



PD795 Ex

DMR hand-held radio

The hand-held radio PD795 Ex from Hytera meets the open ETSI standard DMR and is considered to be the first IIC intrinsically safe digital hand-held radio worldwide. Compliance with the North-American standard FM-2010 as well as IEC and ATEX standards, the plastic encapsulation, the fail-safe design as well as the degree of protection IP67 guarantee intrinsically safe and reliable communication in hazardous environments, which could contain explosive gases and flammable dust.



Radio

PD795 Ex

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Highlights

Ergonomic design

The large TFT colour display provides easy readability, even under very difficult lighting situations. Large keys allow convenient and safe operation, even with gloves.

Durability

The hand-held radio PD795 Ex meets all of the requirements of the North-American standard FM-2010 as well as the IEC and ATEX standards and passed the month-long series test under simulated rough and extreme operating conditions. Furthermore, the device meets the MIL-STD-810C/D/E/F/G standard and is dust-proof and waterproof in accordance with degree of protection IP67. As a result, PD795 Ex is perfectly suited for the safe and reliable application even under potentially dangerous environmental conditions.

Fail-safe design

The use of batteries or accessory components with a lower level of protection automatically triggers an alarm so that errors of this type cannot occur.

Plastic encapsulation

The radio transceiver itself as well as the battery are encapsulated in plastic so that all internal circuits are protected and sealed against dangerous and explosive gases and dust particles.

Anti-static case

The robust and tough case discharges static electricity, thereby preventing unwanted static discharges.

High-strength LCD protective cover

The high-strength LCD protective cover is extremely scratch-resistant and would even withstand being struck by a 1-kg hammer.

Innovative battery lock

The patented lock of the battery ensures that the battery cannot fall out if the radio transceiver should be dropped onto a hard surface.

Non-slip surface design

Thanks to its non-slip surface design, the radio transceiver fits well in your hand and can be operated safely.



Functions (excerpt)

- Optionally analogue or digital operation
- Versatile voice calls: Individual call, group call, broadcast call, emergency call
- GPS functions
 - Query GPS position data
 - Send GPS location data
- Data services
 - Text messages
 - Group text messages
 - Control of the radio via API
- Different analogue dialling methods
 - HDC1200, DTMF*, 2-tone and 5-tone dialling
 - Squelch procedure/tone call CTCSS/CDCSS
- Additional services, radio check, remote monitor, call alert, radio disable/enable
- Different menu languages available (among others German, English, French, Spanish, Polish, Italian, Russian, Turkish, simplified and traditional Chinese, Korean)
- One-touch functions (incl. text messages, voice calls and supplementary services)
- 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 PD795 Ex.

Innovative design

Unique operating concept

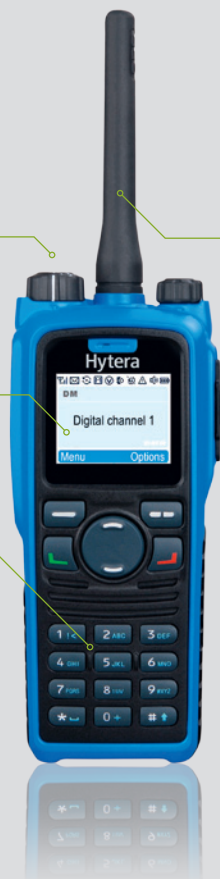
The two control buttons are separated from each other by the antenna. This facilitates easy operation, even with gloves.

Large colour display

The high-resolution, transreflective 1.8" LCD colour display provides a good readability even under very bright outside lighting conditions.

Ergonomic keypad

The robust hand-held radios have a large keypad and are easy to operate even under difficult operating conditions.



Integrated antenna

The integrated radio and GPS antenna provides remarkable transmit and receive properties.

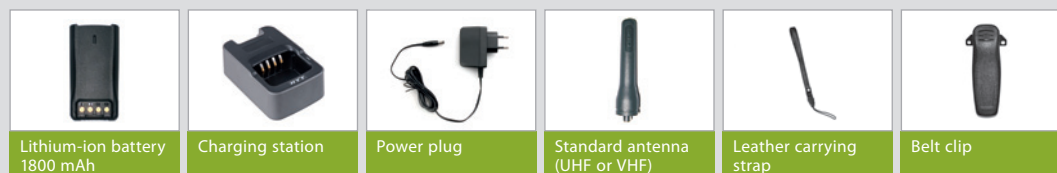
Safe design

Compliance with the standards FM-2010, IEC and ATEX, the plastic encapsulation, the anti-static case and the innovative battery lock allow the safe use of state-of-the-art DMR radio technology in potentially hazardous environments.

Dust and waterproof

The PD795 Ex 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



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

Technical data

General data	
Frequency range	VHF: 136 – 174 Mhz, UHF: 400 – 470 MHz
Channel capacity	1024
Number of zones	64 (with up to 16 channels each)
Channel spacing (analog)	12.5/20/25 kHz
Channel spacing (digital)	12.5 kHz
Operating voltage	7.4 V (nominal)
Standard battery	1800 mAh (lithium-ion battery)
Battery service life (analog) (5-5-90 duty cycle, high transmitting power, standard battery)	approx. 13 hours
Battery service life (digital) (5-5-90 duty cycle, high transmitting power, standard battery)	approx. 15 hours
Frequency stability	± 0.5 ppm
Antenna impedance	50 Ω
Dimensions (H × W × D) (with standard battery, without antenna)	141 × 55 × 39 mm
Weight (with antenna and standard battery)	495 g
LCD display	1.8 inches, 160 × 128 pixels, 65,536 colours

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	60 dB at 12.5 kHz / 70 dB at 20 / 25 kHz 60 dB at 12.5 kHz / 70 dB at 20 / 25 kHz
Intermodulation TIA-603 ETSI	70 dB at 12.5 / 20 / 25 kHz 65 dB at 12.5 / 20 / 25 kHz
Spurious response rejection TIA-603 ETSI	80 dB at 12.5 / 20 / 25 kHz 84 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 dB to -3 dB
Conducted spurious emission	< -57 dBm

Transmitter	
Transmitting power	VHF/UHF: 1 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 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	-20 °C to +50 °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	IP67
Shock and vibration resistance	MIL-STD-810 C/D/E/F/G
Relative humidity	MIL-STD-810 C/D/E/F/G
Explosion protection	Gas: II 2G Ex ib IIC T4 Dust: II 2D Ex tb IIC T120°C IP6x

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

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

Your Hytera partner:



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