

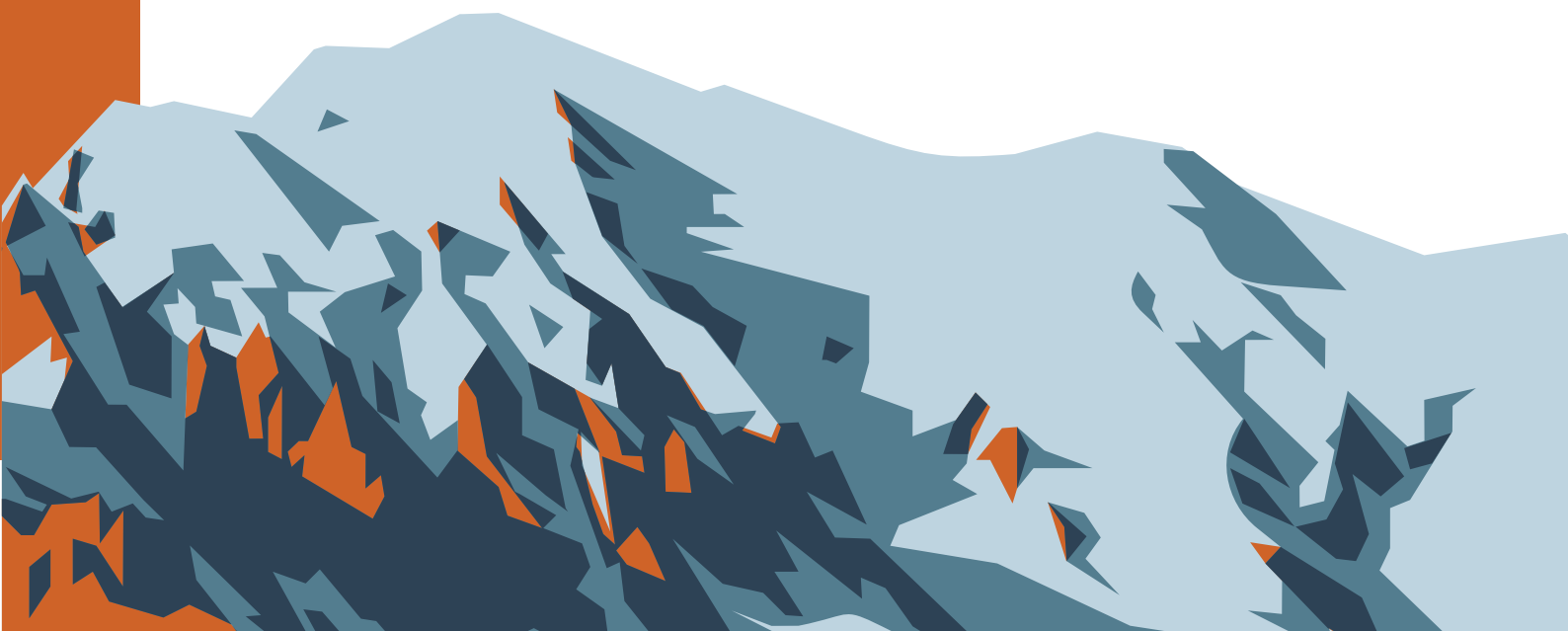
Technical Data & Information

# GIRSBERGER

Mountain Rescue Technology



**ATC Avalanche Training Center**  
**[avalanche-training-center.ch](http://avalanche-training-center.ch)**





# TRAINING

## ATC Avalanche Training Center

The ATC Avalanche Training Center is a stationary system for training transceiver and probe search.

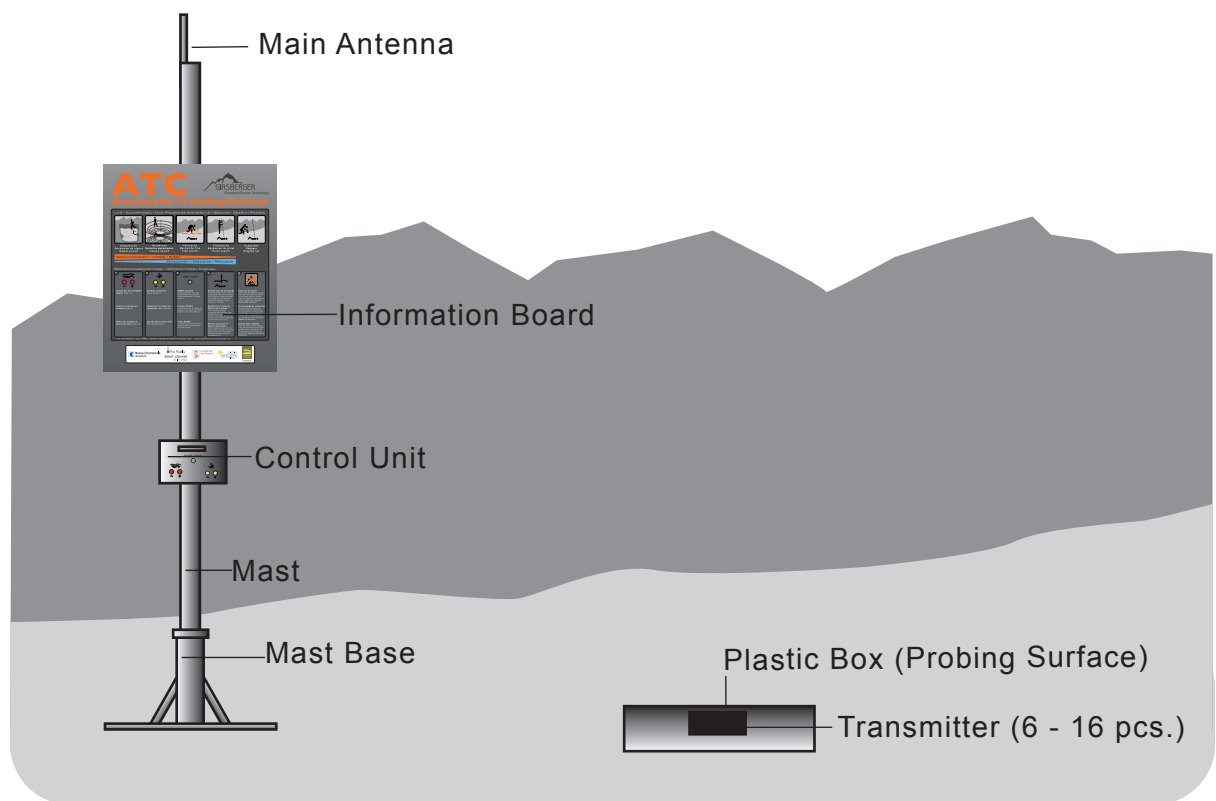
The system has been proven for a long time and has been overhauled completely in the year 2015. Some innovative solutions provided decisive advantages to the users and to the operators. The system can simulate from six to sixteen transceivers. The transmitters that are buried in the search area emit signals that are exactly equal to the signals from real avalanche transceivers.

At the control unit, the remotely controlled transmitters can be selected at random (standard mode) or individually (expert mode). This allows for training simple as well as complex (multiple burials) burial situations. The transmitters will provide automatic feedback upon a probe hit. A probe hit on the probing surface of a transmitter is indicated at the control unit and signaled acoustically. The search times for every transmitter are also indicated.

The control unit also incorporates a counter for the number of exercises that can be read out at any time. The entire system is equipped with standard batteries for autonomous operation throughout a winter season. No mains supply required.

In order to save precious energy, the system automatically enters a sleep mode when not used for some time. There is no need to turn the system off manually.

AREAS OF APPLICATION: Ski Resorts, Huts, Ski Schools, Municipality, Mountain Restaurants



# ATC Avalanche Training Center

## Main Features

- Up to sixteen remotely controlled transmitters
- Random or individual transmitter selection
- Single or multiple burial search scenarios
- Automatic probe hit indication
- Configurable transmit patterns
- Elastic probe hit surface for realistic probing
- Search time indication
- Number of exercises readout at any time
- Battery lifetime for an entire winter season
- Information board with transceiver search phases and short instructions
- Easy operation
- Professional and robust construction
- Compatible with all brands of transceivers (EN 300718)
- Meets all European and national regulations
- Developed and made in Switzerland

# ATC Avalanche Training Center

## Technical Data

### Transmitter RTX457ATC

Transmit Frequency:	457 kHz + / - 30 Hz
Transmitter Field Strength:	ca. 2,0 mA/m at a distance of 1 meter
Remote Control Frequency:	433,92 MHz (ISM Band)
Compatible with:	ETS 300718
Power Supply:	4 Alkaline Batteries 1,5 V Type IEC LR20 (size D)
Battery Lifetime:	ca. 6 months
Casing:	Plastic
Dimensions:	203 x 203 x 102 mm
Weight:	5 kg (including probing surface)
Protection:	IP 67 (waterproof)
Operating Temp. Range:	- 25 to + 50 Degree Centigrade

### Probing Surface

Casing:	Plastic
Dimensions:	600 x 400 x 170 mm
Reinforcement:	Sheet Plastic PE-HMW
Dimensions:	560 x 360 x 6 mm
Probing Surface:	Cell Rubber EPDM
Dimensions:	560 x 360 x 8 mm



## Technical Data

### Control Unit FCU

Remote Control Frequency:	433,92 MHz (ISM Band)
Range:	ca. 150 m
Power Supply:	6 Alkaline Batteries 1,5 V Type IEC LR20 (size D)
Casing:	Steel
Dimensions:	330 x 240 x 130 mm
Weight:	6.6 kg
Protection:	IP 65 (splash water proof)
Operating Temp. Range:	- 25 to + 50 Degree Centigrade
Weather Protection:	Stainless Steel
Mast Fixture:	Tube Brackets

### Antenna

Frequency Range:	406 to 470 MHz
Polarization:	Vertical
Impedance:	50 Ohm
Diameter:	90 / 25 mm
Length:	600 mm
Weight:	1 kg

### Mast

Nominal Length:	3,2 m
Transportation Length:	3.2 m
Diameter:	63 mm
Weight:	5,6 kg
Material:	Aluminium



# Technical Data

## Mast Base

Dimension:	1000 x 1000 x 550 mm
Weight:	15 kg
Material:	Steel galvanized

## Information Board

Information:	Search Phases / Short User Instructions
Overall Dimension:	635 x 750 mm
Weight:	3 kg
Material:	Aluminum
Mounting:	Brackets



# Information

## Location

The following requirements should be met by a suitable location:

The altitude should be reasonable to provide sufficient and long lasting snow cover.

The size should be about 100 meters by 100 meters, preferably on a slope.

Keep at least 150 meters distance from possible sources of interference to avoid problems. Possible sources of interference are:

- Power lines above and below ground
- Any means of transportation
- Snowmaking equipment
- Technical buildings such as transformer stations, mobile network antennas
- Ski runs (interference from transceivers that are carried by skiers)

For reasons of safety, we recommend to fence the search area.

For easy access, we recommend to mark the area by means of signs, banners or beach flags.

## Number of Transmitters

The system is modular. From six to sixteen transmitters may be installed. Based on our experience, we recommend installing ten transmitters.

## Mast Base

The mast base is placed directly on the ground and must be loaded with weights.

## Energy Supply

The entire system is fitted with off-the-shelf batteries. The batteries will last for an entire winter season. There is no need for a mains supply.

When not used, the system will automatically enter a sleep mode. There is no need for manual switch off.

# Information

## Information Board


The surface of the information board is divided into three areas:

- Graphical presentation of transceiver search phases
- Short user instructions in languages as ordered, up to three languages
- Lower area for placing logos, sponsors information and advertising

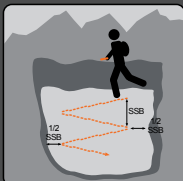
If the lower area is too small, an extra board must be installed. This extra board must not be mounted on the telescopic mast for reasons of overload.

# ATC

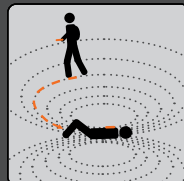
## Avalanche Training Center



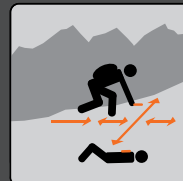
LVS - SUCHPHASEN / DVA PHASES DE RECHERCHE / BEACON - SEARCH PHASES




**Signalsuche**  
Recherche du signal  
Signal search




**Grobsuche**  
Recherche approximative  
Coarse search



**Feinsuche**  
Recherche fine  
Fine search



**Punktsuche**  
Recherche du point  
Point search




**Ausgraben**  
Dégager  
Digging out

**GESCHWINDIGKEIT / VITESSE / SPEED**

**GENAUIGKEIT / PRÉCISION / PRECISION**


BEDIENUNGSANLEITUNG / INSTRUCTIONS / MANUAL

1



**Anzahl der Verschütteten wählen (max. 5)**  
  
**Choisir le nombre de victimes (max. 5)**  
  
**Select the number of buried persons (max. 5)**

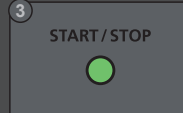
2



**Suchzeit einstellen (max. 20 Min.)**  
  
**Déterminer le temps de recherche (max. 20 min.)**  
  
**Set the search time limit (20 minutes max.)**

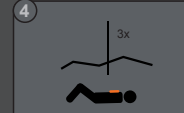
3

**START/STOP**




**START drücken**  
Die Anlage aktiviert nach dem Zufallsprinzip die eingestellte Anzahl Verschütteter und startet die Uhr.  
  
**Presser START**  
L'installation active le nombre de victimes, choisi selon le principe aléatoire, et la montre démarre.  
  
**Press START**  
The system will now activate the selected number of transmitters and start the timer.

4




**Suchen mit LVS und Sonde**  
Drei Sondentreffer hintereinander im Sekundentakt lösen an der Zentrale ein akustisches Signal aus (Signalton). Zudem wird der Stand des Verschüttetenzählers auf dem Display um 1 reduziert.  
  
**Recherche à l'aide du DVA et de la sonde**  
Trois touches à la sonde consécutifs et à intervalles d'une seconde déclenchent un signal sonore de la centrale. De plus, le compteur de victimes sur l'affichage est décrémente d'une unité.  
  
**Search by means of beacon and probe**  
Three consecutive probe hits, one second apart, will trigger an acoustic signal on the control unit (beep). The buried persons counter is decreased by one.


5





**Ende der Suchzeit**  
Nach Ablauf der gewählten Suchzeit (oder wenn alle aktivierten Sender mit der Sonde getroffen wurden) ertönt der Signalton und alle Sender werden ausgeschaltet. Bitte die Sender nicht ausgraben.  
  
**Fin du temps de recherche**  
Après écoulement du temps de recherche choisi (ou lorsque tous les émetteurs DVA ont été touchés par la sonde), un signal sonore retentit et tous les émetteurs DVA sont déclenchés. Prière de ne pas dégager les émetteurs.  
  
**Search time elapsed**  
When the search time has elapsed or all active transmitters have been hit with a probe, the beep will be activated and all transmitters are switched off. Please do not dig out the beacon.


ATC ADVANCED FUNCTIONS: EXPERT MODE MANUAL PLEASE VISIT: [www.avalanche-training-center.ch](http://www.avalanche-training-center.ch)

**Banca Chantunala**  
Grischuna

**Pro Patria**  
ERNST GÖHNER  
STIFTUNG

**Cumün da**  
Val Müstair

**Sonnen-Schnee-Ski**  
MINSCHUNG  
Val Müstair

**Biosfera**  
Val Müstair  
graubünden



# Information

## Installation

First setup is done by Girsberger Elektronik AG together with the customer's personnel who will be responsible for the system.

## Deliverables

The deliverables include the complete ready-for-use system, the first setup as well as the instruction for the personnel.

## Delivery

The system will be delivered by Girsberger Elektronik AG within Switzerland. Delivery cost is included in the price.

The system will be delivered by Girsberger Elektronik AG to European and other countries. Delivery cost is not included in the price.

Customs will be handled by Girsberger Elektronik AG. Custom duties will be taken care of by Girsberger Elektronik AG.

## Maintenance

The positioning and the burial depth of the individual transmitters may need to be adapted during the winter season.

From time to time, you will need to clean traces from earlier exercises on the surface.

A functional check should be performed at regular intervals. At that time, it also makes sense to read out the exercise counters.

## Maintenance Cost

There will be annually recurring costs for replacing the batteries.

## Definitions

<b>ATC</b>	Avalanche Training Center
<b>LVS</b>	Lawinenverschütteten-Suchgerät
<b>Transmitter</b>	A transmitter that is buried in the search area and is capable of emitting exactly the same signals as an avalanche transceiver. The transmitter is turned on and off by wireless commands from the control unit.
<b>Probing Surface</b>	A surface (60 by 40 cm) is made of a plastic box containing the transmitter. The surface is reinforced and, on top of it, there is an elastic rubber sheet.

# Informationen

## Service / Support

Service and support will be provided at any time by Girsberger Elektronik AG. We do recommend that you have the system checked every 5 years by Girsberger Elektronik AG.

## Warrenty

The ATC Avalanche Training Center comes with a 2 years warranty, starting at the time of sale as per the sales documents. All parts that have been proven to have a material or production fault will be replaced free of cost. Damage that has been caused by improper handling or normal use will not be covered. The warranty becomes void if devices have been opened by the customer or by non-authorized third parties. The use of devices with replacement parts or accessories that have not been recommended by the manufacturer also voids the warranty.

## Conformity

The ATC Avalanche Training Center is conformant to all relevant European and national regulations. Conformity has been documented, the respective declarations and documents are deposited at the manufacturer.

## ATC History of development



# ATC Avalanche Training Center

## Locations

### Switzerland

Adelboden  
Airolo  
Andermatt  
**Avers/Juf NEW**  
Belalp  
Bettmeralp  
Bivio  
Braunwald  
Champéry - Les Crosets  
Crans Montana\*  
Flumserberg\*\*  
Haute Nendaz Siviez  
Laax  
Leysin  
Les Diablerets  
Malbun  
Meiringen-Hasliberg  
Minschuns / Val Müstair  
Moleson  
Mürren  
Les Savagnières  
Toggenburg/Sellamatt  
Pizol\*  
Val Bedretto  
Capanna Piansecco  
Verbier  
Wasenalp  
Zinal

### Germany

Bad Reichenhall\* \*\*\*  
Feldberg / Schwarzwald  
Mittenwald\* \*\*\*  
Spitzingsee\* \*\*\*

### Australia

Mount Hotham

### Austria

Arlberg - Rendl\*  
Bad Gastein  
Fieberbrunn\*  
Goldeck\*  
Jamtal (Galtür)  
Obergurgl\*  
Praxmar  
Saalbach/Hinterglemm\*  
Schmirn  
Stubai Gletscher\*  
Tschagguns  
Tux

### Italy

**Abetone\*\*\* NEW**  
Campo Imperatore\*  
Cortina d'Ampezzo\* \*\*\*  
Ladurns  
Madonna di Campiglio\*  
Sextner Dolomiten  
Pfellers - Moos i. Passeiertal  
Plose - Brixen  
Piz Sella - Wolkenstein  
Sulden  
Valle d'Aosta\*  
**Val Formazza\*\*\* NEW**

### France

Alpe d'Huez\*  
Courchevel\*  
Grand Massif\*\*  
**Labellemontagne NEW**  
La Rosière  
Les Arcs  
Les 2 Alpes\*  
Méribel\*  
Serre-Chevalier\*  
**Valmorel\*\* NEW**

All ATC manufactured by Girsberger Mountain Rescue Technology

\* on behalf of ORTOVOX Safety Academy \*\* on behalf of ARVA

\*\*\* restricted access

# Comparison table

Main Features	ATC	RTX457
Up to sixteen remotely controlled transmitters	●	
Mobile System with 4, 5 or 6 transmitters		●
Random or individual transmitter selection	●	●
Random or individual transmitter selection	●	
Automatic probe hit indication	●	●
Configurable transmit patterns	●	●
Simulates transmit patterns of all current transceivers	●	●
Probing surface combined with transmitter case	●	●
Elastic probe hit surface for realistic probing	●	●
Reducible transmitter field strength		●
Compatible with all brands of transceivers (EN 300718)	●	●
Operation with standard alkaline batteries	●	●
Battery lifetime for an entire winter season	●	
Constant transmitter strength over battery lifetime	●	●
Single or multiple burial search scenarios	●	●
Search time indication	●	
Number of exercises readout at any time	●	
Range at least 150 m	●	
Information board with transceiver search phases and short instructions	●	
Professional and robust construction	●	●
Easy operation	●	●
Easy operation, immediately ready for use		●
Meets all European and national regulations	●	●
Developed and made in Switzerland	●	●

# ATC Avalanche Training Center Equipment

## Search Strategy Board

In cooperation with experts from the Mountain Rescue Switzerland and Tyrol, such as mountain guides and the SLF, we have developed the new information board „Search Strategy Board“. Our focus was to explain the search strategy with a LVS in the most simple possible way in the case of a single burial as well as a multiple burial step by step.

You will also find further information on the board such as

- Avalanche accident:  
Behaviour of the persons recorded - Behaviour of the persons not recorded
- First Aid
- Emergency Equipment
- Avalanche Transceiver Interferences

The Infoboard is available in four languages (DE, EN, FR, IT). Customer-specific adjustments to the emergency number and logo placement are included in the price

### ►► DIE KAMERADENRETTUNG HAT HÖCHSTE PRIORITÄT!

Suchstrategie bei einer EINFACHVERSCHÜTTUNG mit einem 3-Antennen LVS (mit Markierfunktion)

#### LAWINENUNFALL

Verhalten der Erfassten

Versuchen, der Lawine zu entkommen. Rückzüge lockern. Falls Lawenabstieg vorhanden, diesen ausnutzen. Solange der Schnee festes, verschieben, von mit einer Kette in der Lawenlinie in die Richtung vor Schilddarm Hände von Gesicht und kritischer Absege möglichst frei zu halten.

Verhalten der Nichterfassten

• Lawinevermeidung und Erkennen (Verschüttungswinkel) geben beschreiben

• Übersicht gewinnen - nachsehen - handeln. (Gibt Nachsehen beschreiben, Folgenfall vermeiden)

• Alarmierung: Rufen, Funk (falls keine Verbindung später alarmieren)

Die Gruppe beschützt die Beiden und Schuttfahrt vor. Wenn die alleine ist, ist nicht abgesehen werden. Festschneide, Sonde und Schuttfahrt herausnehmen und zusammennehmen.

#### ALARMIERUNG

Telefon (Anruf oder SMS) / App  
Schwefel (Regio: 112 / Regio-App)  
Ketten Mobil: 112  
Internationaler Notfall: 112

#### UNFALLMELDUNG

Wo: Ist der Unfallort?  
Wer: meldet Name, Telefonnummer, Standort?  
Was: Ist geschah?  
Wo: Ist der Unfall geschah?  
Wie: viele Personen sind ganz verschüttet, verletzt?  
Wann: am Unfallort?

#### 1. SIGNALSUCHE

Primärsuchbereich festlegen (in Fliesenrichtung unterhalb des Verschüttungspunktes). Den Lawinevermeidung mit Auge und Ohr ablesen. Möglichst mit der Signalfunktion (nicht benötigte LVS ausschalten) die empfangene Antwort auf der Lawine, Regel parallel abgelesen.

Die Sucherstrategie (SS) wird von der Empfangsleistung des LVS bestimmt. (Stärke der Antwort der Sucherstrategie)

#### 2. GROBSUCHE

Den ersten Signalfunktion mit einem Schrittmacher markieren. Den Sucherstrategie auf dem Display zeigen. Keine weitere Sucherstrategie zeigen an, dass die Sucherstrategie dem Verschütteten näher.

#### 3. FEINSUCHE

Auf Kleinbahn einsteigen und das LVS dabei nicht einsteigen. Ort mit dem kleinsten Wert markieren. Erst jetzt Sonde und Schuttfahrt herausnehmen und zusammennehmen. Nach erfolgreicher Punktmarkierung die LVS-Markierfunktion anwenden.

#### 4. PUNKTSUCHE

Beginne direkt bei der Markierung. Immer im 90° Winkel zur Sucherstrategie sondieren. Nach einem Turm: Sonde stecken lassen.

#### 5. AUSGRABEN

Bei einem Helfer: die Verschüttungsstelle an der Sonde ablesen, bei flachen Gelände diesen Wert 2x und bei steilem Gelände bis einem Gelände 2x bestmöglich genau und 2-fachig ablesen.

Ab zwei Helfern: Forderhand-Technik anwenden.

So rasch wie möglich Kopf und Brust freisetzen. Atemwege freisetzen. Kontrolle ob Atemwege verschüttet (Atemwege voll mit Schnee = keine Atemhilfe).

#### ERSTE HILFE

LVS-Gerät des Gefundenen ausschalten (falls auch weitere Personen gesucht werden müssen)

• Nach BLS (Basic Life Support)

• Sind keine Vitalzeichen vorhanden, muss sofort reanimiert werden.

• Schutz vor weiterer Ausbreitung

• Intensive Überwachung und Betreuung

#### WICHTIG

Nur mit einer vollständigen Notfallausstattung hat die eine Chance, seine Freunde lebend aus einer Lawine zu bergen.

LVS + Schuttfahrt + Sonde + ca. 10 min.  
LVS + Schuttfahrt + ca. 10 min.  
LVS + ca. 1-2 h

#### LVS STOREINFLÜSSE

LVS-Geräte sind extrem empfindlich in Bezug auf elektrische und magnetische Störungen. Wir empfehlen deshalb, im Suchfeld keine elektronischen Geräte wie Mobiltelefone, Funkgeräte, Störanten, Action Camcorder, etc. einzubringen.

### ►► COMPANION RESCUE HAS HIGHEST PRIORITY!

Search strategy for a SINGLE BURIAL with a 3 Antenna Avalanche Transceiver (with marker function)

#### AVALANCHE ACCIDENT

If caught

Try to escape the avalanche area, let go of all points. If carrying an avalanche airbag, release it. As long as the snow is falling, try to lay on the surface of the avalanche, just before coming to a standstill hold your arms in front of your face and try to keep always free from snow.

If not caught

• Watch the avalanche flow and the persons caught (remember the last seen point)

• Get an overview - think - act: assess your own safety, avoid further accidents

• Alert rescue service: Phone, radio (if no connection, alert later)

If in a group prepare probe and shovel. If alone wait until you have finished the first search before assembling probe and shovel.

#### ALERT

Phone (Call or SMS) / App  
Schwefel (Regio: 112 / Regio-App)  
Ketten Mobil: 112  
International emergency: 112 / App Echo 112

#### ACCIDENT REPORT

Where: Is the accident location?  
Who: Is calling (name, phone number, location)?  
What: What happened?  
How: How did the accident happen?  
How many completely buried victims, injured?  
Whether: In the area?

#### 1. SIGNAL SEARCH

Decide on the primary search area (downhill of the point of disappearance). Turn of all avalanche beacons not needed for the search (if possible, deactivate them).

Search the avalanche debris with your eyes and ears while starting the signal search.

With multiple people search in parallel lines. The search strip width (SSW) depends on your avalanche transceiver receiver performance.

#### 2. COARSE SEARCH

Mark the first signal reception with a pit point. Follow the directional arrow on the display. Decreasing distance indicate that you are on the field lines and getting closer to the buried companion.

#### 3. FINE SEARCH

At knee height search in a cross pattern to not rotate the avalanche beacon. Mark the spot with the lowest distance. At this point get out your shovel and probe.

#### 4. POINT SEARCH

Start probing at your marker. Hold the probe with both hands and work in a right angle or spiral pattern from the marker (your marker) to the outside at 25 cm intervals.

Tip: always probe at a 90 degree angle to the surface.

When you locate the buried companion leave the probe in place.

#### 5. DIGGING OUT

In case of one rescuer: Read burial depth at probe. In case multiple terrain start shovelling from back to front. In deeper terrain start with that measurement downhill shovel in a shape.

If you have more than one searcher use the conveyor belt technique.

Uncover head and chest as fast as possible, clear airways, check if there is a breathing cavity in the nose (snow filled airway = no breathing cavity).

#### Suchstrategie bei einer MEHRFACHVERSCHÜTTUNG mit einem 3-Antennen LVS (mit Markierfunktion)

Warten bis alle verschüttet sind, wenn Punkt 1 bis 4 abgeschlossen ist, bei einem Retter abschließen, Punkt 5 anwenden und bei mehreren Rettern die Suche wie folgt fortsetzen:

a) mit Punkt 1, sofern keine weiteren Verschütteten angezeigt werden bzw. keine im Empfangsbereich sind

b) mit Punkt 2, wenn weitere Verschüttete angezeigt werden bzw. weitere im Empfangsbereich sind

#### Such Strategy for MULTIPLE BURIALS with a 3 Antenna Avalanche Transceiver (with marker function)

Use the marker function after points 1-4 are completed. If more searchers are available proceed as follows:

a) Point 1, provided that no other buried persons are indicated or there are none within the reception area.

b) Point 2, if additional buried persons are displayed or if there are others within the reception area.

#### HERZLICHEN DANK UNSEREN SPONSOREN

RIP ZONE, RELAY, GASSER SPORT, belalp/alpinecenter, blatten belalp, RETTUNGSSTATION, DYNARIT, ALPESERMA, WIR SIND FÜR SIE DA



## ATC Signpost

Material: Alu-Dibond

Dims.: 450 x 150 x 4 mm





Girsberger Elektronik AG  
Mountain Rescue Technology  
Oberdorfstrasse 7 - CH-8416 Flaach

+ 41 52 301 35 35  
info@girsberger-elektronik.ch  
girsberger-elektronik.ch



@girsberger @avalanche\_training\_center



All components of the ATC Avalanche Training Center have been developed and manufactured in Switzerland.

Girsberger Elektronik AG will always strive to deliver top quality equipment.

Designations, measures and construction details subject to change without notice.

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