



# PT580H

TETRA hand-held radio

Full functionality and ergonomic design. With degree of protection IP67, high-resolution colour display, output rating of up to 3W, clear digital voice quality, man down function and GPS-localization the portable radio PT580H offers best TETRA communication in any situation.



# Radio

## PT580H

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### Highlights

#### Compact design and easy operation

PT580H stands out for its compact design and large keys offering an excellent handling. More over, the portable radio PT580H has a high-resolution, transreflective 1.8-inch-colour display which even under exposure to the sun features an outstanding readability.

#### Patented antenna

The integrated radio and GPS antenna provides high comfort and optimum features. Both operating buttons of PT580H are separated from each other via the antenna so that even with gloves or under bad light conditions operating errors are hardly possible.

#### Dust and waterproof

The device meets the requirements according to degree of protection IP67 with an immersion test at a water depth of 1 m for a duration of up to 30 minutes. The device meets the requirements of the MIL-STD-810 C/D/E/F/G standard and passed the HALT tests (Highly Accelerated Life Test). Thus, even under rough operating conditions it offers excellent features.

#### Versatile services

Apart from voice and data communication, additional functions can be added: GPS, encryption, voice recording etc. Moreover, the hand-held radio features a connector for expansions.

#### Prompt and seamless communication

PT580H provides quick access to the TETRA radio network and to the services. It was developed according to the regulations of the ETSI TETRA standards and is therefore compatible with infrastructures and mobile stations of several manufacturers.



The features marked by \* will be available in future versions of the PT580H. Encryption features are optional and have to be configured separately. They also are subject to German and European export regulations.

## Functions

### Operating mode

- Trunked radio mode (TMO): Communication via the TETRA radio network (semi-duplex or duplex mode)
- Direct mode (DMO): Direct communication between radios (semi-duplex)
- Support of DMO Repeater and TMO/DMO Gateway function: Extending the range of Direct Mode (DMO) communication

### Voice services

#### Group calls

- Group call
- Group call with defined priority (incl. pre-emptive priority)
- Group call with emergency priority
- Dynamic Group Number Assignment (DGNA)
- Broadcast call (TMO)
- Talking Party Identification (TPI)

#### Individual call

- Individual call semi-duplex
- Individual call duplex (TMO)
- Individual call with defined priority (incl. pre-emptive priority)
- Display of the identification of the calling party (CLIP)

#### Calls to telephone networks (PSTN/PABX) (TMO)

- PSTN/PABX individual call full duplex
- PSTN/PABX individual call half duplex
- DTMF
- Display of the identification of the calling party (CLIP)

#### Additional call serviced

- Callout

### Security services

- Authentication
- Air interface encryption (TEA1, TEA2\*, TEA3, TEA4)
- End-to-end encryption (E2EE)
- Access control with PIN/PUK Code
- TETRA Security Class 1, 2, 3 (unencrypted, static encryption, dynamic encryption)
- Key Distribution via Air Interface (OTAR)
- Enable/Disable via Air Interface
- Ambience Listening

### Safety functions for the user

- Emergency key
- Lone Worker function
- Man Down alert
- Silent alarm
- Call barring
- Key Lock
- Configuration protection/Configuration password
- TX Inhibit (TXI)

### Functions of the user interface

- 20 programmable keys for direct access to the individual functions (short keys)
- 4-ways navigation key
- Separated rotary knobs for talk groups and audio volume
- Call log: missed/answered calls, dialed numbers
- Flexible dialing (e.g. direct dialing, redialing, dialing lists etc.)
- Special microphone
  - upper microphone for semi-duplex calls
  - lower microphone for duplex calls
- Adjustable display brightness
- Many international languages already available, multiple selectable languages installed on radio terminal
- GPS location according to ETSI LIP or NMEA-protocol
  - Completely integrated single-chip GPS receiver
  - Completely programmable position updating
  - Transmission of the position data on emergency call
  - Time synchronization and calibration
- BT (optional module)
  - Wireless BT connection to several audio and PTT devices
  - Automatic search and recognition of compatible BT devices
- PEI interface
- Clock synchronization via GPS/SAT, radio network or local time
- Energy saving mode
- Automatic cell reselection without call interruption (Handover)
- Programming of multiple selectable networks (TMO, DMO)
- Programming of multiple selectable gateways PSTN/PABX
- Customizable alarm tones
- Radio User Assignment (RUA)

### Data/message services

- Short data service (SDS) – Types 1, 2, 3, 4 and TL
- Long SDS and Flash SDS
- Status message/Text message
- Notification on new messages during calls
- Packet Data (single-slot, multi-slot)



User-friendly user interface, easy menu navigation.



Two-coloured PTT, well visible.



Unique concealed compact speaker design for better audio quality.



Unique antenna design with integrated GPS antenna, Hytera patent.



Special orange-coloured emergency button.



Device interface for audio and data accessories, Plug & play with undetachable cover.



Special label field, comfortable for user marking.



## Technical Data

General data	
Frequency range	350 – 400 MHz / 380 – 430 MHz 410 – 470 MHz / 806 – 870 MHz
Dimensions (H x W x D)	127,5 x 54,5 x 35,5 mm
Weight (without battery, without antenna)	237 g
Operating voltage	7.4 V
Battery (Lithium-ion-battery)	1800 mAh (standard battery) 2500 mAh (opt. high-capacity battery)
Battery service live (Lithium-ion-battery) (5-5-90 duty cycle)	> 16 hours (standard battery) > 22 hours (opt. high-capacity battery)
LCD display	160 x 128 pixels, 65,000 colours
Call groups (TMO)	2048
Call groups (DMO)	1024
Telephone book	1000 entries
Group lists (used for scanning, scan lists)	64 (200 groups per list)

Ambient data	
Operating temperature range	-25 °C to +65 °C
Storage temperature range	-40 °C to +85 °C
Relative humidity	ETS 300 019 (95%)
Protection against dust and moisture	IEC60529 IP67
Shock and vibration resistance	MIL-STD-810 C/D/E/F/G

Radio characteristics	
Channel spacing	25 kHz
Transmitting power	maximally 3 W (settable) / max. 1,8 W at 806 – 870 MHz
Receiver class	ETSI EN 392-2 / 396-2 class A
Static receiver sensitivity	-112 dBm (typical -116 dBm)
Dynamic receiver sensitivity	-103 dBm (typical -105 dBm)

GPS	
Sensitivity	≤ -138 dBm receiving sensitivity; ≤ -154 dBm signal tracking sensitivity
Time to first fix (TTFF) cold start	< 50 seconds
Time to first fix (TTFF) warm start	< 10 seconds

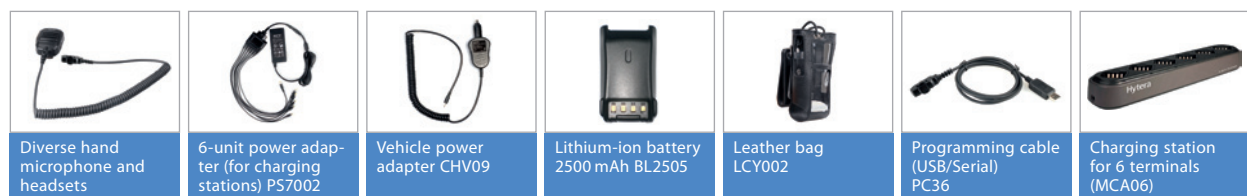
All technical indications were tested according to the corresponding standards. Subject to change on the basis of continuous development.

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

## Standard accessories



## Optional accessories (excerpt)



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SGS Certificate DE11/81829313

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Encryption features are optional and require a separate configuration, subject to German and European export regulations.

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