



PD705 / PD705G

DMR hand-held radios

With its compact case, degree of protection IP67, outstanding voice quality and support of digital and analogue radio, the PD705/PD705G provides your radio communication with a fresh wind. The hand-held radios PD705 and PD705G (variant with GPS) are designed based on the DMR standard.



Radio

PD705 PD705G

DMR hand-held radios



Highlights

Improved use of the radio spectrum

Thanks to the TDMA process the PD705/PD705G allows an assignment of the available bandwidth with double channel capacity. This results in a clear relief of the increasing spectrum scarcity.

Ergonomic design

The hand-held radios PD705 and PD705G (variant with GPS) from Hytera offer you a high degree of user-friendliness and reliability which cannot be foregone in critical situations. The worldwide patented industry and antenna design ensures ease of operation and remarkable GPS features.

Individual button design

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

Reliability

The PD705/PD705G meets all the requirements of the open ETSI standard DMR as well as MIL810-C/D/E/F/G and degree of protection IP67. The device series thus offers excellent features even under rough operating conditions.

Powerful battery

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

Excellent voice quality

With the combined application of the narrow band codex and technologies for error correction the PD705/705G ensures an excellent voice quality even in loud environment and in peripheral areas of radio coverage.



Functions (excerpt)

- Optionally analogue or digital operation
- Versatile voice calls
 - Individual call
 - Group call
 - Broadcast call
 - Emergency call
- Control of the radio via API
- Different analogue dialling methods
 - HDC1200, DTMF*, 2-tone and 5-tone dialling)
 - Squelch procedure/tone call CTCSS/CDCSS
- Supplementary services
 - Radio Check
 - Remote Monitor
 - Call Alert
 - Radio Disable/Enable
- Scanning
 - of analogue voice and signalling
 - of digital voice and data
 - mixed scanning of analogue and digital activities
- Automatic cell re-selection (roaming) in multi-site systems
- Analogue scrambling and digital encryption for voice and data using the Advanced Encryption Standard (AES) and ARCFour (ARC4) processes
- Upgradeable software

The features marked with * are available in future versions of the PD705/PD705G.

Innovative design

Separate control buttons

The two control buttons are separated from each other by the antenna. This facilitates easy operation, even with gloves.

Versatile services

In addition to conventional communication services, the PD705/PD705G also offers functions such as scanning, emergency calls, Man down (optional) and lone worker function*.



Integrated antenna

The integrated radio and GPS antenna provides improved comfort and remarkable GPS features.

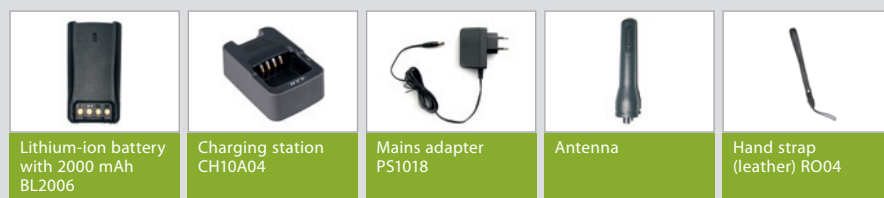
Robustness and reliability

The devices meet the requirements of MIL-STD-810 C/D/E/F/G standards and passed the HALT tests (Highly Accelerated Life Test).

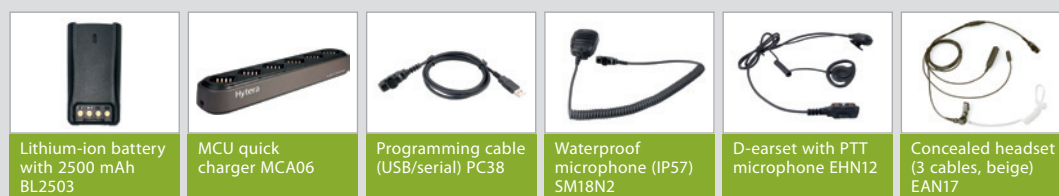
Dust-proof and waterproof

The PD705/PD705G meets the requirements of degree of protection IP67 and passed the corresponding submersion test: up to 30 minutes in a water depth of 1 meter.

Standard accessories



Optional accessories (excerpt)



The illustrations shown above are only for reference purposes. The products themselves may vary from these representations.

Technical data

General data	
Frequency ranges	UHF1: 400 – 470 MHz UHF2: 450 – 520 MHz UHF3: 350 – 400 MHz VHF: 136 – 174 MHz
Channel capacity	32
Number of zones	3 (each with max. 16 channels)
Channel spacing	12.5 / 20 / 25 kHz
Operating voltage	7,4V (nominal)
Battery	2000mAh lithium-ion battery
Battery service life (5-5-90 operating cycle, high transmitting power)	Analogue: UHF1: 13.5h / 12h (G) UHF2/UHF3: 12.5h/11h (G) VHF: 11h / 10h (G) Digital: UHF1: 15.5h/14h (G) UHF2/UHF3: 14.5h/12,5h (G) VHF: 13.5h/12h (G)
Frequency stability	± 1.5 ppm
Antenna impedance	50 Ω
Dimensions (H×W×D) (with standard battery, without antenna)	125 × 55 × 35 mm
Weight (with standard battery and antenna)	335 g

Receiver	
Sensitivity (analogue)	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 %
Blocking	TIA-603: 80 dB, ETSI: 84 dB
Adjacent channel selectivity	TIA-603: 60 dB at 12.5 kHz / 70 dB at 20 / 25 kHz ETSI: 60 dB at 12.5 kHz / 70 dB at 20 / 25 kHz
Intermodulation	TIA-603: 70 dB at 12.5 / 20 / 25 kHz ETSI: 65 dB at 12.5 / 20 / 25 kHz
Spurious response rejection	TIA-603: 70 dB at 12.5 / 20 / 25 kHz ETSI: 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
Audio distortion	≤ 3 %
Audio sensitivity	+ 1 ~ - 3 dB
Conducted spurious emission	< - 57 dBm

Transmitter	
RF transmitting power	Low output: UHF1 / UHF2 / UHF3: 1 W, VHF: 1 W High output: UHF1 / UHF2 / UHF3: 4 W, VHF: 5 W, VHF Low Power: 1 W
FM 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 limit	± 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
Capacity of the adjacent channel	60 dB at 12,5 kHz, 70 dB at 20/25 KHz
Audio sensitivity	+ 1 to -3 dB
Audio distortion	≤ 3 %
Digital vocoder type	AMBE ++ / SELP
Digital protocol	ETSI-TS102 361-1, 2 & 3

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

GPS (PD705G only)	
Time to first fix (TTFF) cold start-up	< 1 minute
Time to first fix (TTFF) warm start	< 10 seconds
Horizontal precision	< 10 meters

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

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