

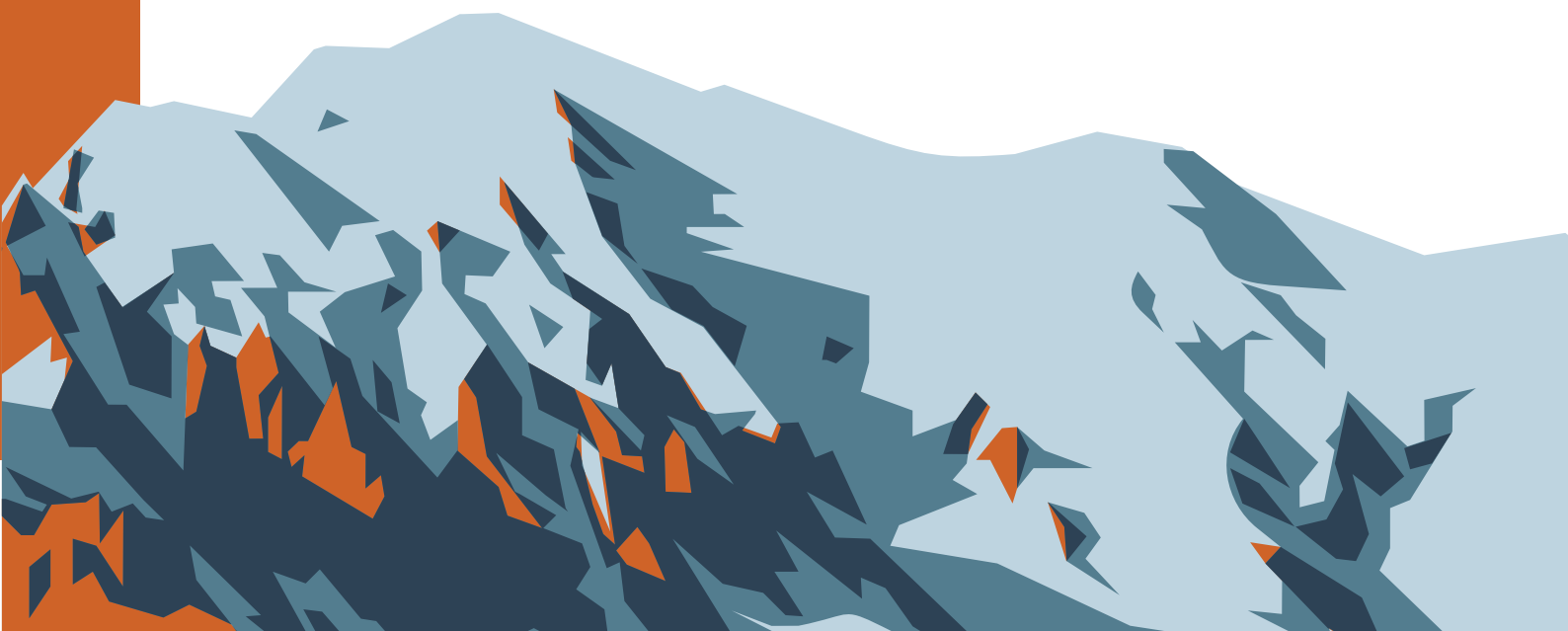
Technical Data & Information

GIRSBERGER

Mountain Rescue Technology



ATC Avalanche Training Center
avalanche-training-center.ch





TRAINING

ATC Avalanche Training Center

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

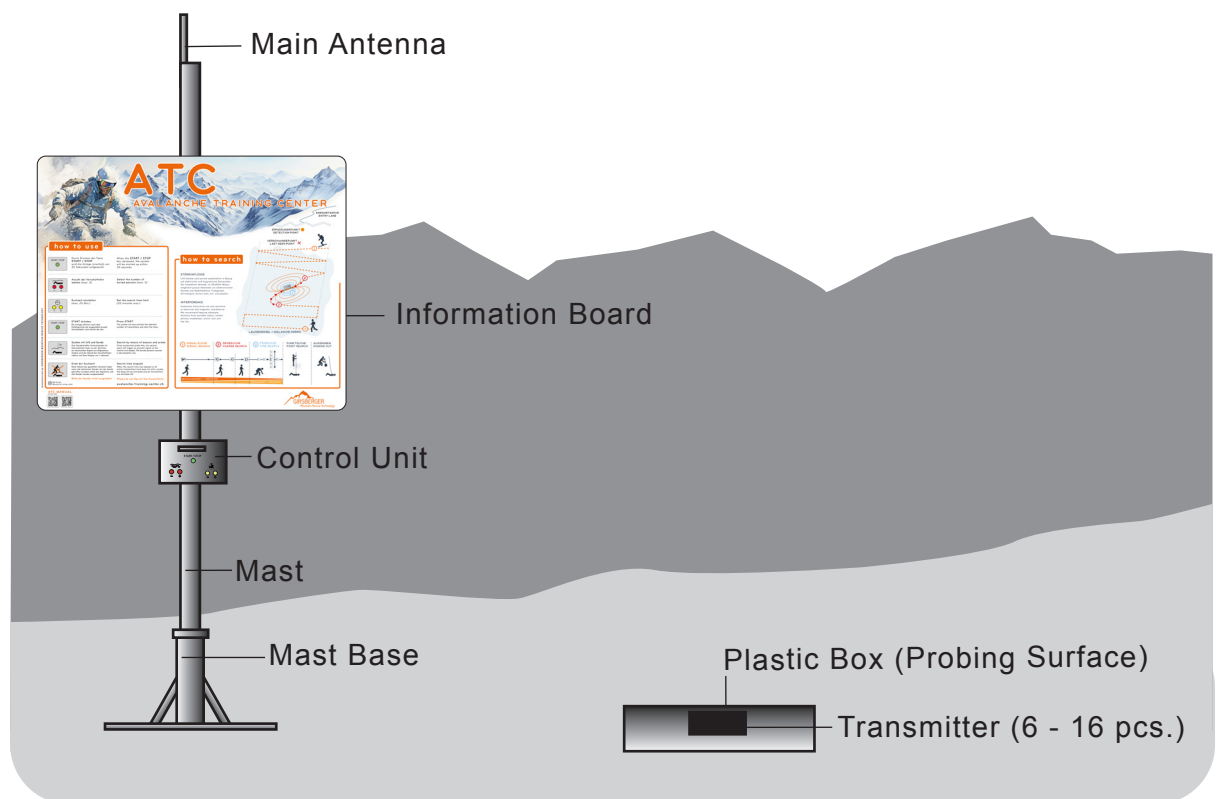
The system has been proven for a long time and has been overhauled completely in the year 2015. Some innovative solutions provided decisive advantages to the users and to the operators. The system can simulate from six to sixteen transceivers. The transmitters that are buried in the search area emit 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:	910 x 760 mm
Weight:	8 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 two 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





how to use

	Durch Drücken der Taste START / STOP wird die Anlage innerhalb von 35 Sekunden aufgeweckt.	When the START / STOP key is pressed, the system will be started up within 35 seconds.
	Anzahl der Verschütteten wählen (max. 5)	Select the number of buried persons (max. 5)
	Suchzeit einstellen (max. 20 Min.)	Set the search time limit (20 minutes max.)
	START drücken Die Anlage aktiviert nach dem Zufallsprinzip die eingestellte Anzahl Verschütteter und startet die Uhr.	Press START The system will now activate the selected number of transmitters and start the timer.
	Suchen mit LVS und Sonde Drei Sondentreffer hintereinander im Sekundentakt lösen an der Zentrale ein akustisches Signal aus (Signalton). Zudem wird der Stand des Verschütteten-zählers auf dem Display um 1 reduziert.	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.
	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.	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.

Bitte die Sender nicht ausgraben!
Please do not dig out the transmitters!

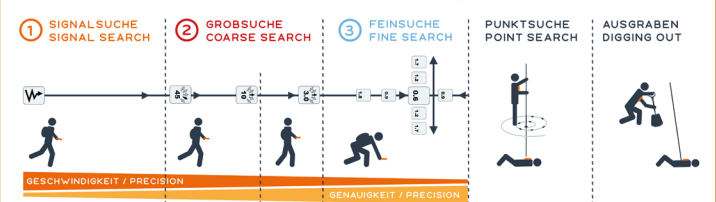
ATC MANUAL
SCAN ME



how to search

STÖREINFLÜSSE
LVS-Geräte sind extrem empfindlich in Bezug auf elektrische und magnetische Störquellen. Wir empfehlen deshalb, im SEARCH Modus möglichst grosse Abstände von elektronischen Geräten wie Mobiltelefone, Funkgeräte, Stirnlampen, Action Cam, etc. einzuhalten.

INTERFERENCE
Avalanche transceiver are very sensitive to electrical and magnetic interference. We recommend keeping adequate distance from portable radios, mobile phones, headlamps, action cam and the like.




1 SIGNALSUCHE / SIGNAL SEARCH **2 GROBSUCHE / COARSE SEARCH** **3 FEINSUCHE / FINE SEARCH** **PUNKTSUCHE / POINT SEARCH** **AUSGRABEN / DIGGING OUT**

GESCHWINDIGKEIT / PRECISION **GENAUIGKEIT / PRECISION**

manufactured by GIRSBERGER MOUNTAIN RESCUE TECHNOLOGY

@girsberger
@avalanche_training_center

avalanche-training-center.ch



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

ATC	Avalanche Training Center
LVS	Lawinenverschütteten-Suchgerät
Transmitter	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.
Probing Surface	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
 Belalp
 Bettmeralp
 Bivio
 Braunwald
 Champéry - Les Crosets
 Crans Montana*
 Disentis
 Fideriser Heuberge
 Flumserberg**
 Haute Nendaz Siviez
 Laax
 Les Savagnières
 Leysin
 Les Diablerets
 Malbun
 Meiringen-Hasliberg
 Minschuns / Val Müstair
 Moleson
 Mürren
 Pizol*
 St. Antönien
 Toggenburg/Sellamatt
 Val Bedretto
 (Capanna Piansecco)
 Verbier
 Wasenalp
 Zinal

Germany

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

Austria

Arlberg - Rendl*
 Bad Gastein
 Dachstein
 Goldeck*
 Jamtal (Galtür)
 Obergurgl*
 Praxmar
 Schmirn
 Stubaier Gletscher*
 Tschagguns
 Tux

Australia

Mount Hotham
 Thredbo NSW

Sweden

Niehku - Riksgränsen***

Italy

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

France

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

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. Stürze ins Rollen. Falls Lawinenschutz vorhanden, diesen auslösen. Solange der Schnee fließt, versuchen, sich mit einer Kraft an der Oberfläche zu halten. Kurz vor Stillstand Hände von Gesicht und versuchen Abwege möglichst frei zu halten.

Verhalten der Nichterfassten

- Leinwandübergang und Erste Hilfe (Verschüttungsstelle) genau beobachten
- Übersicht gewinnen - nachschauen - handtelt eigene Sicherheit beurteilen, Folgebefehle verwenden
- Alarmierung: Telefon, Funk (falls keine Verbindung vorher abgemacht)

Die Gruppe bereitet die Sonden und Schaufeln vor. Wenn die Alarme ertönen, erst nach abschließender Feinrecherche, Sende- und Schaufel herausnehmen und zusammenfassen.

ALARMIERUNG

Telefon (Land oder SMS) / App
Schweiz (Rufg): 144 / Rega-App
Kanton Valais: 144
Internationaler Notruf 112

UNFALLMELDUNG

Wo ist der Unfallort?
Wer meldet (Name, Telefonnummer, Standort)?
Was ist geschehen?
Wann ist der Unfall geschehen?
Wie viele Personen und ganz verschüttet, Helfer?
Wetter: an Unfallort?

ACCIDENT REPORT

Where is the accident location?
Who is calling (name, phone number, location)?
What happened?
When did the accident happen?
How many completely buried victims, helpers?
Weather: in the area?

1. SIGNALSUCHE

Primärsuchbereich festlegen (in Fließrichtung unterhalb des Verschüttungsgebietes). Den Leinwandpegel mit Augen und Ohren abschauen, zeitgleich mit der Signalfarbe beginnend (nicht benötigte LVS ausschalten). Bei mehreren Rettern wird der Leinwandpegel parallel abgelesen.

Die Suchstreckbreite wird von der Empfängerleistung des LVS bestimmt. (Siehe Aufdruck Gerätebeschriftung)

2. GROBSUCHE

Den ersten Signalempfang mit einem Stützkreuz markieren. Den Richtungspegel auf dem Display folgen. Kleiner werdende Entfernungsmessungen zeigen an, dass du dich auf den Fallstrich dem Verschütteten nähert.

3. FEINSUCHE

Auf Kreisläufe einkreuzen und das LVS dabei nicht drehen. Ort mit dem kleinsten Wert markieren. Erst jetzt Sende- und Schaufel herausnehmen und zusammenfassen.

4. PUNKTSUCHE

Beginn direkt bei der Markierung (kleinster Wert). Sendere im Abstand von 25cm systematisch spiral- oder rechteckig von innen nach aussen. Sende immer mit beiden Händen halten. Nach erfolgreicher Punkt-suche die LVS-Markierfunktion anwenden.

Tipps:
• Innerhalb um 90° Winkel zur Schneefläche drehen
• Nach einem Treffer Sende stecken lassen

5. AUSGRABEN

Bei einem Retter: die Verschüttungsstelle an der Sende ablesen, mit feinem Gelände diesen Wert zu und bis wenig bis vielen Gelände in langweiliger gehen und U-förmig beginnen.

Ab zwei Rettern: Förderbandtechnik anwenden. So rasch als möglich Kopf und Brust freilegen, Atemwege freimachen, Kontrolle ob Atemhilfe vorhanden (sonst: wegschleichen, falls keine Atemhilfe)

GESCHWINDIGKEIT GENAUIGKEIT

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

Markierfunktion anwenden, wenn Punkt 1 bis 4 abgeschlossen ist, bei einem Retter abschließend 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

ERSTE HILFE

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

- Nach BLS (Basic Life Support)
- Sind noch Vitalzeichen vorhanden, muss sofort reanimiert werden.
- Sind von weiterer Ausbildung, intensive Überwachung und Betreuung

WICHTIG

Nur mit einer vollständigen Notfall-ausrüstung hast du eine Chance, deine Freunde lebend aus einer Lawine zu bergen.

LVS + Schaufel + Sende + ca. 10 min.

LVS + Schaufel + ca. 25 min.

LVS + ca. 1 - 2 h

LVS STÖREINFLÜSSE

LVS-Geräte sind extrem empfindlich in Bezug auf elektrische und magnetische Störungen. Wir empfehlen deshalb, im SEARCH Modus möglichst grosse Abstände von elektronischen Geräten wie Mobiltelefon, Funkgeräte, Stirnlampen, Action Camcorder, etc. einzuhalten.

▶▶ 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 poles. If carrying an avalanche air-bag, release it. As long as the snow is flowing, try to stay 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 person 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
Switzerland (Rufg): 144 / Rega-App
Kanton Valais: 144
International emergency 112 / App Echo 112

ACCIDENT REPORT

Where is the accident location?
Who is calling (name, phone number, location)?
What happened?
When did the accident happen?
How many completely buried victims, helpers?
Weather: in the area?

1. SIGNAL SEARCH

Decide on the primary search area (downhill of the point of disappearance). Turn off all avalanche beacons not needed for the search. 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 set pole. Follow the directional arrow on the display. Decreasing distances 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 do 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 inside (your marker) to the outside of 25 cm intervals.

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

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

5. DIGGING OUT

In case of one rescuer: Read burial depth of probe. Use low angle terrain start breathing from nose that measurement downhill. In stronger terrain start with heel measurement downhill, shovel in a U shape.

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

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

SPEED PRECISION

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

Use the marker function after points 1-4 are completed. If alone proceed to point 5. 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.

FIRST AID

Switch off the avalanche transceiver of the found person (if you have to search for other persons)

- According to BLS (Basic Life Support)
- If no existing vital signs, start with resuscitation
- Prevent further cooling
- Watch and take care of the victim very carefully

IMPORTANT

Only with a complete avalanche safety kit, you and your friends will have a chance of surviving an avalanche.

Transceiver + shovel + probe + ca. 10 min.

Transceiver + shovel + ca. 25 min.

Transceiver + ca. 1 - 2 h

INTERFERENCE

Avalanche transceiver are very sensitive to electrical and magnetic interference. We recommend keeping adequate distance from portable radios, mobile phones, headphones, action camcorders and the like.

Herzlichen Dank unseren Sponsoren

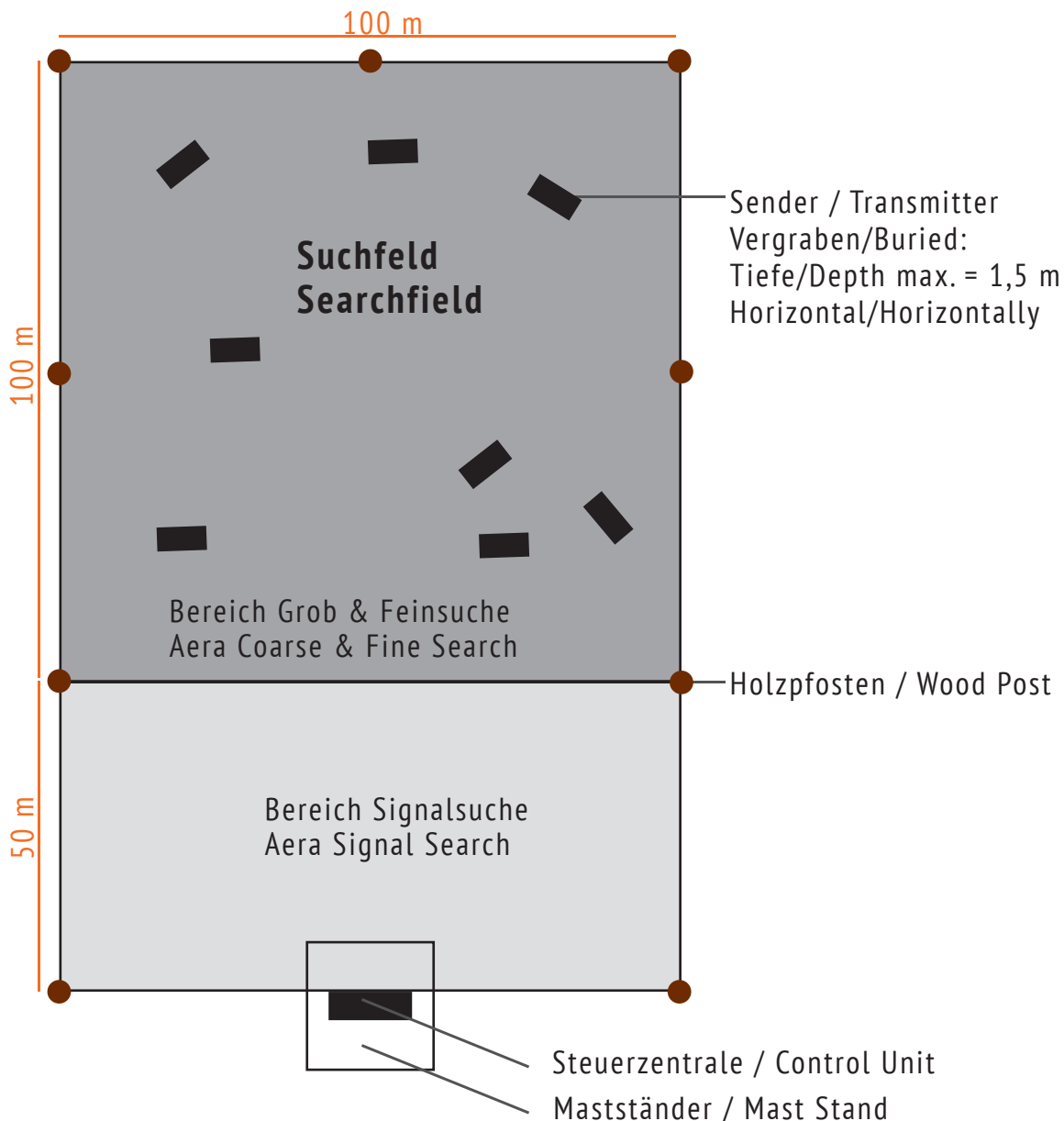
ATC Signpost

Material: Alu-Dibond

Dims.: 450 x 150 x 4 mm



ATC Aufbauanleitung / Assembly Guide



SEHR WICHTIG: 150 METER MINDEST ABSTAND VON STÖRQUELLEN:

VERY IMPORTANT: 150 METER MINIMUM DISTANCE FROM SOURCES OF INTERFERENCE:

- ELEKTRISCHE FREILEITUNGEN / ELECTRIC POWER LINES
- BERGBAHNEN, BESCHNEIUNGSANLAGEN / MOUNTAIN RAILWAYS, SNOWMAKING SYSTEMS
- TECHNISCHE GEBÄUDE, TRAFOSTATIONEN / TECHNICAL BUILDINGS, TRANSFORMER STATIONS,
- PISTEN (LVS GERÄTE) / SLOPES (AVALANCHE TRANSCIEVERS)

SEHR WICHTIG: KEINE ELEKTRISCHE BODENLEITUNGEN INNERHALB DES SUCHFELDES

VERY IMPORTANT: NO ELECTRICAL GROUND LINES WITHIN THE SEARCH FIELD

SICHERHEITSEMPFEHLUNG: ABSPERRUNG UND UMZÄUNUNG DES ATC

SAFETY RECOMMENDATION: CORDON OFF AND FENCE OFF THE ATC

EMPFEHLUNG ERKENNBARKEIT: PISTENPLAN EINBINDUNG, BESCHILDERUNG, FAHNEN ETC.

RECOMMENDATION RECOGNISABILITY: PISTE MAP INTEGRATION, SIGNAGE, FLAGS, E.G.

MASTSTÄNDER: GEWICHT BELASTEN (Z.B. STEINE, WASSERKANISTER)

MAST STAND: BURDEN WITH WEIGHT (E.G.)



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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