

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.

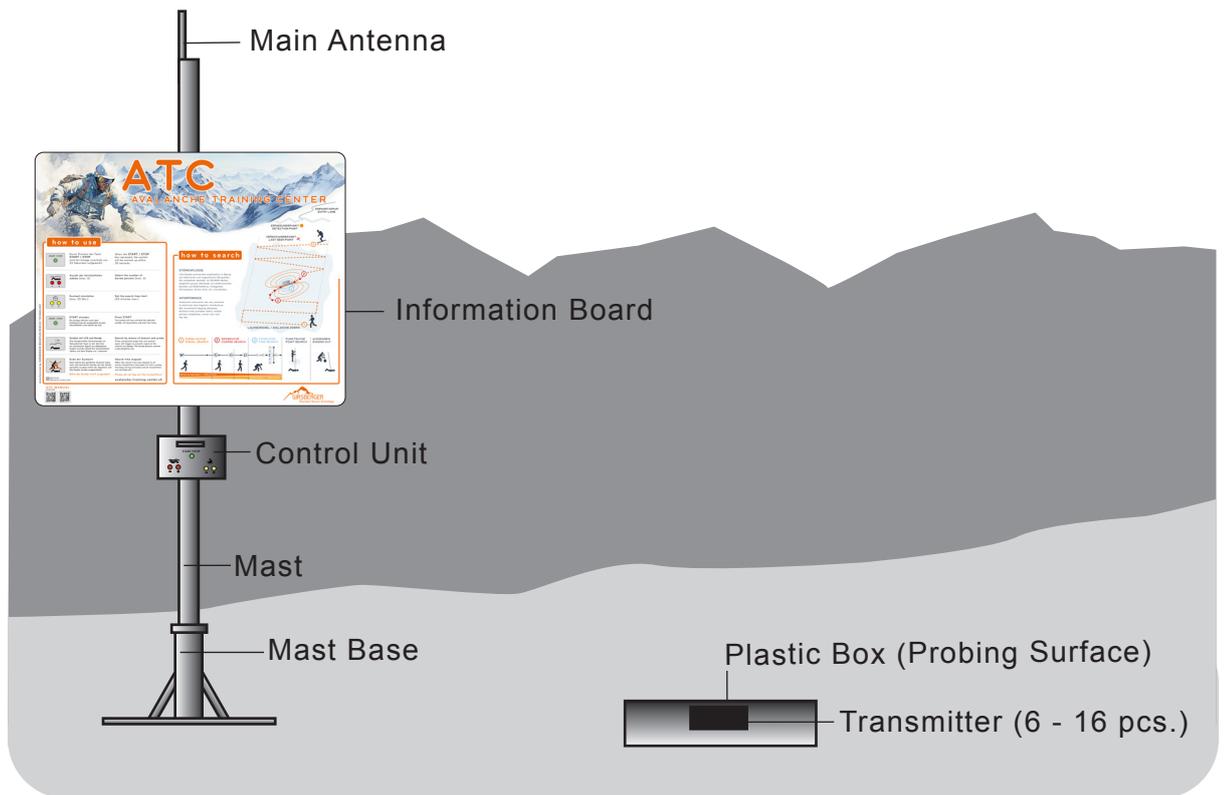
The system has been proven for a long time and has been overhauled completely in the year 2015. Some innovative solutions provided decisive advantages to the users and to the operators. The system can simulate from six to sixteen transceivers. The transmitters that are buried in the search area emit 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. Bitte die Sender nicht ausgraben!	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 transmitters!

@girsberger
@avalanche_training_center
avalanche-training-center.ch

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



GESCHWINDIGKEIT / PRECISION

② GROBSUCHE
COARSE SEARCH



GESCHWINDIGKEIT / PRECISION

③ FEINSUCHE
FINE SEARCH



GENAUIGKEIT / PRECISION

PUNKTSUCHE
POINT SEARCH



AUSGRABEN
DIGGING OUT





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 Lawinenschütteten-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*
Flumserberg**
Haute Nendaz Siviez
Laax
Leysin
Les Diablerets
Malbun
Meiringen-Hasliberg
Minschuns / Val Müstair
Moleson
Mürren
Les Savagnières
St. Antönien - NEW
Toggenburg/Sellamatt
Pizol*
Val Bedretto
Capanna Piansecco
Verbier
Wasenalp
Zinal

Germany

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

Austria

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

Australia

Mount Hotham
Thredbo NSW - NEW

Sweden

Niehku - Riksgränsen***

Italy

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

France

Alpe d'Huez*
Courchevel*
Grand Massif**
Labellemontagne
La Plagne - NEW
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

Verstärken, der Lawine zu entkommen, sich zurückziehen, Fallschirmabwurf vorbereiten, diesen auslösen. Sollte der Sucher bereits verschüttet, nach Möglichkeit mit der Grabsonde in die Lawe, Kopf vor Brustland Marke von Geräusch und visueller Anweisung möglichst tief zu halten.

Verhalten der Nichterfassten

„Lawineeingang und Erlasse“ (Verschüttendatum) geben bescheinigen
„Übersicht gewinnen - nachdenken - handeln“ (Lage, Markierung, Suchstrategie, Fallquartale vermeiden)
„Alarmierung“ (Alarm, Funk (falls keine Verbindung später Alarmieren))

Die Gruppe überlebt die Suchen und Suchverfahren. Wenn die Erlasse nicht, sind nicht abgezeichnet, sind die Suchen und Suchverfahren. Suchen und Suchverfahren herausheben und auszuwerten.

ALARMIERUNG

Telefon (Anruf oder SMS) App
Schwanz (Regio) 1414 / Regio-App
Ketten Mobil, 144
Internationaler Notruf: 112

UNFALLMELDUNG

Wer ist der Unfallort?
Wer meldet Name, Telefonnummer, Standort?
Wer ist gestochen?
In der Unfall geschah?
Wie viele Personen sind ganz verschüttet, verletzt?
Wann am Unfallort?

1. SIGNALSUCHE



Primärsuchbereich festlegen (in Fließrichtung unterhalb des Verschüttendepots). Den Lawineverlauf mit Auge und Ohr beobachten, möglichst mit der Suchstrategie beginnen (nicht benötigte LVS ausschalten) für andere Personen wird die Lawineverlauf parallel abgelesen? Die Suchstrategie (SS) wird von der Empfangsleistung des LVS bestimmt. (siehe Aufdruck Gerätefunktionen)

2. GROBSUCHE



Den ersten Signalempfang mit einem Schrittmesser markieren. Die Richtungspfeile auf dem Display folgen. Keine weitere Suchstrategie geben zu, bis du dich auf den Empfänger zum verschütteten nähert.

3. FEINSUCHE



Auf Kniehöhe einkreuzen und das LVS dabei nicht entfallen. Ort mit dem kleinsten Wert markieren. Erst jetzt Sonde und Schaufel herausnehmen und zusammensetzen.

4. PUNKTSUCHE



Beginne direkt bei der Markierung (kleinsten Wert). Steudere im Abstand von 25cm systematisch kreuz- oder rechteckig von innen nach außen. Sonde immer mit beiden Händen halten. Nach erfolgreicher Punktprobe die LVS-Gerätefunktionen anwenden.

Tipps:
- Immer im 90° Winkel zur Schneefläche ändern
- Nach einem „Tuner“ Sonde stecken lassen

ERSTE HILFE

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

- Nach BLS (Basic Life Support)
- Sand keine Verschlüsse verwenden, muss sofort entfernt werden.
- Schutz vor weiterer Ausbreitung
- Intensive Überwachung und Betreuung

WICHTIG!

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

LVS 1: Mindest 1 Stunde > ca. 10 min.
LVS 2: Mindest 2 bis 30 min.
LVS 3: ca. 1-3 h

LVS STORENFLÜSSE

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

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

Markierungsbereich annehmen, wenn Punkt 1 bis 4 abgeschlossen ist. Bei mehreren Rettern abwechselnd 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

►► 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 person caught (remember the last seen point)
- Get an overview - think - act - assess your own safety, avoid further accidents
- Alert rescue services: Phone, radio (if no connection, alert later)
- If in a group prepare probe and shovel.
- If alone wait until you have finished the fine search before assembling probe and shovel.

ALARM

Phone (Call or SMS) App
Swissland (Regio) 1414 / Regio-App
Central 144, 144
International emergency: 112 / App Echo 112

ACCIDENT REPORT

Where is the accident location?
Who is calling (name, phone number, location)?
What happened?
How did the accident happen?
How many completely buried victims, trapped?
Where? 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 performance.

2. COARSE SEARCH



Mark the first signal reception with a stick pin. Follow the directional arrow on the display. Decreasing distance indicates 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 clear 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 at 25 cm intervals.

Tipps:
- Always probe at a 90 degree angle to the down surface.
- when you locate the buried companion leave the probe in place.

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 scaling and spine, 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 1: about 1 probe > ca. 10 min.
Transceiver 2: about 1 ca. 25 min.
Transceiver 3: ca. 1-3 h

INTERFERENCE

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

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.

Herzlichen Dank unseren Sponsoren









ATC
Bedienungshandb./Manual



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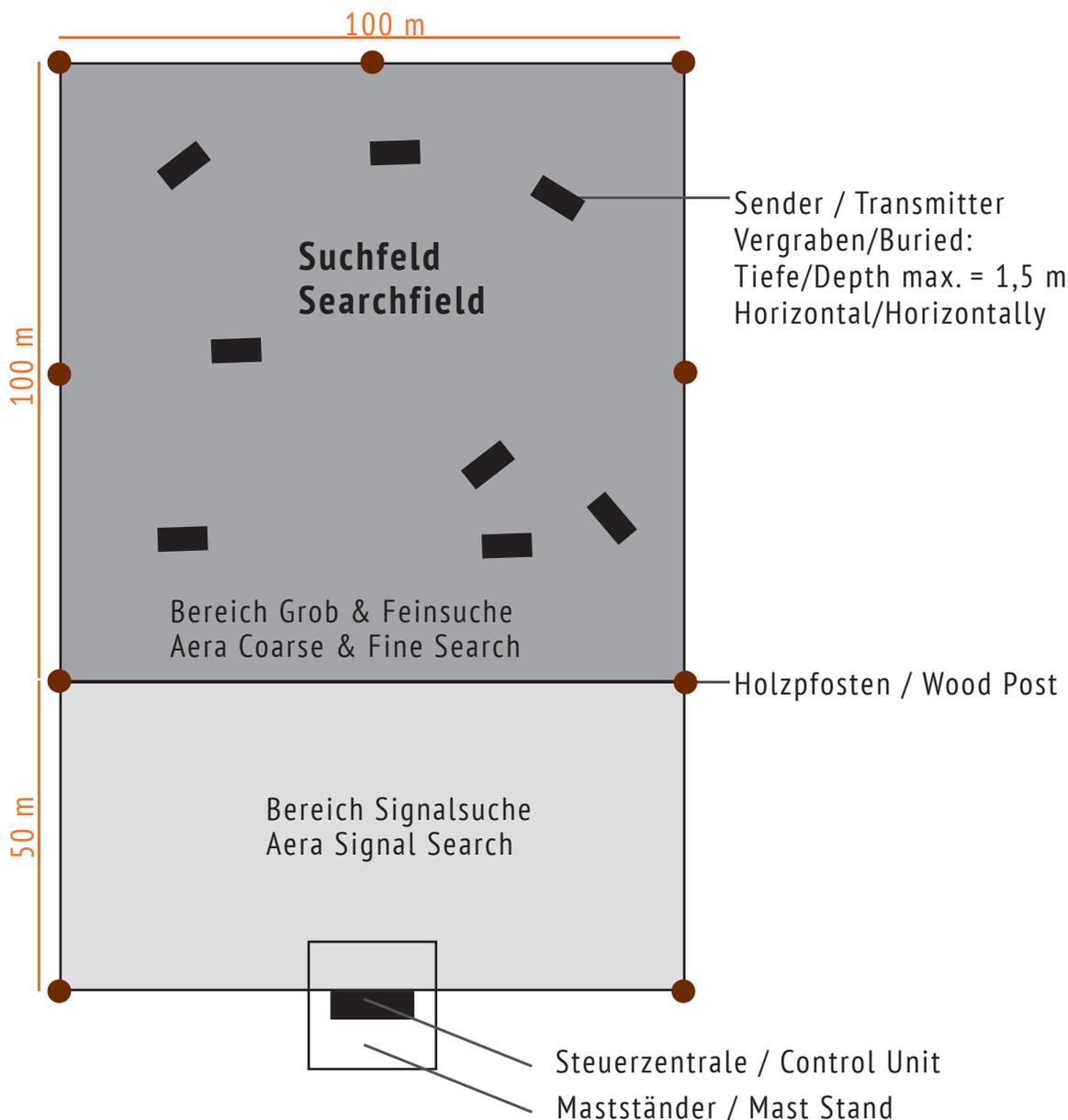
ATC Signpost

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 TRANSCEIVERS)

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.)



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CE

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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