

PD785/PD785G

DMR handheld radio



Ergonomic product design

The PD785 and PD785G (variant with GPS) handheld radios are designed according to the DMR standard and are characterized by their ergonomic design, extensive digital functions and high quality. They make communication an exciting experience and allow you to quickly react to new situations.

Versatile services

In addition to conventional communication services, the PD785/PD785G offers extensive data services and functions, such as text messages, scanning, emergency calls, Man Down alarm (optional) and lone worker functions.

Ease of use

Large pushbuttons ensure the handheld radio is easy and convenient to use. The large TFT color display enables good readability even when light conditions are poor. More than 20 programmable keys allow quick access to the various services and functions.

Technical Data PD785/PD785G

General data	
Frequency range	VHF: 66 – 88 MHz / 136 – 174 MHz UHF: 400 – 470 MHz
Supported operating modes	<ul style="list-style-type: none"> ▪ DMR Tier II (ETSI TS 102 361-1/2/3) ▪ Simulcast ▪ XPT Digital Trunking ▪ DMR Tier III (ETSI TS 102 361-1/2/3/4) ▪ Analog, MPT 1327
Number of channels	1024
Number of zones	64 (with up to 16 channels each)
Channel spacing	12.5 / 20 / 25 kHz (analog) 12.5 kHz (digital)
Operating voltage	7.4 V (nominal)
Standard battery	2000 mAh (lithium-ion battery)
Battery service life, analog (5-5-90 duty cycle, high transmitting power, standard battery)	VHF: approx. 14.5 hours / 13 hours (GPS mode) UHF: approx. 15.5 hours / 13.5 hours (GPS mode)
Battery service life, digital (5-5-90 duty cycle, high transmitting power, standard battery)	VHF: approx. 19 hours / 16.5 hours (GPS mode) UHF: approx. 20 hours / 17 hours (GPS mode)
Frequency stability	± 0.5 ppm
Antenna impedance	50 Ω
Dimensions (H x W x D, without antenna)	125 x 55 x 35 mm
Weight (with antenna and standard battery)	355 g
LCD display	160 x 128 pixels, 65,536 colors, 1.8 inches, 4 rows
Programmable keys	5 + numerical keys

Environmental conditions	
Operating temperature range	- 30 °C bis + 60 °C
Storage temperature range	- 40 °C bis + 85 °C
ESD	IEC 61000-4-2 (Level 4), ± 8 kV (Kontakt), ± 15 kV (Luft)
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

GPS (PD785G only)	
Time to first fix (TTFF)	< 1 minute (cold start) < 10 seconds (warm start)
Horizontal accuracy	< 10 meter

Transmitter	
Transmitting power	VHF: 1 / 5 W UHF: 1 / 4 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
Nominal audio distortion	≤ 3 %
Digital vocoder type	AMBE +2™

Receiver	
Sensitivity (analog)	0.22 µV (12 dB SINAD) 0.18 µV (typical) (12 dB SINAD)
Sensitivity (digital)	0.22 µV / BER 5 %
Adjacent channel selectivity TIA-603	60 dB at 12.5 kHz / 70 dB at 20 and 25 kHz
ETSI	60 dB at 12.5 kHz / 70 dB at 20 and 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
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
Nominal 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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Encryption features are optional and have to be configured separately; they are also subject to German and European export regulations.

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