

X1e

DMR handheld radio



Elegant design

The X1e handheld radio from Hytera for concealed and inconspicuous use meets the open ETSI DMR standard and presents the perfect combination of robust construction, versatile functions and sophisticated design. The most surprising aspect about this device is its small size. It is a whopping 20 mm thick!

Reliability

The X1e meets all the requirements of the open ETSI standard DMR as well as MIL810-C/D/E/F/G and protection class IP67. The device series thus offers you excellent features, even under rough operating conditions.

Secure communication

With the X1e, you can securely communicate thanks to digital encryption for voice and data using the encryption algorithm ARC4 (40 bit) in accordance with DMRA or with optional algorithms AES128 and AES256 (128 and 256 bit).

Technical Data X1e

General data	
Frequency range	VHF: 136 – 174 MHz UHF: 400 – 470 MHz
Supported operating modes	<ul style="list-style-type: none"> DMR Tier II (conventional DMR) Simulcast XPT Digital Trunking DMR Tier III (DMR trunked radio) Analog, MPT 1327 DMR Tier II according to ETSI TS 102 361-1/2/3 DMR Tier III according to ETSI TS 102 361-1/2/3/4
Number of channels	1024
Number of zones	3
Channel spacing	12.5 / 20 / 25 kHz (analog) 12.5 kHz (digital)
Operating voltage	7.4 V (nominal)
Standard battery	1400 mAh (lithium-ion battery)
Battery service life (5-5-90 duty cycle, high transmitting power, standard battery)	approx. 10 h (with 1100-mAh-Akku) approx. 12 h (with 1400-mAh-Akku) approx. 15 h (with 1800-mAh-Akku)
Frequency stability	± 1.5 ppm
Antenna impedance	50 Ω
Dimensions (H × B × T, with battery, without antenna)	119.5 × 57 × 18 mm (1100-mAh battery) 119.5 × 57 × 20 mm (1400-mAh battery) 119.5 × 57 × 23 mm (1800-mAh battery)
Weight (with antenna and battery)	approx. 220 g (1100-mAh battery) approx. 240 g (1400-mAh battery) approx. 260 g (1800-mAh battery)

Environmental conditions	
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), ± 15 kV (air)
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	
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)	0.3 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	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
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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