



# X1p

DMR handheld radio

The Hytera X1p is an ultra-thin digital radio with full keypad; it was developed in full compliance with ETSI TS 102 361-1/2/3/4, the standard for Digital Mobile Radio (DMR).



# Radio

## X1p

DMR handheld radio



### Highlights

#### Compact design

The X1p from Hytera combines compact design with extensive DMR functionality, integrated in a chassis that is only 21 mm thick. Thanks to its small dimensions, this handheld radio is perfectly suited to concealed applications. Despite its compact design, the X1p has a full keypad and four programmable keys.

#### Dust- and waterproof to IP67

The X1p is reliable even in harsh operating conditions. It is waterproof and dust-proof in accordance with degree of protection IP67, which means it is capable of withstanding a water depth of one meter for at least half an hour. The X1p also meets the requirements of the American MIL-STD-810 C/D/E/F/G standards and can therefore withstand even extreme mechanical loads.

#### Integrated GPS as standard

With the aid of the integrated GPS module the X1p can send position information to dispatcher systems, for example. Dispatchers can evaluate this information and use functions such as geofencing, radio localization and GPS tracking. The X1p can also determine and display the distance and direction to other radios with GPS support in the DMR system.

#### Supports Hytera BT headsets

Wireless audio accessories from Hytera can be connected directly to the X1p. As such the radio can be carried conveniently without having to route cables through the clothing.

#### Different digital and analog operating modes

The X1p was developed in compliance with the ETSI Digital Mobile Radio (DMR) standard. It supports both conventional DMR operation (DMR Tier II), DMR trunking (DMR Tier III) and operation in simulcast.

The X1p can also be operated in analog mode. Along with conventional analog radio it also supports analog trunking as per MPT 1327.

#### Calls to the telephone network

Provided the X1p is registered in a DMR Tier II system via a repeater, selective calls can be made from the radio directly to the telephone network via this repeater. Telephone subscribers can also call specific individual radios or also groups.

#### Upgradeable software

Upgradeable software makes new features possible. By altering the firmware-software, other digital and analog operating modes can be enabled without the need for purchasing a new radio device.





### Multiple languages

The X1p supports various menu languages. T9 support for text entry is available.

### Large color display

The X1p has a 1.8" TFT LCD display (65,536 colors) that can be clearly seen even in bright sunlight outdoors.

### Digital encryption

Encryption with encryption algorithm ARC4 (40 bit) in accordance with DMRA or with optional algorithms AES128 and AES256 (128 and 256 bit) ensures secure communication.

### Additional operating time

In comparison to an analog radio, the operating time can be significantly increased by using DMR TDMA. This means that an operating time of up to 10 hours is possible.













### Direct mode

Like all Hytera DMR radios, the X1p supports the usage of both timeslots in the direct mode. In this way two calls can be made at the same time in the same area.

### Versatile signaling

Supports various forms of analog signaling including HDC1200, DTMF, 2-tone and 5-tone.

## Versatile accessories for special tasks (extract)

					
Lithium-ion battery (1800mAh) BL1809	Concealed microphone set EAN21	Earphones with ear hook EHN20	Earphones without ear hook ESN14	Remote speaker microphone IP67 SM26N1	Remote speaker microphone IP54 SM26N2
					
Wireless headset ESW01	BT communication set EHW02	Belt charger CH04L01	Double charger CH10L15	Belt clip PCN005	Vest NCN009

The illustrations below are for reference purposes only. The products might differ from these illustrations.

## Technical Data

General data	
Frequency range	VHF: 136 - 174 Mhz UHF: 400 - 470 Mhz
Supported operating modes	<ul style="list-style-type: none"> <li>DMR Tier II in acc. with ETSI TS 102 361-1/2/3</li> <li>Simulcast</li> <li>DMR Tier III in acc. with ETSI TS 102 361-1/2/3/4</li> <li>Analog, MPT 1327</li> </ul>
Channel capacity	1024
Zone capacity	64
Channel spacing	12.5 / 20 / 25 kHz (analog) 12.5 kHz (digital)
Operating voltage	7.4 V (nominal)
Standard battery	1100 mAh (lithium-ion battery)
Battery service life (5-5-90 operating cycle, high transmitting power, standard battery)	approx. 8 hours (analog) approx. 10 hours (digital)
Frequency stability	± 1.5 ppm
Antenna impedance	50 Ω
Dimensions (H × B × T) (with standard battery, without antenna)	119.5 × 57 × 21 mm (1100 mAh lithium-ion battery) 119.5 × 57 × 26 mm (1800 mAh lithium-ion battery)
Weight (with antenna and standard battery)	approx. 240 g (1100 mAh lithium-ion battery) approx. 280 g (1800 mAh lithium-ion battery)
LCD display	160 × 128 pixels, 65,536 colors, 1.8 inch, 4 lines

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), ± 15 kV (air)
Dust and water protection	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) cold start	< 1 minute
Time to first fix (TTFF) warm start	< 10 seconds
Horizontal accuracy	< 10 meters

Your Hytera partner:



**BPG Radiocomunicazioni Srl**  
Via Nazionale, 13  
10060 Pinasca TO - Italy  
Tel. +390121800669  
commerciale@bpg.it - www.bpg.it



### Hytera Mobilfunk GmbH

**Address:** Fritz-Hahne-Strasse 7, 31848 Bad Münder, Germany  
**Tel.:** + 49 (0)5042 / 998-0 **Fax:** + 49 (0)5042 / 998-105  
**E-mail:** info@hytera.de | [www.hytera-mobilfunk.com](http://www.hytera-mobilfunk.com)

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
Hum and noise	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 at - 3 dB
Nominal audio distortion	≤ 3%
Digital vocoder type	AMBE + +

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 %
<b>Adjacent channel selectivity</b> 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
<b>Intermodulation</b> TIA-603 ETSI	70 dB at 12.5 / 20 / 25 kHz 65 dB at 12.5 / 20 / 25 kHz
<b>Spurious response rejection</b> 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 distortion	≤ 3%
Audio sensitivity	+ 1 dB at - 3 dB
Conducted spurious emission	< - 57 dBm

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



Hytera Mobilfunk GmbH reserves the right to modify the product design and the specifications. In case of a printing error, Hytera Mobilfunk GmbH does not accept any liability. All specifications subject to change without notice.

Encryption features are optional and have to be configured separately; they also are subject to German and European export regulations.

**HYT** Hytera are registered trademarks of Hytera Co. Ltd. ACCESSNET® and all derivatives are protected trademarks of Hytera Mobilfunk GmbH. © 2014 Hytera Mobilfunk GmbH. All rights reserved.