Other Products from Backcountry Access

Avalanche shovel/probe system
Schaufel/sonde system
Système de pelle/sonde
Sistema di pala/sonda
Sistema de pala con sonda de avalanchas

This small, lightweight telescoping shovel system is loaded with advancements. An optional 6-foot long lightweight probe stores in the shaft. Oval shaped telescopic tubes increase strength. Reversible offset grip makes it ideal for chopping and digging.

Alpine Trekker – Ski Touring Adaptor
Skitourenadaptor für Pistenbindungen
Adaptateur fixation de randonnée
Attacco adattatore per sci da turismo
Adaptador para esqui de travesia

Ski on the gear you own and trust: your "downhill" skis, boots, and bindings. Fits into conventional alpine bindings, freeing the heel for climbing and traversing. One-size-fits-all; dual heel televators, return springs; ski crampon attachment (Trekking Crampons sold separately).

Climbing Skins
Skifele
Peaux de phoques autocollantes
Pelle di foca
Piel autoadhesiva

Adhesive, nylon, fully adjustable climbing skins for nordic, alpine, and fat skis. New trimmable lightweight material allows the user to customize skins for shaped skis. Available in two styles: Standard (metal tip loop only) and Deluxe (includes tail hook and rubber tip).

***Winning the Avalanche Game* (Video)**

This state-of-the-art video features15 top snow safety experts, rare avalanche footage, and the basics on routefinding, snow stability testing, and avalanche rescue. Essential for all backcountry skiers, snowboarders, and snowmobilers. Length: 58 minutes.

Backcountry Access Inc. • 2820 Wilderness Pl. Unit H • Boulder, CO 80301 USA
Phone (303) 417-1345 • Fax (303) 417-1625 • www.bcaccess.com

Patent Applied For

TRACKER DTS™

OWNER'S MANUAL
BEDIENUNGSANLEITUNG
MANUEL D'UTILISATION
ANUALE DI ISTRUZIONI
UAL DE INSTRUCCIONS

457 kHz Digital Transceiving System

457 kHz digitales Sende- und Empfangssystem

Système digital d'émission et de réception (fréquence de 457 kHz)

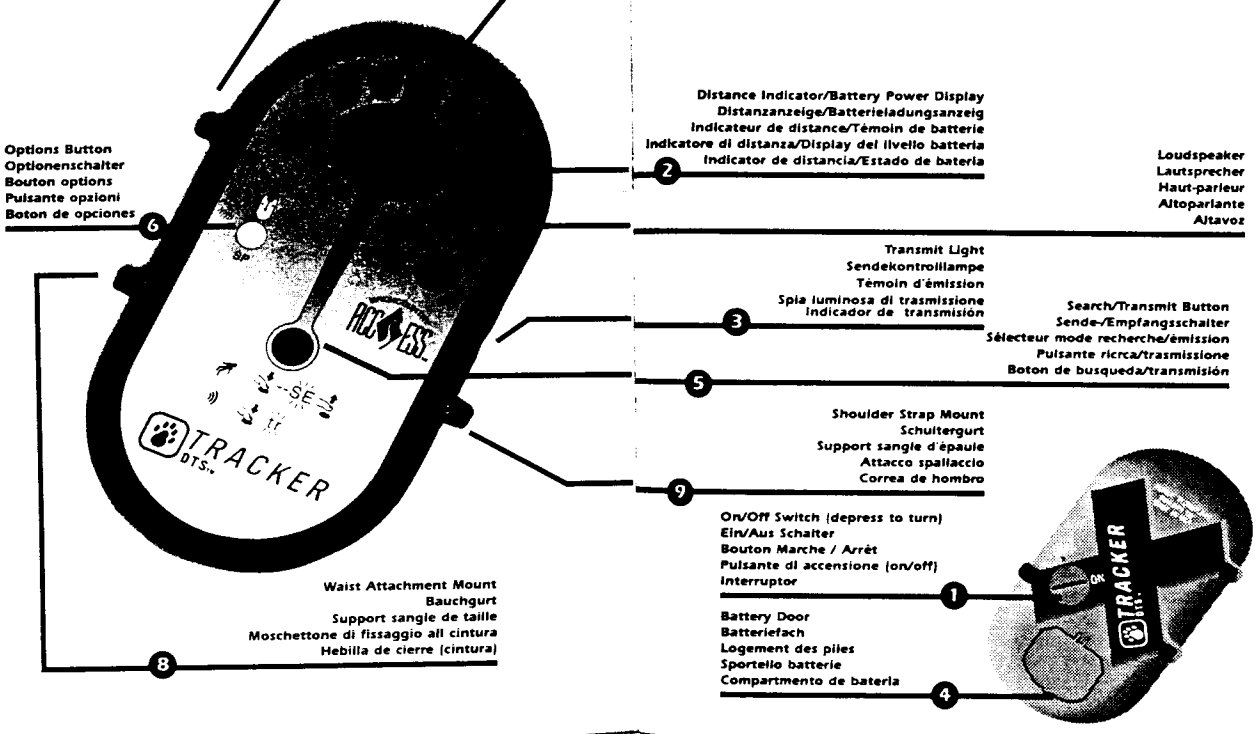
Sistema ricetrasmittente digitale - 457 kHz

Sistema digital de emisión recepción (frecuencia 457 kHz)

BACKCOUNTRY ACCESS

Boulder, CO USA
www.bcaccess.com

Operating Elements
Bedienungselemente
Fonctionnement et affichage
Componenti
Elementos de uso



Thank you for choosing the Tracker DTS, the world's first digital avalanche beacon, and the only beacon with a high-precision dual antenna system. Regardless of the transceiver, 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 route selection, snow stability testing, and self-rescue. Always carry an avalanche beacon, probe, and shovel—and always travel with a partner. Make sure all rescue equipment is functioning properly before venturing into the backcountry.

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

To ensure warranty protection, please return the enclosed warranty registration card.

FAMILIARIZATION

Adjustment/Fitting

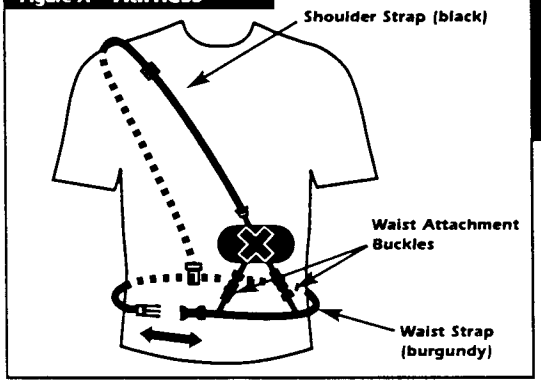
The Tracker DTS should be worn underneath your outer garments, as shown in Figure A, below. The concave side should be against your body, beneath your left breast. To search, disconnect one or both of the diagonal waist attachment buckles. The Tracker will remain connected to the shoulder strap.

To use the Tracker without the harness, disconnect the waist attachment buckles and thread the shoulder strap back through the shoulder strap mounting hardware.

Startup/Testing

Turn on the Tracker DTS by *depressing* and then turning the on/off switch (1) clockwise (see inside front cover). When turned on, the Tracker runs through a brief diagnostic test of both the transmitter and receiver, then

Figure A Harness



indicates the remaining battery life in the battery power display/distance indicator (2). A reading of 95 to 99 percent indicates fully charged batteries.

After the diagnostics, the Tracker will enter transmit mode (tr). The flashing transmit light (3) confirms the unit is in transmit mode.

Power Supply

The Tracker DTS operates with three AAA alkaline batteries. Use only high-quality alkaline batteries. Do not use rechargeables.

Note that the battery level percentage is approximate, depending on battery manufacturer and operating temperature. The Tracker will operate safely down to and below a zero battery power display. The manufacturer suggests, however, that you replace your batteries frequently, well before this occurs.

If the Tracker is subjected to excessive moisture, open the battery door (4) to help allow the unit to dry. Remove batteries during extended periods of inactivity.

Search/Transmit

To enter search mode, push the search/transmit button (5) for at least one second, but for no longer than two seconds. During this time, the distance indicator (2) will display two dashes ("– –"). Release your thumb when the display changes from "– –" to "SE" and the Tracker sounds a series of three beeps. If the button is released before or after this time, it will remain in transmit mode.

The Tracker can be switched instantly from search (SE) to transmit (tr) mode at any time by simply pushing the search/transmit button.

Options

Auto-Revert System

At startup, the user can engage the Tracker's auto-revert safety feature by pressing the options button (6) while pressing and turning the on/off switch. With auto-revert engaged, the Tracker will revert to transmit mode after five minutes in search mode.

If auto-revert is engaged, "Ar" will be shown in the power display after the diagnostic testing. If auto-revert is not engaged, "nr" will be displayed.

If auto-revert has been engaged, then after five minutes in search mode, an alarm will sound for ten seconds and "Ar" will flash repeatedly in the distance indicator. To remain in search mode, press the search/transmit button or the options button at any time during the ten-second alarm period. If ten seconds elapses, "tr" will appear and the Tracker will revert to transmit mode.

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.

Regardless of the option chosen, the Tracker will always revert to transmit mode if the search/transmit button is depressed for more than two seconds.

Special Mode

Special (SP) mode is a feature designed to assist searchers in the event of a multiple burial. It can help searchers isolate individual signals when searching for more than one transmitter at a time. In search (SE) mode, the Tracker only displays the strongest signal (once the searcher is within about

15 meters). In special (SP) mode, however, it will display all signals, regardless of their strength—providing they are within special mode's reduced search window (Figure E, page 9). In special mode, the search area is reduced from 180 degrees to about 75 degrees: signals will only be displayed if they are captured within the center three directional lights.

Special mode can only be entered while the user is in search mode. To enter SP mode, press the options button (6). Release the button when "SP" appears in the display window. When signals are detected in this mode, they are displayed for a shorter time than in SE (search) mode.

Mute Mode

To mute the sound while in search mode, push the options button (6) for three seconds until LO is displayed, then release. To turn the speaker back on, perform the same operation. "L1" will be displayed, indicating the speaker is back on.

OPERATING INSTRUCTIONS

Searching

The Tracker DTS operates using the 457 kHz international standard frequency. It is fully compatible with all transceivers adhering to this standard. The Tracker, however, offers many advancements in beacon searching and is operated differently from "older" style (analog) beacons.

The search process includes three phases: the signal (or primary) search, the fine (or secondary) search, and the pinpoint search.

Signal/Primary 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 Figures B and C, below, to establish a primary search pattern. If the slide is less than 20 meters wide, the primary search path will be directly down the center. If the victim's last seen area is well defined, the primary search will follow a direct path down the fall line from this point.

Figure B One searcher
(Slide wider than 20 meters.)

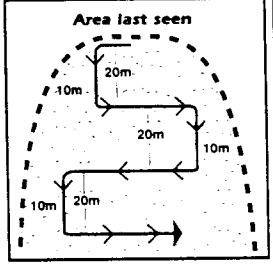
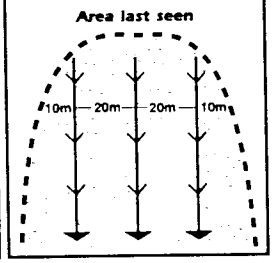
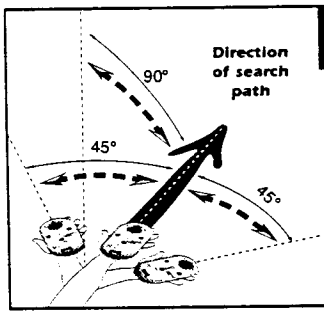


Figure C Multiple searchers
(Slide wider than 20 meters.)



Prior to the primary search, be sure that all transceivers are turned to search mode. Rotate the Tracker slowly back and forth on a horizontal and vertical plane (Figure D) while moving in the direction as defined by your primary 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 fine search.

Figure D
Signal search



Rotate the Tracker slowly in your hand, but move rapidly down the search path. 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.

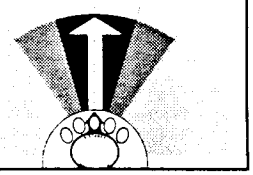
Secondary/Fine Search
The secondary search (also referred to as the fine search) is the portion of the search from where you have detected a steady signal to where you are close to the victim.

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, or your direction of travel. The four lights (7) on either side of center tell you which way to rotate the Tracker to engage the center light (Figure E). 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

Figure E Windows

The Tracker is very sensitive. Slight movement in any direction will actuate a different search light. Move it very slowly so as not to "skip" over the center search light window.

In Special (SP) mode, signals are only displayed if they fall within the center three windows.



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. This is preferable to walking backwards, in which case the Tracker will often flash "SE" rather than show a direction and distance.

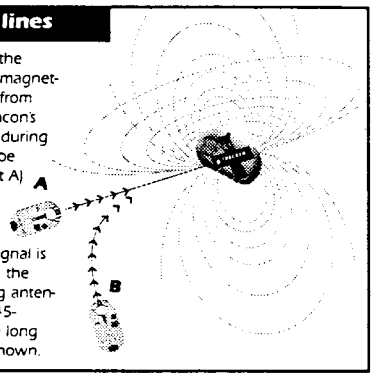
If you are stationary, but the distance is significantly changing, you are probably detecting the signal of another rescuer. Make sure all rescuers are in search mode before continuing.

You may find that, while following the directional lights, your route follows an arc. This is because the Tracker DTS performs the fine search using the "flux (or induction) line" method (see Figure F). It follows the shape of the electromagnetic signal, or flux line, coming from the transmitting beacon's antenna. The distance displayed is the distance to be traveled along that flux line, not the straight-line distance from you to the victim.

Operating Instructions

Figure F Flux lines

The Tracker follows the shape of the electromagnetic flux lines coming from the transmitting beacon's antenna. Your path during the fine search will be either straight (point A) or curved (point B), depending on the orientation of your beacon when the signal is first captured. Note: the Tracker's transmitting antenna is oriented at a 45-degree angle to the long axis of its case, as shown.



Pinpoint Search

The pinpoint 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 pinpoint search is to define the smallest probe/dig area.

In the pinpoint search, audible cues are provided as well as distance and direction information. When the distance indicator reads less than ten, the Tracker DTS displays distance in tenths of meters and the loudspeaker beeps twice with each transmitted pulse (rather than once). Inside five meters, the pitch of the audible beeps increase. From three meters to one meter, the pitch and frequency of beeps will continue to increase. No audible changes will occur within one meter, as it is often more efficient to begin probing at this distance. The minimum distance reading that can be displayed is as low as 0.1 meters.

You have reached the probe/dig area when the distance has reached the lowest number along the flux line. Movement in any direction will cause the distance to increase.

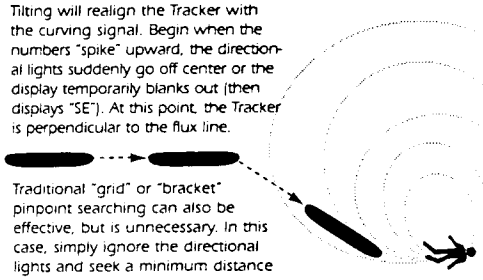
Tilting the Tracker DTS

To clearly define and minimize the probe/dig area, it is often helpful to tilt the Tracker DTS at an approximate 45-degree angle during the last few meters of the search (Figure G). Tilting can help you stay on the flux line longer, thus helping to minimize the probe/dig area. Begin the tilt when the numbers stop decreasing, when the directional lights suddenly go off center or when the display temporarily blanks out (then displays "SE"). All are signs that you are close; tilting can often get you even closer.

Figure G Tilting

Tilting will realign the Tracker with the curving signal. Begin when the numbers "spike" upward, the directional lights suddenly go off center or the display temporarily blanks out (then displays "SE"). At this point, the Tracker is perpendicular to the flux line.

Traditional "grid" or "bracket" pinpoint searching can also be effective, but is unnecessary. In this case, simply ignore the directional lights and seek a minimum distance reading.



It can also be effective to use a "grid" or "bracketing" technique in the pinpoint search. This method is traditionally used with older, analog beacons and with newer digital, single-antenna beacons. This technique, though, is unnecessary with a dual-antenna beacon such as the Tracker DTS. However, if you prefer gridding/bracketing, pay attention to the distance display and ignore the directional lights. Stop when the distance is lowest.

For a more complete explanation of advanced pinpointing techniques, please consult our website (www.bcaccess.com).

Probing

At the point where the distance has reached a minimum, probe in a straight line in the direction the Tracker has been pointing. As long as you probe along this axis, it is not necessary to probe perpendicular to the flux line (the direction in which the Tracker has been pointing).

Digging

Once you have confirmed the victim's location, leave the probe in the snow and begin digging. To monitor your progress during a deeper burial, continue to use the Tracker inside the hole. Upon reaching the victim, first uncover his or her face. In the event of multiple burials, turn off the victim's beacon (if possible) before continuing the search for the next victim.

Multiple Burials

Multiple beacon searches are more difficult and complex than single searches. They require practice and an understanding of flux lines. A thorough understanding of the Tracker's special (SP) mode can also greatly increase the efficiency of the multiple search, though it is not necessary.

If you begin to receive more than one set of signal data, you probably have a multiple burial. Stay in search (SE) mode, and focus on the closest distance reading, attempting to engage that signal in the center search light. If you are roughly the same distance from both transmitters, the Tracker will often flash "SE".

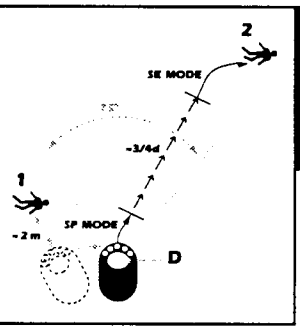
Once you are significantly closer to one signal–and within about 15 meters of it–the Tracker DTS (in SE mode) will "lock" onto that signal and mask out the others. Once you are locked in, the Tracker will behave very similar to how it does in a single beacon search.

Once you have located the first beacon (beacon 1), turn it off, if possible. If you cannot, then "break away" from it using special mode. Step back from beacon 1 roughly two meters (two paces) and re-engage beacon 1 in your center search light. With the center search light engaged, switch the Tracker to SP mode. Then rotate the Tracker slowly 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 flux line of beacon 1, that signal will disappear, allowing you to focus on the signal from beacon 2. This "filtering" process can often simplify multiple searches.

Once you have located another signal, begin to move in that direction. If the distance consistently decreases, you are going in the right direction. Only travel far enough in SP mode to confirm the distance is decreasing and which way the flux line is trending. At this point, a good rule of thumb is to ignore further readings and swiftly travel at least 3/4 of the distance displayed for beacon 2 (Figure H) in the general direction of that flux line. Then lock in beacon 2 by switching back to search mode.

Figure H
Multiple burials/ Special mode

Only travel far enough in SP mode to confirm the distance is decreasing and which way the flux line is trending. At this point, a good rule of thumb is to ignore further readings and swiftly travel at least 3/4 of the distance displayed. Then lock in beacon 2 by switching back to search mode.



If more than two beacons are buried, it is best to start each fine search from the same point, most likely at beacon 1. By returning to this point, you are likely to recognize which signals you have located and which ones you have not.

If you prefer not to use special mode, you can do multiple searches in one of two ways. In the case where you detected two signals before locking on to beacon 1, return to that point and follow the other signal to beacon 2. Or, simply perform a signal search away from beacon 1 (across, then downhill) until the Tracker locks on to the signal of beacon 2, using the search pattern guidelines for a primary/signal search (Figures B, C). These techniques are similar to those used with older, analog beacons and newer, digital single-antenna beacons. While they are unnecessary with a dual-antenna beacon like the Tracker–and are much less efficient– they can be simpler for novices than the special (SP) mode technique.

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

TECHNICAL SPECIFICATIONS

- Frequency: 457 kHz
- Batteries: three AAA/LR03 alkaline batteries
- Battery life: minimum 1 hour in search mode after 200 hours in transmit mode (approximately 250 hours in transmit only or 50 hours in search only)
- Receive range: up to 50 meters (with Tracker DTS transmitting)
- Weight: 10.5 ounces (298 grams), including strap and batteries; 8.3 ounces (200 grams) without strap and batteries.
- Size: 5-3/4" x 3-1/4" x 1-1/4" (14cm x 8cm x 3cm)
- Minimum temperature range (at 66.7 percent battery power): transmit mode: -10°C to +40°C (14°F to 104°F); search mode: -20°C to +40°C (-4°F to 104°F)

Made in U.S.A. at an ISO-9002-certified facility.

Certified to be in compliance with all applicable North American and European norms.

Herzlichen Glückwunsch und vielen Dank für den Kauf des Tracker DTS, dem weltweit ersten digitalen Verschüttetensuchgerät. Der Tracker besitzt ein hochempfindliches doppeltes Antennensystem. Bevor Sie den Tracker DTS einsetzen, müssen Sie zuerst seine richtige Anwendung üben. Ein regelmäßiges Training kann im Ernstfall Leben retten. Zusätzlich sollten Sie mit den Gefahren abseits der Piste vertraut sein und sie richtig einschätzen können. Zu jeder Tour gehören immer Verschüttetensuchgerät, Lawinensonde, Schaufel und ein/e Partner/in. Stellen Sie vor jeder Tour sicher, dass die gesamte Ausrüstung in Ordnung ist.

Dieses Handbuch beschreibt die Grundkenntnisse um den Tracker DTS effektiv einzusetzen. Die Techniken für Fortgeschrittene finden Sie auf unserer Homepage: www.bcaccess.com.

EINFÜHRUNG

Anpassen des Tragesystems

Der Tracker DTS wird unter der obersten Kleiderschicht, auf der linken Seite der Brust getragen (Abbildung A). Die konkave Seite zeigt dabei zum Körper. Zum Suchen können Sie eine oder beide Bauchschnallen öffnen. Der Tracker DTS ist dann immer noch mit dem Schulterriemen befestigt.

Einschalten / Selbsttest

Eingeschaltet wird der Tracker DTS durch *Hineindrücken* und Drehen des Ein/Aus Schalters (1) (On/Off), im Uhrzeigersinn. Nach dem Einschalten führt der Tracker DTS einen automatischen Selbsttest von Sender und Empfänger durch. Anschließend zeigt er im Display (2) den Ladezustand der Batterien an. Eine Anzeige von 95 bis 99 Prozent bedeutet: volle Batterien.

Nach dem Selbsttest geht der Tracker in den Sendemodus über (Anzeige "tr"). Die blinkende Sendekontrollampe (3) bestätigt den Sendemodus.

Warranty Information

Limited Warranty

Rescue Technology, the manufacturer, expressly warrants the workmanship and components of the Tracker DTS for three years after the date of retail purchase. All parts will be either repaired or replaced free of charge, including labor, by the manufacturer. This warranty does not cover damage to the product caused by improper use or excessive wear and tear. Direct all warranty claims to your retailer or distributor. All claims must include proof of purchase and a return authorization number. To ensure warranty protection, please return the enclosed warranty registration card.

Garantiebeschränkung

Der Hersteller Rescue Technology, garantiert während drei Jahren ab Kaufdatum für Verarbeitungs und Materialfehler. Alle Teile werden repariert oder durch den Hersteller gratis ersetzt. Die Garantie erstreckt sich nicht auf Schäden durch Abnützung oder fehlerhafte Bedienung. Alle Garantieansprüche sind zu richten an die Verkaufstelle oder an die jeweilige Landesvertretung.

Garantie

Le fabricant, Rescue Technology, garantit le Tracker DTS trois ans pièces et main d'oeuvre à partir de la date d'achat. Toute pièce sera réparée ou remplacée gratuitement, main d'oeuvre comprise, par le fabricant. Cette garantie ne couvre pas les dégâts résultants d'une mauvaise utilisation. Toute réclamation devra être adressée à votre détaillant ou distributeur. Toute réclamation devra être accompagnée de la preuve d'achat et d'un numéro de SAV.

Limitazioni della Garanzia

Il costruttore, Rescue Technology, garantisce espressamente la corretta costruzione ed i componenti del Tracker DTS per tre anni dalla data di acquisto presso il dettagliante. Le parti saranno riparate o sostituite gratuitamente - ore di manodopera incluse - presso il costruttore. La presente garanzia non copre i danni al prodotto derivanti da uso improprio, usura eccessiva o squarcio. Inviate qualsiasi richiesta di intervento in garanzia al vostro dettagliante o distributore. Tutte le richieste devono comprendere una prova di acquisto e lo specifico numero di autorizzazione.

Garantia Limitada

El fabricante, Rescue Technology, garantia la fabricanción y los componentes del Tracker DTS por un periodo de tres años a partir de la fecha de compra. El fabricante se compromete a reparar o cambiar todas las piezas sin costo, incluyendo la mano de obra. Esta garantia no cubre los daños causados por el uso inadecusdo o desgaste excesivo. Todas las reclamaciones deberán incluir la prueba de compra así como el número de autorización de devolución.

Rescue Technology, Inc.

Model No.: **Tracker DTS**
FCC ID: **OUNDTS1**

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Caution:
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

Note:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

User's Manual