



# PT580H UL913

TETRA handheld radio

The PT580H UL913 is a UL913-certified, intrinsically safe handheld radio for demanding and professional operation. Even in an environment of explosive gases and flammable materials, the PT580H UL913 always offers effective voice and data communication.

The robust, ergonomic unit design and the high security standards provide you with secure TETRA communication in every environment.



# Radio

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### Highlights

#### Compact design and easy to use

The PT580H UL913 combines a compact housing with large buttons for exceptional ease of use. In addition, the handheld radio features a high-resolution, transreflective 1.8" color display. This prevents operating errors, even when wearing gloves or in poor visibility.

#### Long and safe operating time

The battery of the PT580H UL913 has a particularly high capacity which enables it to provide a very long operating time. The design of the battery ensures additional security: A special locking mechanism prevents the insertion of batteries that are not designed for the device. This, in turn, prevents the use of batteries in the PT580H UL913 that are not intrinsically safe.

#### Highest security through UL913

The handheld radio offers outstanding TETRA features under harsh operating conditions and in hazardous working environments.

The PT580H UL913 is certified in accordance with the UL913 standard with "Class I II III Division 1 Group C-G -30°C - +50 °C T4". As a result, it ensures a reliable communication in environments that could contain explosive gases and flammable materials.

#### Certified for operation in demanding environments

Class I II III	Division 1	Group C-G	-30°C - +55°C	T4
	Permitted Division 1 Gasses or vapors exist under normal conditions		Operating Temperature	
Permitted Class I Gas Vapours II Dusts III Fibers		Permitted Group C Ethyl Ether, Ethylene or Cyclopropane exist under normal conditions D Gasoline, hexane, naphtha, benzene, butane, propane E Metal Dust F Carbon Black or Coal Dust G Flour, starch, grain dusts		Temperature Class T4 135°C



Besides the UL913 standard, the device meets the requirements of the MIL-STD-810 C/D/E/F/G standard and has passed the HALT tests (Highly Accelerated Life Test).

The features marked with \* are available in future versions of the PT580h UL913.

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

## Functions (excerpt)

### Operating mode

- Trunked radio mode (TMO): Communication via the TETRA radio network (semi-duplex and duplex mode)
- Direct mode (DMO): Direct communication between the radios (semi-duplex)
- Support for DMO Repeater and TMO/DMO Gateway communication: Extended range for DMO communication

### Voice services

#### Group calls

- Group calls with defined, pre-emptive or emergency call priority
- Dynamic Group Number Assignment (DGNA), broadcast call (group, TMO), Talking Party Indication in group call

#### Individual call

- Individual call semi-duplex and duplex (TMO)
- Individual call with defined priority, emergency call priority or pre-emptive priority
- Calling Line Identification Presentation (CLIP)

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

- PSTN/PABX individual call full duplex and semi-duplex
- DTMF
- Calling Line Identification Presentation (CLIP)

#### Additional call services

- Callout

### Data / message services

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

### Security functions for the user

- Emergency button
- Lone worker function
- Position-dependent alarm and silent alarm
- Call barring and key lock
- Configuration protection / configuration password
- TX Inhibit (TXI)
- Emergency call two-way circuit/automatic microphone

### Security services

- Authentication
- Air interface encryption (TEA1, TEA2\*, TEA3, TEA4)
- End-to-end encryption (E2EE)
- Access control with PIN/PUK code
- TETRA security classes 1, 2, 3 – non-encrypted, static encryption (SCK), dynamic encryption (DCK/CCK)
- Key distribution via air interface (OTAR)
- Enable/Disable via air interface, temporary/permanent
- Ambience Listening

### Functions of the user interface

- 20 programmable keys for direct access to individual functions (short keys) and 4-ways navigation key
- Call log: missed / answered calls, dialed numbers
- Two microphones for semi-duplex and duplex calls
- Adjustable display brightness
- Many international languages already available, can be upgraded
- Adaptable menu structure
- GPS positioning based on ETSI LIP or NMEA protocol
  - Completely programmable position updates
  - Transmission of position information in case of an emergency call
  - Display of direction of motion and position of caller
- BT (optional Module)
  - Wireless BT connection to various audio and PTT devices
  - Automatic scanning and identification of compatible BT devices
- PEI interface
- Clock synchronization via GPS/SAT, radio network or local time
- Energy saving mode
- Automatic cell re-selection without call interruption (handover)
- Programming several selectable network identifications (TMO, DMO)
- Programming several selectable PSTN/PABX gateways
- Radio User Assignment (RUA)
- Java platform MIDP 2.0

### User-friendly interface

1.8" color display and large buttons

### Flexible expandability

Optional expansion with services such as GPS, encryption, voice recording, etc. Connections for a variety of accessories and expansions.

### Patented antenna design

Integrated radio and GPS antenna for high comfort and even better features. Separate control buttons.

### Extra long operating time

2400 mAh lithium-ion battery

### Developed according to ETSI TETRA standards

Compatible with infrastructures and mobile stations of different manufacturers.





## Technical Data

General data	
Frequency ranges	380 – 430 MHz* 410 – 470 MHz* / 806 – 870 MHz
Dimensions (H x W x D)	127,5 x 54,5 x 46,0 mm
Weight (with battery and antenna)	400 g
Operating voltage	7.4 V
Battery (lithium-ion battery)	2400 mAh (standard battery)
Battery service life (lithium-ion battery) (5-5-90 duty cycle)	> 20 hours (standard battery))
LCD color display	160 x 128 Pixel, 65,536 colors, 1.8 inch
Call groups – TMO	3000
Call groups – DMO	2000
Phone book	1000 entries
Number of TMO group lists	200 (200 groups per list)
Number of DMO group lists	50 (200 groups per list)

Ambient data	
Operating temperature range	-25 °C to +55 °C
Storage temperature range	-40 °C to +85 °C
Relative humidity	ETS 300 019 (95 %)
Dust and water protection	IEC60529 IP67
Shock and vibration resistance	MIL-STD-810 C/D/E/F/G
Intrinsically safe	UL913 Class I II III Division I Group C-G -30°C to 55°C T4

Radio characteristics	
Channel spacing	25 kHz
Transmitting power	up to 1 W (adjustable)
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)
Approvals	FCC, IC, CE

GPS data	
Sensitivity	≤ -144 dBm receiving sensitivity; ≤ -157 dBm signal tracking sensitivity
Time to first position recognition (TTFF) cold start	< 50 seconds
Precision	< 10 meter
Time to first position recognition (TTFF) warm start	< 10 seconds

All technical information was determined at the factory and in accordance with the corresponding standards. Subject to change on the basis of continuous development.

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

## Scope of delivery

					
Antenna (GPS integrated)	Lithium-ion battery 2400 mAh BL2212EX	Power adapter (country-specific)	Charging station CH10A04	Belt clip BC12	Hand strap RO04

## Optional accessories (excerpt)

					
Various handheld microphones and headsets	6-unit power supply (for charging stations) PS7002	Vehicle power adapter CHV09	Leather case LCY002	Programming cable (USB to serial) PC36	Charging station for 6 terminals (MCA06)

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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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