

Disclaimer:

No avalanche beacon can save lives without a fully trained user. Practice frequently with your Tracker before going into the backcountry. Learn and understand the inherent dangers of backcountry travel. Become educated in avalanche hazard evaluation, route selection, and self-rescue. In addition to your beacon, always carry a probe and shovel—and always travel with a partner. We also recommend the use of avalanche airbags.

Make sure all rescue equipment is functioning properly before venturing into the backcountry. Perform a beacon trailhead test every time you use your Tracker. Check that all transceivers transmit and receive properly—and that all receive a signal at a minimum distance of ten meters, the international standard for effective range.

Do not place cellular phones, communication radios, or any other electronic equipment within 12" (30 cm) of the Tracker2 while performing a transceiver search. In receive mode, irregular readings, decreased range and multiple burial indications can be caused by these and other sources of electrical interference, such as power lines, electrical storms, and electrical generating equipment. In transmit mode, keep the Tracker2 at least 1" (2.5cm) from other electronic equipment. Use only alkaline batteries of identical age and brand. Do not use rechargeable, lithium, Oxyride, PowerPix, or any other non-alkaline battery.

This owner's manual covers the basic techniques required to use the Tracker2 effectively. To increase your efficiency, order our training DVD's and refer to the advanced techniques described on our website: www.backcountryaccess.com. Here you will also find important resources for obtaining avalanche education and updates on regional avalanche conditions.

To ensure warranty protection and to be notified of periodic software updates, please complete an online warranty registration at www.backcountryaccess.com/warranty.

Conforms to the R&TTE harmonized version of the EN 300 718 and meets or exceeds the requirements of Articles 3.1, 3.2, and 3.3.

Avalanche Awareness

Travel with considerate partners:

- Cross potentially dangerous terrain one at a time.
- Identify and practice stopping in safe zones.
- Have an escape route in mind if the slope does avalanche.
- Communicate with your partners before moving on to the slope.

When traveling in a group, be aware of the errors groups typically make:

- Recreating at an area that's been visited without incident before and feeling confident in its stability.
- Not speaking out or communicating concerns about a path or slope, fearing conflict.
- Being overconfident in the groups' abilities.
- Determination to reach a destination without re-evaluating terrain and conditions.

If in doubt, it is always best to avoid questionable terrain and return when the snow is stable.

If you are caught in an avalanche:

- Yell "avalanche" and wave your arms to alert your group.
- Deploy your avalanche airbag if you have one.
- Try to escape the slide by grabbing trees or rocks or 'swimming' to the side.
- Try to keep your airway clear of snow.
- When you feel the slide slowing, thrust a hand upward in hopes of it being seen.
- Place your other hand in front of your face to increase the air space.
- Remain calm, breathe slowly and conserve your air.

Searching for victims:

- Do not go for help! You are the victim's only chance of survival!
- Establish a last seen point.
- Confirm you are not in danger of a second avalanche occurring.
- Look for visual clues to the victim's location.
- Begin your signal search for the victim using your avalanche beacon.

This quick reference page is an introduction to proper use of the Tracker2. For more detailed information, read the entire manual and consult our website: www.backcountryaccess.com.

Basic functions

On/off: Turn the on/off switch on the back of the Tracker to the "on" position. The battery life is displayed in the distance/battery power display. Change batteries well before they reach 20 percent.

Search mode: Pull down the search tab at the bottom of the unit. In search mode, the display will show "SE" and "SEARCH" is exposed underneath the tab. Unit must be in transmit mode to turn it off

Return to transmit: Push the search tab in toward the body of the beacon until it clicks into place. The display will flash "tr" and beep for five seconds before it begins to transmit.

Searching with the Tracker2

The objective is to find the strongest signal (lowest distance reading) and immediately begin probing the area.

In the event of a burial, switch your Tracker (and all other beacons) to search mode. "SE" will flash in the distance window until a signal is captured.

Signal search: If there is a "last seen point," start your signal search there, and search downhill. Otherwise, start your signal search at the top, bottom or side of the slide path. Allow a maximum of 40 meters between searchers or between switchbacks if only one searcher. Slowly rotate your Tracker back and forth until you engage the signal.

Coarse search: Once a signal is engaged, align the Tracker so that any of the center three lights are flashing and move quickly in the direction the Tracker is pointing. Your direction of travel might be straight or slightly curved. Make sure the number in the distance display is decreasing. If it is increasing, turn 180 degrees. Inside ten meters, move slowly and try to keep the center search light engaged.



Fine search: Within three meters, use your beacon close to the snow surface and look for the smallest distance reading. Ignore sudden fluctuations in distance and direction; the strongest signal is often just past these fluctuation points. Begin probing at the smallest reading (strongest signal).

Quick Reference

SIGNAL SEARCH
>40m

Objective: Locate signal

- If no "last seen point," search entire path
- Rotate Tracker horizontally
- Max 40m between searchers or switchbacks

COARSE SEARCH
3-40m

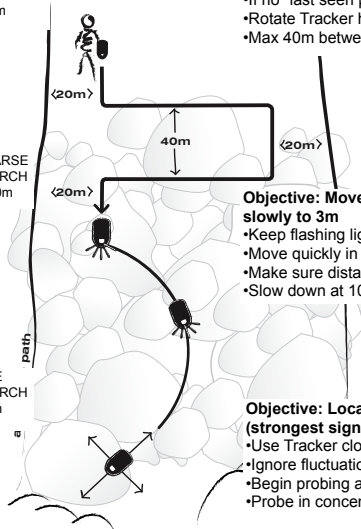
Objective: Move quickly to 10m, slowly to 3m

- Keep flashing light within center 3 windows
- Move quickly in direction Tracker is pointing
- Make sure distance is decreasing
- Slow down at 10m

FINE SEARCH
< 3m

Objective: Locate smallest distance reading (strongest signal)

- Use Tracker close to snow surface
- Ignore fluctuations in distance and direction
- Begin probing at lowest distance
- Probe in concentric circles 10in (25cm) apart



Probing/Pinpointing

At your lowest distance reading, probe in concentric circles, with each probe hole about 10 inches (25 cm) apart. Your probe should enter the snow perpendicular to the slope. Once you have confirmed the victim's location, leave the probe in the snow.

Shoveling

Shoveling is difficult and exhausting and consumes the majority of time during an avalanche rescue. For best results, start shoveling just downhill of the probe. Make your hole at least one "wingspan" wide. If the victim is more than one meter deep, excavate downhill about 1.5 times the burial depth.

Multiple Burials

Complex multiple burials are quite rare in recreational settings and usually can be treated as a series of single burials. For more information on multiple burial search technique, see page 12.



Thank you for choosing the Tracker2, the world's fastest three-antenna beacon.

Remember, beacon searches are only part of the avalanche rescue process. It is equally important to practice the probing and shoveling techniques found later in this section.

Basic functions

On/off: Turn the on/off switch ❶ on the back of the Tracker to the "on" position (see Figure A). The battery life is displayed in the distance/battery power display ❷.

After displaying battery power, the beacon flashes "tr" and enters transmit mode. The transmit light ❸ flashes with every other transmit pulse. This light will not flash if the battery power is below 20 percent.

Note: that the battery percentage is approximate. The manufacturer suggests replacing batteries ❹ well before reaching 20 percent

Search mode: Pull down the search tab ❺ at the bottom of the unit. In search mode, the display will show "SE" and "SEARCH" is exposed underneath the tab.

The beacon cannot be turned off in search mode. Always return to transmit mode before turning it off.

Return to transmit: Push the search tab in toward the body of the beacon until it clicks into place. The display will flash "tr" and beep for five seconds before it begins to transmit.

After 30 minutes in search mode, the beacon will beep every ten minutes. After 12 hours in transmit mode, the beacon will beep every two minutes. These beeps are reminders that there has been no user input and the beacon is still on.

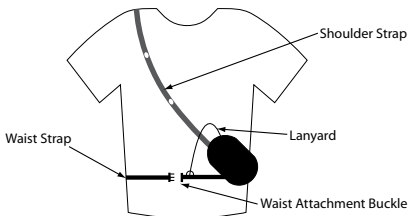
Adjustment/Fitting

The Tracker2 can be worn with or without its harness. The manufacturer recommends securing it with the harness. When used with a harness, the Tracker2 should be worn underneath your outer garments, as shown in Figure B. Distance/directional display should be against your body, on/off switch should be exposed and visible.

Familiarization

Operating Instructions

Figure B



To search, remove Tracker from pouch, but keep harness and lanyard attached to your body. If using without harness, keep Tracker in a secure pocket, preferably in your pants or other garment that won't be removed while traveling in the backcountry. Attach lanyard clip to zipper or other solid fixture. If lanyard is removed from harness or clothing for searching, keep attached to your wrist with loop provided.

Power Supply

The Tracker2 operates with three AAA alkaline batteries. Use only high-quality alkaline batteries of identical age and brand. Do not use rechargeable, lithium, Oxyride, PowerPix or any other non-alkaline battery. Replace with fresh batteries at the beginning of every season.

In addition to being displayed at startup, the battery power level can also be checked in transmit mode by pressing the options/SP button

⑥.

If the Tracker is subjected to excessive moisture, open the battery door ④ to help allow the unit to dry. To prevent corrosion of contacts, remove batteries during extended periods of inactivity. The manufacturer does not warranty damage caused by battery corrosion.

OPERATING INSTRUCTIONS

Searching

The Tracker2 operates using the 457 kHz international standard frequency. It is fully compatible with all avalanche transceivers adhering to this standard. Do not use with 457kHz transceivers designed for firefighter rescue.

When searching, keep the Tracker2 at least 12" (30cm) away from electrical equipment, including cell phones. Turn all electrical equipment off if possible.

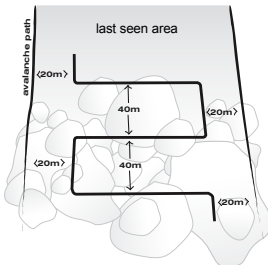
The search process includes four phases: the signal search, the coarse search, the fine search, and the probing/pinpointing phase.

Signal Search: The signal search refers to the process of establishing a search pattern and looking for a signal. The search pattern will be defined by the victim's last seen area, the size of the slide, and the number of searchers. Refer to Figure C to establish a signal search pattern. If the slide is less than 40 meters wide, the signal search path will be directly up or down the center. If the victim's last seen area is well defined, the signal search will follow a direct path along the fall line (up or down) from this point.

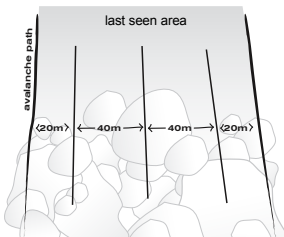
If the slide is wider than 40 meters and there is no last seen point, cover the entire slide area by using switchbacks in the search pattern (Figure C). If multiple rescuers are available, establish a search pattern where the space between searchers is no more than 40 meters and the distance to the edges is no more than 20 meters.

Figure C

**Signal search path with one searcher
(slide wider than 40 meters).**



**Signal search path with multiple searchers
(slide wider than 40 meters).**



Operating Instructions

Prior to the signal search, be sure that all transceivers are turned to search mode. Rotate the Tracker slowly in all directions (Figure D) while moving along your signal search pattern. While searching, be aware of other physical clues, such as equipment or extremities protruding from the snow surface. When no signal is detected, “SE” will flash in the distance indicator. Once a signal is detected consistently, mark this spot and begin the coarse search.

Figure D

Slowly rotate the Tracker horizontally and vertically in your hand, but move rapidly during the signal search. Do not abandon your search path until you have captured a strong, steady signal. Ignore irregular signals, which can sometimes be caused by electrical interference.



Coarse Search: The coarse search is the portion of the search from where you have detected a steady signal to where you are close to the victim.

Once the signal is consistently detected, rotate the Tracker slowly on a horizontal plane until the center direction light ⑦ is blinking. The Tracker is now pointed in the direction of the strongest signal. The four lights on either side of center tell you which way to rotate the Tracker to engage the center light. The distance indicator ② tells you, in approximate meters, how far you must travel (1 meter = 1.1 yards or 3.3 feet). If the number on the distance indicator is increasing, you are on the same axis as the victim’s signal, but moving in the opposite direction. Turn 180 degrees, engage the center search light again, and continue your search in the direction the Tracker is pointing. If you are stationary, but the distance is significantly changing, you are probably detecting the signal of another rescuer. Make sure all rescuers are in search mode before continuing.

You may find that, while following the directional lights, your route follows an arc. This is because the Tracker2 follows the shape of the electromagnetic signal coming from the transmitting beacon’s antenna. The distance displayed is the distance to be traveled along that signal, not the straight-line distance from you to the victim.

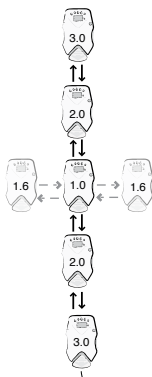
Fine Search: The fine search is the final part of the beacon search, which is performed on foot with the beacon positioned at or near the snow surface. The objective of the fine search is to locate where the

signal is strongest (distance reading is lowest) and to reduce the area to be probed.

Move your beacon slowly in a straight line along the surface of the snow during the final three meters of the fine search. The directional lights do not illuminate in the final two meters, so only pay attention to the distance readings. From the point where you have located the smallest reading, “bracket” at 90-degree angles to the left and then to the right in search of a lower reading (Figure E). Repeat if necessary along both axes. Begin probing at the lowest distance reading.

Figure E

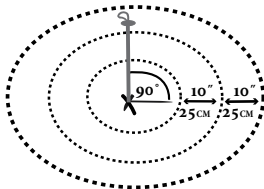
Bracketing: Make sure you go well past the low reading to confirm it is the lowest. When bracketing, ignore the directional lights, which no longer illuminate at less than two meters. Do not rotate the beacon during this process, as it can change the distance readings.



Probing/Pinpointing

At your lowest distance reading, probe in concentric circles, with each probe hole about 10 inches (25 cm) apart (Figure F). Your probe should enter the snow perpendicular to the slope. Once you have confirmed the victim's location, leave the probe in the snow.

Figure F

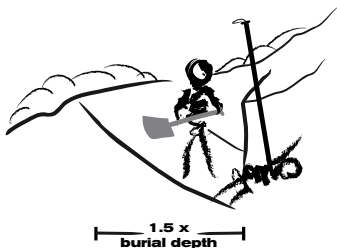


Operating Instructions

Shoveling

Shoveling is difficult and consumes the majority of time during an avalanche rescue. Do not take shoveling skills for granted. For best results, start shoveling just downhill of the probe (Figure G). Make your hole is at least one “wingspan” wide. In burials deeper than one meter, excavate downhill about 1.5 times the burial depth (this can be determined by noting the depth marking on the probe).

Figure G



Multiple Burials

Complex multiple burials are quite rare in recreational settings and usually can be treated as a series of single burials. When more than one transmitting victim is within the receive range of Tracker2, the multiple burial light **8** will illuminate and stay solid. (Note: this light can occasionally illuminate irregularly in the presence of electromagnetic noise or when detecting older analog transceivers).

If the multiple burial light is illuminated and/or the Tracker2 displays more than one distance and direction, then you probably have several victims within your receive range. Stay in search (SE) mode, and focus on the closest distance reading, attempting to engage that signal in the center search light.

Once you are significantly closer to one signal than the other (in SE mode), Tracker2 will “lock” onto that signal and mask out the others. Once this signal is isolated, the Tracker will behave very similar to how it does in a single beacon search. Once you have located the first beacon, turn it off if you determine the conditions are safe. If you have a clear signal, then begin the search here for the next victim.

If the multiple burial light is flashing consistently on and off, then there are at least two victims in close proximity (within five meters of the searcher). This may require a special technique.

Special techniques should be considered if there are several rescuers available, the victims are in very close proximity, and their beacons cannot be turned off. For a summary of these special techniques, see page 14.

Advanced Options

Auto-Revert System: if engaged by the user, the auto-revert feature automatically returns the Tracker2 to transmit mode after five minutes in search mode. At startup, the user can engage the Tracker's auto-revert feature by pressing and holding the options/SP button **6** while turning the beacon on. Continue to depress the SP button until the display window shows "Ar." Once auto-revert is engaged, auto-revert remains activated as long as the beacon is on.

If auto-revert is engaged, then after four minutes and 30 seconds in search mode, an alarm will sound for 30 seconds and "Ar" will flash repeatedly in the distance indicator. To remain in search mode, briefly press the options/SP button or toggle the search tab in and back out at any time during the 30-second alarm period. If 30 seconds elapse, "tr" will flash once and the Tracker will begin transmitting. In auto-revert mode, as long as the search tab is pulled out, the beeping will continue to alert the user that the beacon is transmitting.

If auto-revert is not engaged, the Tracker will sound a short alarm every ten minutes to remind the user that he or she is in search mode. After 30 minutes in search, the beacon will beep every ten minutes.

Mute Mode: To mute the sound, begin in transmit ("tr") mode, push and hold the options/SP button **6**, then pull the search tab on, wait until "L0" is displayed, then release the options/SP button. To turn the loudspeaker **9** back on, simply push the search tab back into transmit. The next time you return to search ("SE") mode, the sound will be on. Mute mode will not deactivate the beeps emitted when the beacon is about to begin transmitting a signal.

Special Mode: Special (SP) mode is an advanced feature designed to assist expert searchers in specialized multiple burial situations. These situations are typically only found in guided groups where victims are in close proximity and one or more rescuers can start shoveling while a professional guide resumes the transceiver search. SP mode can provide that searcher with a distance and direction to the next victim.

Special mode can only be entered while the user is in search mode. To enter SP mode, press the options/SP button **6**. For further instructions, see the next page.

Special Search Techniques

In most cases, multiple burials are approached as a series of single burials. However, special techniques might be helpful if the victims' beacons cannot be turned off and there are several rescuers available (so some can start shoveling while the best beacon user continues searching). These techniques are only necessary for close-proximity situations, where two or more victims are suspected to be very close to each other. If the victims are located less than about five meters from each other, then it is possible to move past a signal without it being detected. If the victims are suspected to be further apart than this, then it is quite simple to continue on your signal search until the second victim's signal is captured and isolated by your Tracker. In the case of suspected close-proximity multiple burials (with more than one rescuer available), we suggest the following special techniques:

Three-Circle Method: This technique involves remaining in SE mode and making concentric circles around the location of the first victim until another signal is detected. It is most effective in large deposition areas and low-angle terrain.

Micro-Search Strip Method: This technique is more useful in smaller debris areas, like those often encountered in guiding exams. The user remains in SE mode and crisscrosses the debris pile in strips three to five meters apart until the next signal is detected.

For detailed instructions on using the special techniques above, see our Advanced Tracker Manuals at www.backcountryaccess.com.

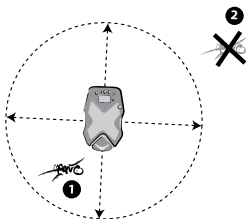
Special Mode: For greatest efficiency in “special case” close-proximity multiple burials, use special (SP) mode. This mode enables the Tracker to display the distance and direction of signals other than those of the closest beacon (Figures I, J). It also reduces the Tracker's search “window” to the center three directional lights, enabling the searcher to mask out beacon 1 and differentiate it from beacon 2. SP mode is used to determine approximately what direction and distance to go to get closer to beacon 2. Once you are closer, always switch back to SE mode.

To use SP mode, hold the Tracker steady at the lowest possible distance reading. Switch the Tracker to SP mode, then rotate—do not sweep—the Tracker gradually until another signal is detected (beacon 2), most likely with a larger distance reading. If the Tracker is rotated more than about 40 degrees away from the signal of beacon 1, that signal will disappear, allowing you to focus on the signal from beacon 2. However, it is possible to capture more than one signal in SP mode.

If no other signal is captured in SP mode and you suspect victims are nearby, stand up and try again at chest height. If still no other signal is detected, take three steps back and repeat (or revert to SE mode and use the three-circle method).

Figure I

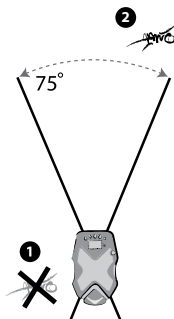
In search mode (SE), only the strongest signal (beacon 1) is shown. Signals further away are received (beacon 2), but not shown in the distance and direction display.



Once you have located another signal in SP mode, begin to move in that direction. If the distance consistently decreases, you are going in the right direction. Travel far enough in SP mode to confirm the distance is decreasing and which way the signal is trending. If more than one signal is being displayed and it becomes unclear which one to pursue, continue in the direction you have been searching. Always switch back to SE mode when you think you are getting closer to beacon 2 than beacon 1.

Figure J

In special mode (SP), all signals are shown, but Tracker2 acts as a "spotlight" with narrowed vision: approximately 75 degrees in front and in back of the searching beacon. Only the signals within this angle (beacon 2) are shown. This 75° angle corresponds to the Tracker's center three lights.



Always switch back to search mode (SE) when you're more than halfway from beacon 1 to beacon 2.

After finding a victim, if no further signals are detected in SP mode, then continue the search if there are still missing victims. Revert to search mode and perform a signal search of the remaining unchecked areas within the debris pile. Resume your signal search at the point where it was originally abandoned.

For more details on multiple burials, please refer to our website: www.backcountryaccess.com.