

PREMIUM  
ALPINE  
PERFORMANCE



# MANUAL

08/2019

Firmware v.1.1

## PIEPS PRO BT/POWDER BT

ENGLISH



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# 1. INTRODUCTION

## Thank you for purchasing a PIEPS beacon!

Register your PIEPS beacon in the PIEPS APP (iOS, Android) or at [my.pieps.com](http://my.pieps.com) and get:

- A warranty extension free of charge
- Important information about software updates

Your PIEPS beacon includes all tried and tested PIEPS features:

- 3 antenna technology
- Big, circular receiving range for a quick and stable signal detection
- Perfect signal processing, even in difficult situations (multiple burials)
- Mark function
- Comprehensive self-check
- Easy to use group check
- PIEPS interference protection
- Auto search-to-send
- iPROBE support
- Device management via PIEPS APP

The PIEPS PRO BT provides additional functionality for maximum support in professional use, like SCAN function, Analog mode, Victim selection and Group check Pro-mode.

**An avalanche beacon does not protect against avalanches!** Detailed knowledge of avalanche prevention is as indispensable as regularly practicing victim searches in an emergency. The following procedures and tips relate only to special usage in conjunction with the PIEPS beacon. The basic line of action in an emergency – as explained in specialist publications and material from avalanche courses – must be followed.

With the PIEPS beacon you have a product that is state of the art in terms of safety and user-friendliness. Despite this, the PIEPS beacon can pose risks if used inappropriately or incorrectly. We refer to possible hazards in chapter 2 and with safety notes placed throughout the operating manual.

This operating manual is intended to ensure the safe use of the PIEPS beacon. The safety instructions in this document must be followed at all times. Before you use the PIEPS beacon, you must have read and understand this operating manual.

Pieps GmbH is not liable for technical or printing errors in this operating manual, neither is any liability accepted for damage caused directly or indirectly by the delivery, performance or use of this operating manual.

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## 1.1 MARKINGS

In accordance with applicable regulations, the following marks may be found on the PIEPS beacon or/and on the packaging:



CE mark of conformity: indicating the fulfillment of the following standards: EMV 2014/30/EU, RED 2014/53/EU, RoHS 2011/65/EU.



Dustbin symbol: advising users to dispose of waste electrical and electronic equipment separately from unsorted municipal waste.

FCC ID

FCC ID: indicating the compliance with Part 15 of the FCC Rules.

IC ID

IC ID: indicating the compliance with Industry Canada's licence-exempt RSS standard(s).



Bluetooth® logo: The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by Pieps GmbH is under license. Other trademarks and trade names are those of their respective owners.

SN

12 digit serial number: identifying the device and is used for device registration. The first 4 digits indicate year and week of manufacturing.



Recycling symbol.



Battery symbol: indicating battery type and correct position.



Instruction pictogram: advising users to read the instructions and warnings.

**PIEPS**

PIEPS brand name.



PIEPS logo.

PRO BT

Example of the model name.

## 1.2 LIABILITY

The information contained in this operating manual describes but does not guarantee the features of the product.

No liability is accepted for damage caused by:

- improper use,
- failure to follow the operating manual,
- unauthorized modifications of the PIEPS beacon,
- improper work on and with the PIEPS beacon,
- continuing to use the PIEPS beacon despite evidence of wear and tear,
- unauthorized, improperly carried out repairs,
- emergencies, external influences or force majeure.

### NOTICE

*Alterations or modifications not explicitly approved by the manufacturer will result in you no longer being allowed to use the device.*

## 1.3 WARRANTY CONDITIONS

The manufacturer provides a 2-year warranty covering manufacturing and material defects of the PIEPS beacon from the date of purchase. Exceptions are the battery, carrying system, hand-loop and bag as well as any damage caused by improper use or dismantling of the device by unauthorized persons. Any other warranties and liability for consequential damage are expressly excluded. For warranty claims, please take proof of purchase and a description of the fault to the point of sale.

## 1.4 MANUFACTURER ADDRESS & SUPPORT

Pieps GmbH, Parkring 4, 8403 Lebring, Austria

For technical problems, please contact the support: [support@pieps.com](mailto:support@pieps.com)

## 1.5 INTENDED USE

The PIEPS beacon serves as an avalanche victim search device (avalanche transceiver) for the localization of buried persons and must only be used as intended. Any other use requires the written consent of Pieps GmbH. Improper use can put individuals at risk and result in the device being damaged. The PIEPS beacon is not an automatically functioning device with partly automated functionalities – for this reason, the PIEPS beacon may only be commissioned after having read and understood the documentation. Failure to use the device as intended will result in all liability and warranty claims being rejected. The PIEPS beacon is to be operated only under the conditions of use described in the documentation.

## 1.6 TARGET GROUP AND PREVIOUS KNOWLEDGE

An avalanche beacon should be part of the avalanche emergency equipment of everyone who ventures off from the secured piste into open, unsecured terrain (e.g. ski touring, freeriding, mountain rescue operations, etc.).

Users of the PIEPS beacon must meet the following conditions:

- Read and understand this operating manual.
- Users with impaired vision must ensure that they can read the labelling and displays on the device as well as the instructions in the documentation without problem.
- If users with impaired hearing are unable to hear the acoustic signal, they must ensure that they can correctly interpret the display indications in accordance with the instructions in the operating manual.
- Regular training ensures safe and efficient use of the PIEPS beacon.

## 1.7 ESSENTIALS

The PIEPS beacon meets the current state of technology and the applicable health and safety regulations.

However, incorrect operation or misuse can give rise to hazards for:

- the life and health of the users or third parties,
- the PIEPS beacon and property of the user,
- the efficient use of the PIEPS beacon.

## 1.8 TECHNICAL SPECIFICATIONS

<b>Name</b>	PIEPS PRO BT/POWDER BT
<b>Transmission frequency</b>	457 kHz
<b>Field strength</b>	max. 7 dB $\mu$ A/m (2,23 $\mu$ A/m) at a distance of 10 m
<b>Power supply</b>	3x Alkaline (AAA) LR03 1.5 V or 3x Lithium (AAA) FR03 1.5V
<b>Battery lifetime</b>	400/200 h (Alkaline) 600/300 h (Lithium)
<b>Maximum range</b>	60 m
<b>Search strip width</b>	60 m
<b>Dimensions (LxWxH)</b>	118 x 76 x 29 mm
<b>Weight</b>	230/220 g (incl. battery)
<b>Temperature range</b>	-20°C to +45°C (-4°F to +113°F)
<b>Storage temperature range</b>	-25° C to +70° C (-13° F to +158° F)

## 2. SAFETY

This operating manual is structured in accordance with the applicable EU regulations and contains safety instructions. Each individual is personally responsible for complying with the safety instructions. This chapter contains all safety-related information.

Should anything be unclear or difficult to understand, please contact our support team.

### 2.1 SIGNAL WORDS USED IN THE SAFETY INSTRUCTIONS

- ⚠ DANGER** *Imminent threat to the life of individuals*  
A safety instruction with the signal word **DANGER** indicates an imminent threat to the life and health of individuals!
- ⚠ WARNING** *Risk of personal injury (serious injuries) and possible material damage*  
A safety instruction with the signal word **WARNING** indicates a dangerous situation which could affect the health of individuals.
- ⚠ CAUTION** *Risk of material damage and possible minor risk of injury*  
A safety instruction with the signal word **CAUTION** indicates a possibly dangerous situation which could primarily result in material damage.
- NOTICE** *This symbol with the text **NOTICE** indicates supporting information.*

### 2.2 GENERAL SAFETY RULES AND OBLIGATIONS

The following safety rules and obligations apply in general for using the PIEPS beacon:

- The PIEPS beacon must only be used in perfect condition.
- It is forbidden to change the PIEPS beacon without the written permission of Pieps GmbH.
- Do not attempt to repair damage or malfunctions without authorization. Instead, contact our support, who will tell how to proceed. The PIEPS beacon must not be used until the damage/malfunction has been repaired.
- The safety and operating instructions in the operating manual must be followed at all times.

## 2.3 RESIDUAL RISKS | WARNINGS

Even though the PIEPS beacon has been designed with maximum care and all safety-related facts have been taken into consideration, residual risks may exist and must be evaluated by means of a risk assessment. All residual risks and warnings from the risk assessment are listed in this chapter.

- ⚠ DANGER**     ***Risk of device loss due to incorrect carrying.***  
*Always carry the device in the included carrying system or an approved apparel pocket! Always leave the device cord-secured!*
- ⚠ DANGER**     ***Risk of a not transmitting device due to enabled Bluetooth***  
*The Bluetooth mode is supposed for device management and training mode only! Never use the Bluetooth mode in avalanche terrain!*
- ⚠ DANGER**     ***Risk of device loss during slope angle measurement***  
*Although the PIEPS PRO BT keeps transmitting while the inclinometer is active, the function should only be used for training reasons. Never use the inclinometer function in avalanche terrain!*
- ⚠ DANGER**     ***Risk of battery explosion due to improper battery types or damaged batteries.***  
***Risk of incorrect battery capacity reading due to improper battery types.***  
*Only use batteries of type "Alkaline (AAA) LR03 1.5 V or 3x Lithium (AAA) FR03 1.5V"! The use of Lithium batteries must be confirmed in the PIEPS APP!*
- ⚠ WARNING**     ***Risk of hearing damage due to the high noise level***  
*Never hold the device directly next to your ear! A minimum distance of 50 cm is recommended.*
- ⚠ CAUTION**     ***Risk of crushing***  
*Be aware of a crushing risk when using the sliders!*
- ⚠ CAUTION**     ***Risk of device malfunction or damage due to extreme temperatures***  
*Do not expose the device to extreme temperatures outside of the operating limits! Store the device protected from direct sunlight! Extreme temperatures can result in malfunction or damage.*
- ⚠ CAUTION**     ***Risk of damages due to inefficient packaging at transport.***  
*It is recommended to keep the packaging after unpacking and keep it to use it in case of warranty issues.*
- NOTICE**         *The user must read the operating manual!*

### 3. PACKAGING

- 1x PIEPS PRO BT/POWDER BT
- 3x Alkaline battery (in battery compartment)
- 1x PIEPS PRO BT/POWDER BT carrying system
- 1x PIEPS hand loop
- 1x Quick Start Guide
- 1x PIEPS-Sticker

Check that the contents are complete and undamaged after unpacking. If necessary, contact your point of sale or our support team. A correct disposal of the packaging is an environmentally friendly manner (paper to paper, plastic to plastic, etc.).

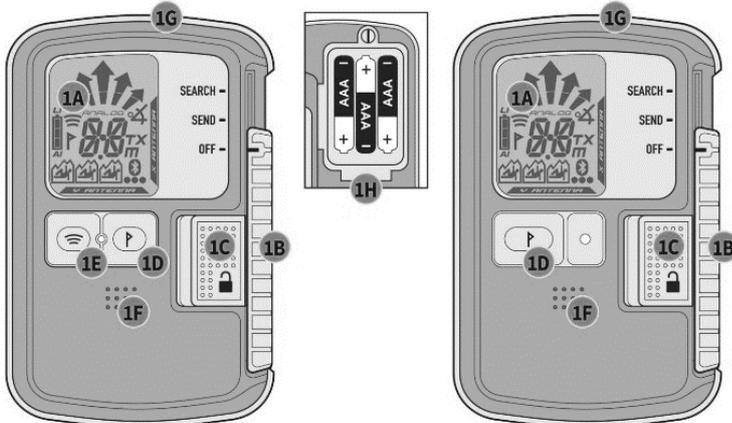
**⚠ CAUTION** *Risk of damages due to inefficient packaging at transport.*  
*It is recommended to keep the packaging after unpacking and keep it to use it in case of warranty issues.*

### 4. GENERAL DESCRIPTION

#### 4.1 STRUCTURE

PIEPS PRO BT

PIEPS POWDER BT



- (1A) LCD display (backlight)
- (1B) Slider OFF/SEND/SEARCH
- (1C) Slider lock
- (1D) Button MARK
- (1E) Button SCAN\*
- (1F) Speaker
- (1G) Transmit control LED
- (1H) Battery compartment



- (2A) Direction indication
  - (2B) Distance indication
  - (2C) Transmit symbol
  - (2D) Battery capacity/type
  - (2E) MARK (marking possible)
  - (2F) Active transmitting antenna
  - (2G) Number of burials (1-3)
  - (2H) Number of burials (4 or more)
  - (2J) Transmitter marked
  - (2K) Bluetooth active
  - (2L) Inclinometer mode\*
  - (2M) TX600 mode\*
  - (2N) SCAN mode\*
  - (2P) Analog mode\*
  - (2Q) Meter symbol for SCAN /analog mode\*
- \* PIEPS PRO BT only

## 4.2 CARRYING SYSTEM

PIEPS recommends using the included carrying system (3A) or an approved apparel pocket. In order to protect the beacon's display, carry the beacon with its display facing inwards (3B). The transmit control LED (1G) is visible in the pouch's window (3C).



The included hand loop is intended to be used for training sessions.

### **⚠ DANGER**

***Risk of device loss due to incorrect carrying.***

*Always carry the device in the included carrying system or an approved apparel pocket!*

*Always leave the device cord-secured!*

## 4.3 SWITCHING ON | SELF-CHECK | SEND MODE

Switching on: Move the slider lock (1C) to the left and the slider (1B) upwards into the position SEARCH. Then release the slider lock (1C) and move the slider (1B) downwards, until it locks in the position SEND.

The display shows firmware version, battery capacity, self-check progress (4A), self-check result (4B), group check countdown (4C) and finally the send display with the active transmitting antenna (4D).

The device is now in send mode, the transmit control LED (1G) is blinking.

### **NOTICE**

*A minimum distance of 5 m from other devices and all electronic, magnetic and metallic sources of interference should be kept during the self-check.*

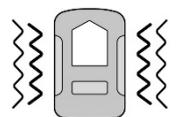
If the self-check is successful, "OK" is indicated on the display (4B). In the event of a device warning, an alert signal sounds and the display indicates "E" in combination with a number (4E). For error codes, see [chapter 6.1](#).

Firmware version Battery capacity/type (AL=Alkaline, LI=Lithium)	Self-check OK	Group check countdown	SEND display	Self-check error

### **Send-Vibra**

Additionally, the PIEPS PRO BT provides haptic send mode confirmation (10x vibration).

This feature is enabled by default and can be disabled in the PIEPS APP device manager.



**Send ⇒ Search**

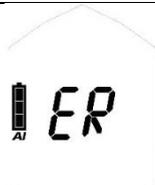
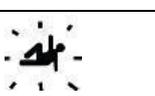
Move the slider lock (1C) to the left and the slider (1B) upwards in the position SEARCH.

**Search ⇒ Send**

Move the slider (1B) downwards, until it locks in the position SEND.

**4.4 GROUP CHECK**

Despite a comprehensive self-check, a beacon check (transmit check and receive check) is obligatory prior to every tour! The PIEPS beacon provides the group check function. At the group check it is checked easy and efficient if the beacon of the partner is transmitting and if the transmitting parameters are according to the standard. In group check mode the receiving range is limited to 1 m.

	<b>Group Check Regular</b> PIEPS PRO BT/POWDER BT Check: signal, frequency		<b>Group Check Extended</b> PIEPS PRO BT Check: signal, frequency, pulse, period	
<b>Start</b>	1. Switch on your PIEPS beacon. 2. Wait till the group check (CH) symbol is indicated on the display. 3. Press and hold the button MARK during the group check countdown (CH). The group check mode is active, as long the button MARK is pressed.		1. Switch on your PIEPS beacon. 2. Wait till the group check (CH) symbol is indicated on the display. 3. Press and hold the button SCAN during the group check countdown (CH). The group check mode is active, as long the button SCAN is pressed.	
<b>Results</b>		Device not transmitting or distance too big (> 1 m)		Device not transmitting or distance too big (> 1 m)
		Distance reading: device transmitting and frequency according to standard		Distance reading: device transmitting and frequency according to standard
		Device transmitting but frequency not according to standard		Device transmitting but frequency not according to standard
				More than one signals within 1 m range => increase distance
		Continuous wave indication   old-device-indication (see <u>chapter Error! Reference source not found.</u> )		
<b>End</b>	Release the button MARK/SCAN to end the group check mode. During the 3 seconds countdown the group check mode can be activated again.			

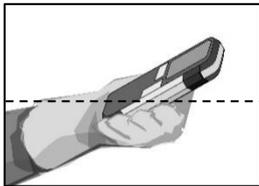
The Regular group check is sufficient for checking modern, digital devices with 3 antennas.

The Extended group check is recommended for checking old devices (analog single-antenna devices).

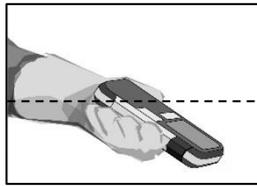
### Group check Pro-Mode

The PIEPS PRO BT additionally provides a pro-mode. The pro-mode allows a transmit check as well as a receive check without exiting the group check mode. By default, it is disabled and can be enabled in the PIEPS APP device manager.

- Tip the PIEPS PRO BT downwards to transmit in group check mode
- Tip the PIEPS PRO BT upwards to receive in group check mode



Pro-Mode SEARCH



Pro-Mode SEND

The “Pro-mode” is deactivated by default. The required mode can be selected in the PIEPS APP

### The full avalanche beacon check with pro-mode

(1) Receive check

Group leader => pro-mode SEND: device transmitting?

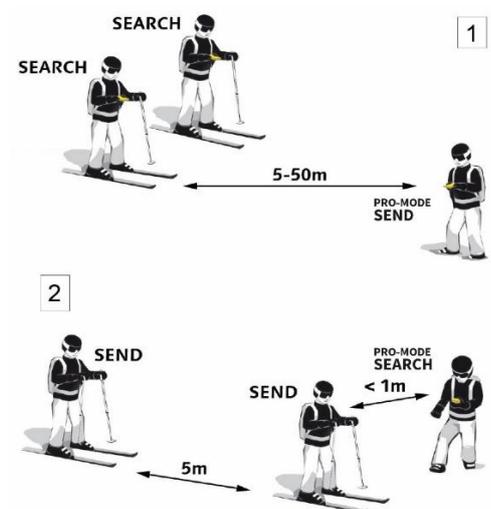
All others => search mode: devices receiving?

(2) Transmit check

Group leader => pro-mode SEARCH: device receiving?

All others => send mode: devices transmitting?

**NOTICE** *The receive check can be combined with a range test by choosing a large distance (50 m).*



## 4.5 HELPFUL PIEPS BACKGROUND FEATURES

Maximum background support in send mode and search mode!

Maximum background support in send mode and search mode!

### 4.5.1 PIEPS interference protection

- **PIEPS Auto-Antenna-Switch | protection in send mode**

If the transmitting antenna is impacted by external interference, the other antenna would take over the transmit function. The PIEPS PRO BT/POWDER BT always transmits with the strongest possible signal!

- **PIEPS Signal Verification | protection in search mode**

Only a verified 457kHz signal is indicated. The PIEPS PRO BT/POWDER BT doesn't confuse with ghost signal indication!

#### External interference and distance recommendations

All beacons are very sensitive to electrical and magnetic sources of interference. Due to this, all manufacturers recommend keeping a minimum distance from electronic, magnetic and metallic sources of interference (mobile phone, radio, keys, magnetic closures, etc.):

**Minimum distance in send mode: 20 cm | Minimum distance in search mode: 50 cm**

### 4.5.2 PIEPS iPROBE-Support

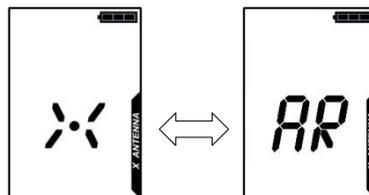
Beacons with iPROBE-support\* get automatically deactivated when probing with the electronic probe PIEPS iPROBE. This prevents signal overlaps and the next-strongest signal is automatically shown on the display of the receiving beacon. Maximum support in multiple burials!

*\* Beacons with iPROBE-Support: PIEPS PRO BT/POWDER BT, PIEPS MICRO, PIEPS DSP PRO/SPORT/PRO ICE, PIEPS DSP STANDARD/TOUR ≥ v5.0, PIEPS FREERIDE, BLACK DIAMOND GUIDE/RECON.*

### 4.5.3 Secondary avalanche | Auto-Search-to-Send

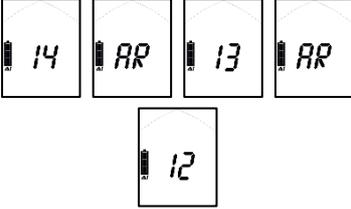
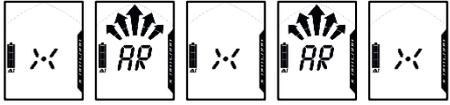
The PIEPS beacon provides the feature Auto-Search-to-Send. By default, it is disabled and can be enabled in the PIEPS APP device manager. Once enabled, the device switches from search mode to send mode automatically after a certain time without motion (burial).

An activated AR function is shown clearly on the display: the transmitting symbol alternates with AR.



The AR-function provides the following characteristics:

- Motion-controlled initialization
- Short switching timeout
- Long warning phase with alert and countdown prior to switching
- Continued alert, also after switching

Beacon function	SEARCH	WARNING	SEND
Display indication	Search display		
Sound	Search sound		
Manual abort		Turn device or press MARK button	Turn device off or into send mode
		<b>START WARNING</b>	<b>SWITCHING TO SEND</b>
Setting 1 (60 s)		0:30 min	1:00 min
Setting 2 (90 s)		1:00 min	1:30 min
Setting 3 (120 s)		1:30 min	2:00 min

To switch the PIEPS PRO BT/POWDER BT back into search-mode:

Move the slider (1B) downwards, until it locks in the position SEND.

Move the slider lock (1C) to the left and the slider (1B) upwards in the position SEARCH.

## 4.6 SEARCH MODE | SEARCH STRATEGY

### 4.6.1 In case of emergency

A buried person has the greatest chance of being rescued by an efficient companion rescue. In the event of an accident, the following applies: KEEP CALM, OBSERVE, ALERT, ACT WITH COORDINATION!

#### (1) Keep calm & get an overview

- Are there any other risks?
- How many victims?
- Determine the primary search area!

#### (2) Make a brief emergency call

- EU 112, AT 140, CH 1414, IT 118, FR 15, NA 911

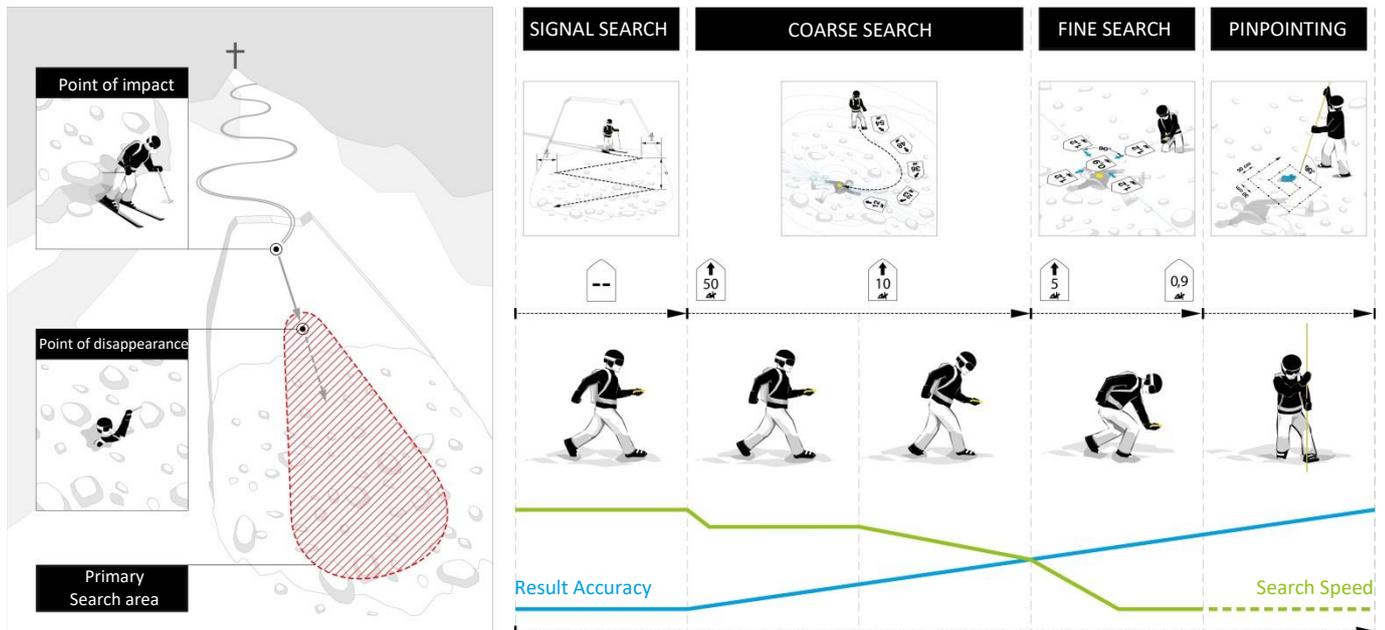
#### (3) Burial search

- Signal search (eyes + ears, beacon)
- Coarse search (starting with initial signal)
- Fine search (closer than 5 m on the surface)
- Pinpointing (systematic probing)

#### (4) Systematic digging

#### (5) First Aid

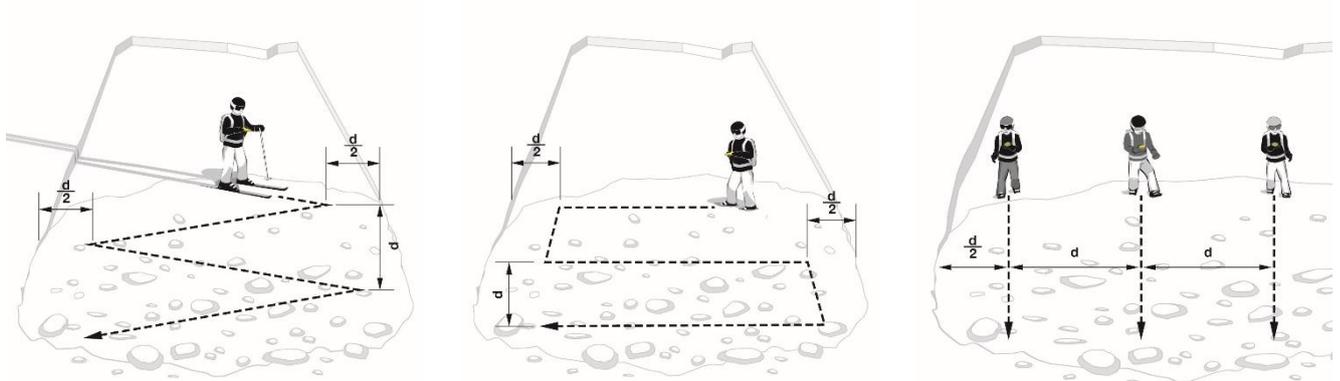
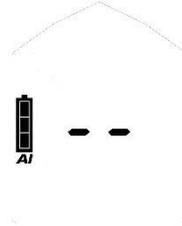
#### (6) Rescue



## 4.6.2 Signal search

Start searching in the primary search area for the initial signal detection as well as for visual/acoustic signals. The PIEPS beacon has a circular receiving range that allows a correct indication of direction and distance from the point of initial signal detection – a specific method such as turning/rotating is not necessary. All signals of the burials that are within the maximum receiving range are received simultaneously.

Walk the search strip width in the search area quickly. The recommended search strip width for the PIEPS beacon is 60 m. The display shows “no signal”.



One rescuer with skis  
for signal search  
d = search strip width

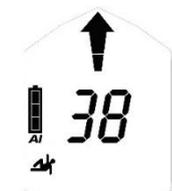
One rescuer by foot  
for signal search

More rescuers  
for signal search

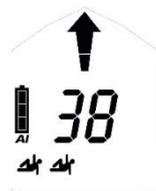
### NOTICE

*All participants, observers included, must switch their devices to search mode (or to standby mode)! Also follow the external interference distance recommendations!*

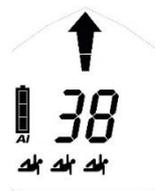
As soon as signals are received, the distance and direction to the strongest signal are shown on the display. The number of victims located within the receiving range is indicated by the number of human figures.



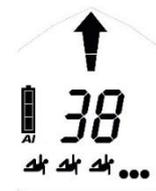
one



two



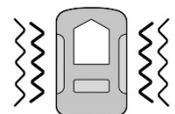
three



four or more

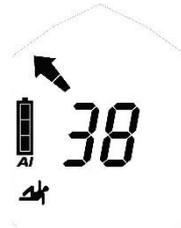
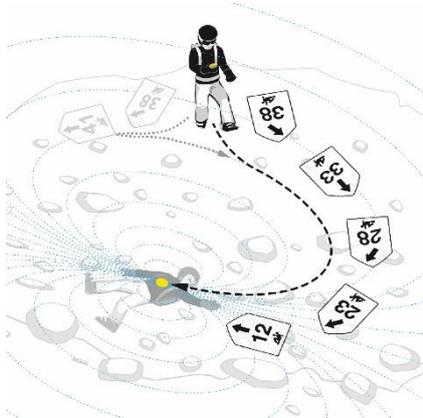
### Vibra on initial signal detection

The PIEPS PRO BT provides additional haptic support by vibration on initial signal detection. This lets rescuers focus on the visual surface search during the signal search.

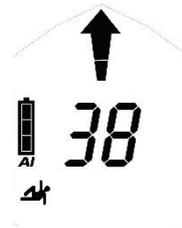


### 4.6.3 Coarse search

Follow the directional arrow quickly and check for a decreasing distance reading. Change the search direction by 180° in case of an increasing distance reading.



Turn left



Move straight ahead



Turn right

#### NOTICE

*Work calmly and with concentration in search mode. Avoid hasty movements!*

### 4.6.4 Fine search

From a distance of 5 m, the search speed should be notably reduced (50 cm/s). At the same time, start working close to the surface of the snow. To prevent confusion during the fine search, the direction indication disappears below a distance of 2 m. Reduce the search speed again and find, by cross-like movements, the position of the lowest distance reading. A dynamic acoustic signal output supports the fine search: the closer the higher/faster.



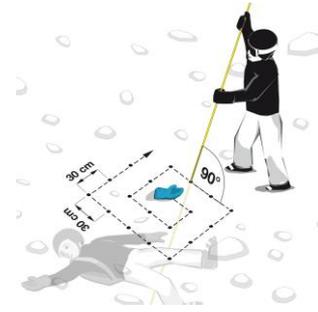
Do an accurate direction adjustment before the direction arrow disappears! You are then moving to the transmitting beacon in best coupling position and save time during the cross-like movements.



Move your beacon at a slow, steady speed of about 10 cm/s, keep it leveled close to the surface and do not rotate your device. Search along the Y axis, determine the lowest distance value, then follow along the X axis. Always move past the point of the lowest distance to verify the distance tendency. Mark the point of the lowest distance reading and start pinpointing.

#### 4.6.5 Pinpointing

Begin at the point of the lowest distance indicated. Always probe perpendicular to the surface. Use your lower hand as a “probe guide” to ensure the probe follows a steady path. Follow a proven system until you have a hit. Communicate a hit clearly to companions. Leave the probe stuck for shoveling guidance.

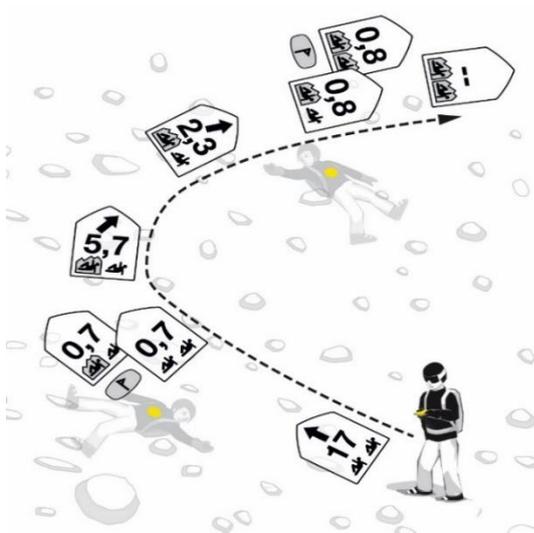


#### NOTICE

*The PIEPS iPROBE supports perfectly through an optical and acoustic hit indication within 50cm to the burial.*

#### 4.6.6 Multiple burials | MARK function

A multiple burial is indicated clearly on the display by the number of small human figures (2G, 2H). Marking is possible from a distance reading of 5 m and is indicated by the MARK symbol (2E). Press the button MARK (1D) briefly to “hide” the localized transmitter. A successful flagging is confirmed by a frame around the human figure (2J). The display then indicates the direction/distance to the next strongest signal inside the receiving range. If there are no further signals within the receiving range the display indicates “no signal”.



prior to marking



after marking

De-mark a single signal: press the button MARK (1D) for 3 seconds.

De-mark all: switch to send mode and then back to search mode. With the PIEPS PRO BT you can also use the SCAN function for a full reset.

#### Continuous wave indication | old-device-indication

Old analog transceivers are transmitting a continuous wave in addition to the pulse signal. To keep an impact at a minimum, it is recommended to step a few meters away after marking such a transmitter.



Signal without continuous wave



Signal with continuous wave

The PIEPS beacon identifies a continuous wave and supports visually by flashing human figures.



## 4.7 PIEPS PRO BT ADDITIONAL FEATURES

### 4.7.1 Vibra support

Send-Vibra: see [chapter 4.3](#).

Vibra on initial signal detection: see [chapter 4.6.2](#).

### 4.7.2 Extended group check & pro-mode

See [chapter 4.4](#).

### 4.7.3 Mark range settings

In the PIEPS APP device manager the mark range can be changed from 5 m (default) to 20 m or to max. range.

### 4.7.4 Inclinometer

You can use the integrated three dimensional inclinometer to quickly check the gradient:

- Put your ski pole in slope line at that point of the slope you want to measure.
- Press the button SCAN (1E) for 3 seconds while in send mode.
- Put your PIEPS PRO BT next to the ski pole and read the indicated value. The display switches back to send mode indication automatically after 20 seconds.



#### **⚠ DANGER** Risk of device loss during slope angle measurement

*Although the PIEPS PRO BT keeps transmitting while the inclinometer is active, the function should only be used for training reasons. Never use the inclinometer function in avalanche terrain!*

### 4.7.5 SCAN & victim selection

Two SCAN modes are available:

The Regular SCAN provides a rough overview about the burial situation by indicating the number of victims within certain distance ranges. This is the default setting. The Detailed SCAN shows direction and distance for each victim and allows selecting a victim. The setting can be changed in the PIEPS APP device manager.

#### **Regular SCAN**

Press the button SCAN (1E) while in search mode.

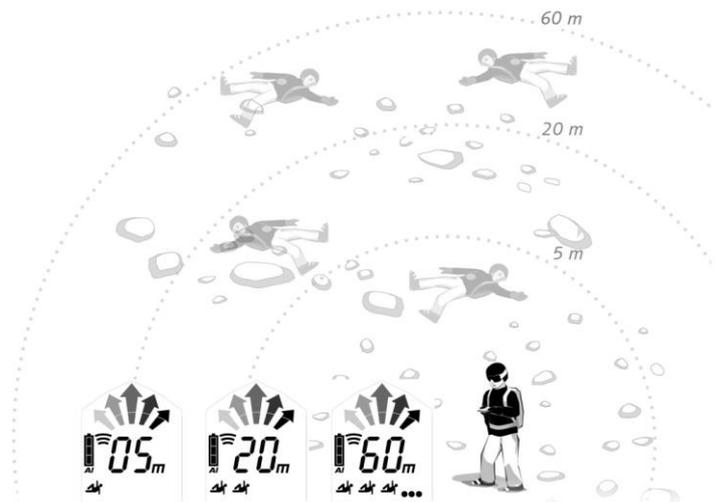
The PIEPS PRO BT scans the entire receiving range and displays an overview. During the scan, don't move and hold the device steady.

reading 1: total number of victims within 5 m

reading 2: total number of victims within 20 m

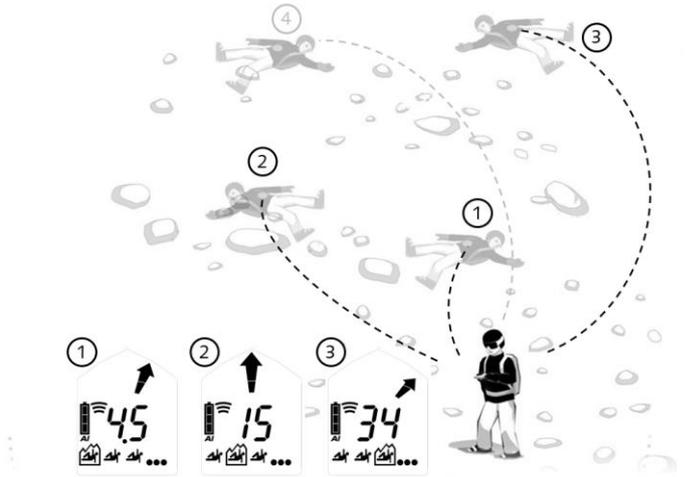
reading 3: total number of victims within 60 m

The SCAN mode ends automatically but can also be interrupted by another SCAN button press.



**Detailed SCAN & victim selection**

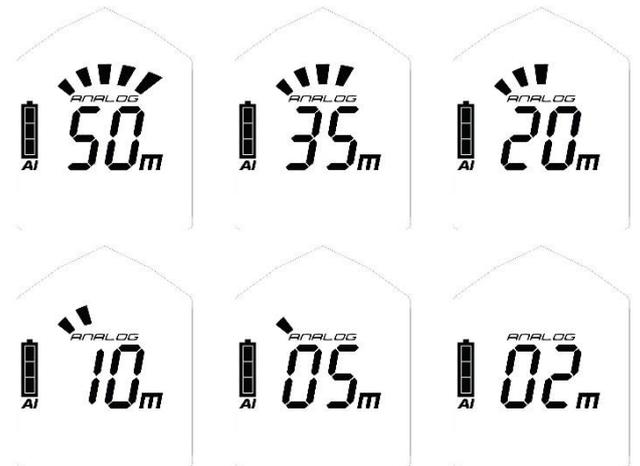
Press the button SCAN (1E) while in search mode. The PIEPS PRO BT scans the entire receiving range and ends with indicating the direction and distance to the first victim. Use MARK (1D) to scroll through the closest 3 victims. The selected one is encircled (2J) – follow the direction/distance reading to approach it. The MARK function is not available in this mode. Press SCAN to exit the Detailed SCAN mode and to return to regular search mode.



**4.7.6 Analog mode**

The analog mode can be used for specific search strategies as well as for demo reasons (coupling positions). Disabled by default, the feature can be enabled in the PIEPS APP device manager.

Press the button SCAN (1E) for 3 seconds while in search mode. The analog mode starts with biggest range. Use SCAN to reduce range. Use MARK to increase range. Press SCAN for 3 seconds to exit the analog mode and to return to regular search mode.



**4.7.7 TX600 mode**

The TX600 mode allows detecting the PIEPS TX600 – this is a mini transmitter for dogs/equipment that works with 456 kHz.

**Start TX600 mode:** Press the buttons MARK (1D) and SCAN (1E) simultaneously for 3 seconds while in search mode. You see a “TX” indicated on the display (2M). Follow the search phases as usual but use a reduced search strip width of 20 m. MARK can also be used as usual, SCAN and analog mode is not available in TX mode.

**Exit TX600 mode:** Press MARK and SCAN simultaneously again for 3 seconds. Alternatively, switch to send mode and then back to search mode. The “TX” indication disappears and the PIEPS PRO BT is receiving 457 kHz signals again.



**NOTICE**            *The recommended search strip width in TX600 mode is 20 m.*

## 5. DEVICE MANAGEMENT WITH THE PIEPS APP

Bluetooth and the PIEPS APP allow a straightforward device management (e.g. software update, device configuration) and additionally provide a handy training mode.

Get the PIEPS APP (Android Play Store, iOS App Store), connect your PIEPS beacon and take advantage of all features!

**NOTICE** *If the PIEPS APP is already installed, be aware to use the latest version*

To activate Bluetooth (2A), press the button MARK (1A) while switching on the beacon. As soon as the Bluetooth symbol is shown on the display, the MARK button can be released.

PIEPS PRO BT: The Bluetooth-mode is confirmed with an acoustic (2x Pieps-tone) and haptic (2x Vibra) signal.

PIEPS POWDER BT: The Bluetooth-mode is confirmed with an acoustic (2x Pieps-tone) signal.

To enable Bluetooth, press the button MARK (1A) while switching on the beacon.



Bluetooth enabled



Connection to mobile device established

**⚠ DANGER** *Risk of a not transmitting device due to enabled Bluetooth*

*The Bluetooth mode is supposed for device management and training mode only. Never use the Bluetooth mode in avalanche terrain!*

In the PIEPS APP the following settings can be made:

Feature	PIEPS POWDER BT	PIEPS PRO BT
Admin Lock	✓	✓
Battery type (Alkaline/Lithium)	✓	✓
Auto-Search-to-Send Timeout (60 s/90 s/120 s)	✓	✓
Group check ON/OFF	✓	✓
Group check pro-mode ON/OFF		✓
Send-Vibra ON/OFF		✓
Analog mode ON/OFF		✓
Scan mode (regular/detailed)		✓
Mark range (5 m/20 m/MaxRange)		✓
Reset to factory defaults	✓	✓

**Further useful features of the PIEPS APP:**

- Software Updates
- Warranty extension for registered users
- Device check
- Training mode
- Practical scenarios

## 6. TROUBLESHOOTING, MAINTENANCE, STORAGE, DISPOSAL

### 6.1 TROUBLESHOOTING

<i>Error</i>	<i>Description</i>	<i>Measure</i>
	<i>No indication on the display</i>	Check the device for physical damage. Check the battery capacity, type and polarity (+,-). Replace the batteries. Take the device to your retailer.
E0	<i>High current</i> This error disappears after the self-check.	Take the device to your retailer.
E1	<i>System configuration</i> This error remains on the display. The device is not serviceable.	Take the device to your retailer.
E2 E3 E4	<i>Transmitter or receiver or amplifier</i> The error disappears after the self-check. The device has limited functionality in send or search mode.	Repeat the self-check in an area free from interference (outdoors) and check for electronic, magnetic and metallic sources of interference. In case of a permanent error take the device to your retailer.
E5	<i>Processor</i> This error remains on the display. The device is not serviceable.	Take the device to your retailer.
E6	<i>Distance and/or direction indicator</i> This error disappears after the self-check. The device has limited functionality regarding the distance and/or direction indication.	Take the device to your retailer.
E8	<i>Accelerometer</i> This error disappears after the self-check. The device has limited functionality: Auto-Search-to-Send is not possible. Group check pro-mode is not possible.	Take the device to your retailer.
E9	<i>Bluetooth</i> Bluetooth activation and/or connection not possible. The avalanche beacon function is working. Is not checked during the self-check, occurs only during Bluetooth activation.	Retry to activate the Bluetooth mode. In case of a permanent error take the device to your retailer.

## 6.2 BATTERY REPLACEMENT

Change the batteries as soon as the battery capacity indication (2D) shows an empty battery. Always change all three batteries at once! To do so, open the battery compartment (1H) and be sure to insert the new batteries the right way around. For battery disposal, follow the applicable regulations in your country.

**⚠ DANGER** *Risk of explosion from incorrectly used batteries.*

*Risk of incorrect battery capacity indication.*

*Only use batteries of type "Alkaline (AAA) LR03 1.5 V" or "Lithium (AAA) FR03 1.5V"!*

*The use of Lithium batteries must be confirmed in the PIEPS APP!*

Battery lifetime	Alkaline	Lithium
PIEPS PRO BT	400 h SEND	600 h SEND
PIEPS POWDER BT	200 h SEND	300 h SEND

	3/3 full	100% - 66% h SEND	✓
	2/3 full	66% - 33% h SEND	✓
	1/3 full	33% - 20 h	✓
	empty	20 h SEND (+10° C, 50° F) + 1 h SEARCH (-10° C, 14° F)	
	empty, blinking	Final reserve, device can shut down at any time	

## 6.3 CLEANING

Use a damp cloth without cleaning agent to clean the device.

**NOTICE** *Flowing water, steam or cleaning agent must not be used to clean the device. To do so could impede operation of the device.*



## 6.4 STORAGE

Store the device in a dry room at room temperature.

**NOTICE** *If the device is not used for extended periods of time (summer months), it is recommended to remove the batteries from the battery compartment. The warranty does not cover damage caused by leaking batteries.*



**⚠ CAUTION** *Risk of device malfunction or damage due to extreme temperatures*

*Do not expose the device to extreme temperatures outside the operating limits! Store the device protected from direct sunlight! Extreme temperatures can result in malfunction or damage!*



## 6.5 DISPOSAL

### NOTICE

*Please note that the device is an electronic device. It cannot therefore be disposed of by public waste management companies. Dispose of the device in accordance with the law in your country.*



## 7. CONFORMITY

### EUROPE

Hereby, Pieps GmbH declares that the radio equipment type PIEPS PRO BT/POWDER BT is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [www.pieps.com/conformity](http://www.pieps.com/conformity)