The new Hytera PD505 terminal series impresses with its lightweight design, functionality and high cost effectiveness. With its compact design, excellent voice quality and support of digital and analog radio, the PD505 renews your radio communications. The PD505 handheld radios are designed according to the DMR standard and meet all requirements of this open standard.



# Radio

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### Highlights

#### Improved use of the radio spectrum

Thanks to the TDMA process the PD505 allows an assignment of the available bandwidth with double channel capacity. This results in a clear relief of the increasing spectrum scarcity with the use of DMR radio systems.

#### Ergonomic design

The handheld radio PD505 offers you a high degree of user-friendliness and reliability which cannot be foregone in critical situations.

#### Individual button design

The two rotary buttons of the radio are separated by the antenna. This design prevents incorrect operations.

#### Reliability

The PD505 meets all requirements of the open ETSI standard DMR (ETSI-TS102 361-1, -2, -3) as well as MIL810-C/D/E/F/G and degree of protection IP54. The PD505 series thus offers you excellent features even under rough operating conditions.

#### Powerful battery

Compared to the analog technology using FDMA, the battery life can be improved by approx. 40 % by using TDMA.

#### Excellent voice quality

With the combined application of the narrow band codex and technologies for error correction the PD505 ensures an excellent voice quality even in loud environment and in peripheral areas of radio coverage.



## Functions (excerpt)

- Small, sleek, light  
115 x 54 x 27 mm, dual-color injection-molded housing, only 260 g.
- Lithium-ion battery with long lifespan  
In digital mode, the PD505 reaches a readiness time of at least 16 hours, at an operating cycle of 5-5-90.
- Robust and reliable  
PD505 meets all the requirements of the MIL-STD-810 C / D / E / F / G standards.
- Secure communications  
Provides Hytera encryption in digital mode and a scrambler feature in analog mode.
- Advanced signalling  
Supports different analog dialling methods, including HDC1200, 2-tone and 5-tone, lightens integration into existing analog radio fleets.
- DMR Data Service  
The data protocol used is fully compatible with the DMR standard.
- One Touch Call / Text  
Supports one-touch features like pre-programmed text messages, voice calls and supplementary features.
- Supplementary features (optional)  
PD505 can decode radio enable/disable, remote monitor, as well as priority interrupt.
- Dual Mode (analog & digital)  
Providing digital and analog operation modes, the PD505 ensures a smooth migration from analog to digital.

**Crystal-clear voice transmission**

**Ergonomic and user-friendly design**

**Compact size, light weight**

**Lightweight yet durable**



## Technical Data

General data	
Frequency range	UHF: 400 - 470 MHz VHF: 136 - 174 MHz
Channel capacity	32
Number of zones	3
Operating voltage	7.4 V
Battery	1500 mAh (lithium-ion battery)
Weight	260 g
Dimensions (H x W x D) (with standard battery, without antenna)	115 x 54 x 27 mm
Frequency stability	± 0.5 ppm
Antenna impedance	50 Ω

Receiver	
Sensitivity (analog)	0.22 µV (typical) (12 dB SINAD) 0.4 µV (20 dB SINAD) 0.22 µV (12 dB SINAD)
Sensitivity (digital)	0.22 µV / BER 5%
Adjacent channel selectivity TIA-603, ETSI	60 dB at 12.5 kHz / 70dB at 20 / 25 kHz
Spurious response rejection TIA-603, ETSI	70 dB at 12.5 / 20 / 25 kHz
Intermodulation TIA-603 ETSI	70 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 to -3 dB
Conducted spurious emission	< -57 dBm

Transmitter	
Transmitting power	VHF: 1 / 5 W UHF: 1 / 4 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): 7K6ΦFXW
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	IP54
Shock and vibration resistance	MIL-STD-810 C/D/E/F/G
Relative humidity	MIL-STD-810 C/D/E/F/G

Your Hytera partner:



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

For more information, visit: [www.hytera.de/en](http://www.hytera.de/en)

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Encryption features are optional and require a separate configuration, subject to German and European export regulations.

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