



MAMMUT®

Absolute alpine.



Barryvox®/Barryvox® S Training documents

mammut.com

SWISS TECHNOLOGY 



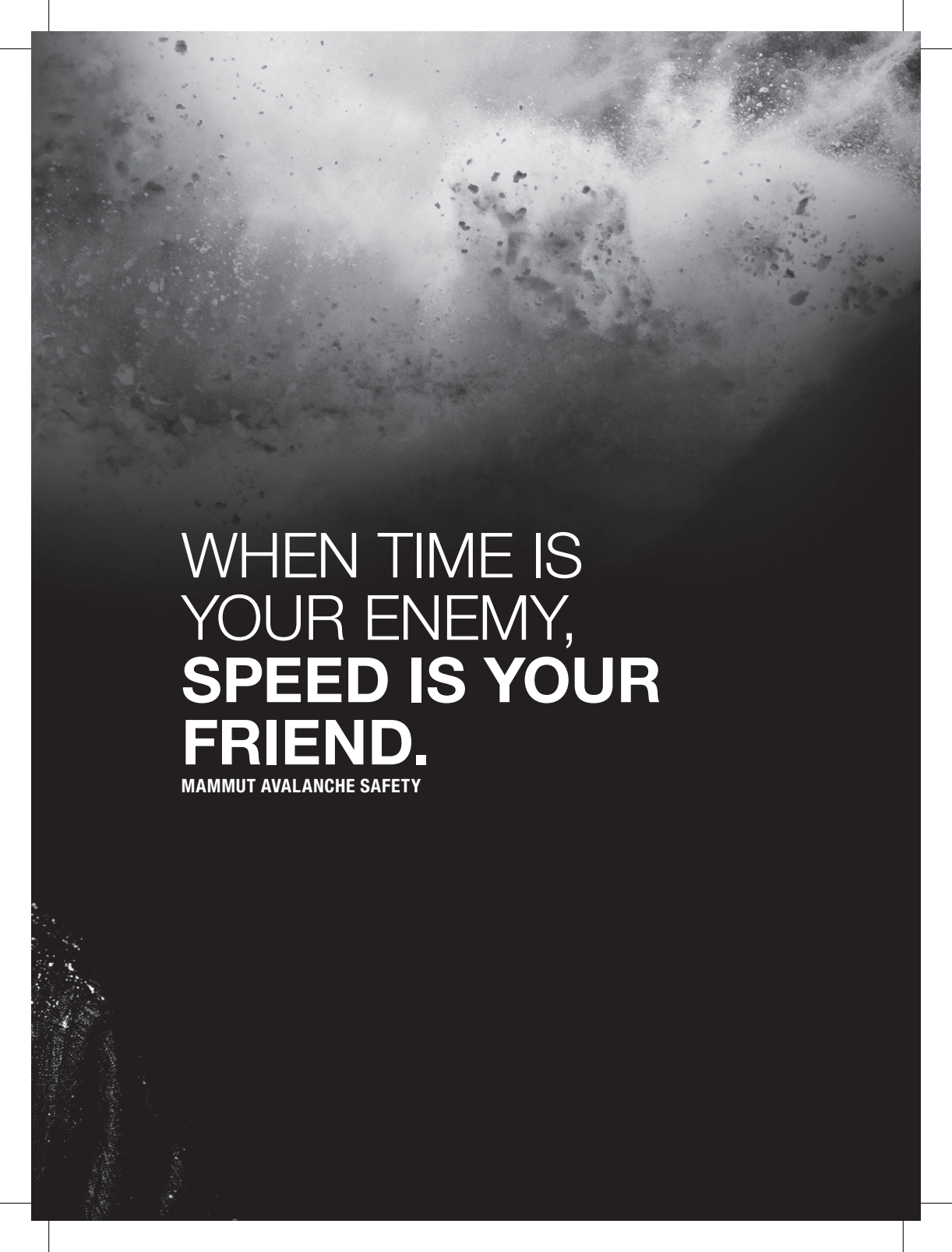
Photo: Thomas Sarr

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For simplicity's sake, only the masculine form of pronouns has been used in these texts. It is of course understood to always implicitly include the feminine form as well.





WHEN TIME IS
YOUR ENEMY,
**SPEED IS YOUR
FRIEND.**

MAMMUT AVALANCHE SAFETY

POWERFUL. EASY. FAST.

THE NEW BARRYVOX® S.



The new Barryvox® generation combines a highly powerful search with intuitive handling, to help you find buried subjects quickly, easily and reliably.

POWERFUL SEARCH

Search strip width of 70 m.
Or why performance can save lives.

EASY HANDLING

Completely revised user interface.
Or why simpler is often safer.

FAST RESCUE

Smart Search Or why direct guidance gets you to your target faster

MADE IN SWITZERLAND +

Intro

Dear customer,

For years, Mammut's avalanche safety products have been making a significant contribution to safety in the mountains, allowing you to experience safer, unforgettable moments.

The name Barryvox® has stood for reliability and innovation in the area of avalanche transceivers since 1968 and is synonymous with reliability in rescue scenarios.

What could be better than spending an unforgettable, safe and carefree day in the mountains with family and friends? Practicing rescue drills together strengthens trust in your products and gives you greater appreciation of what safety actually means.

The Mammut difference: its Barryvox® is one of the most reliable avalanche transceivers in the world. Thanks to the Barryvox®, your safety is dependably in the hands of your companions in the worst case scenario.

Ilari Dammert

Senior Product Manager
Mammut Avalanche Safety



1. Background

“Barry”, your lifesaver in the snow

... perhaps the world’s oldest avalanche transceiver system – since 1800



1810



1968



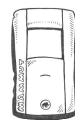
1994



1997



2006



2011



2017

MAMMOT BARRYVOX
AVALANCHE SAFETY SINCE 1968

1810

“Barry”, the brave St Bernard dog, lived from 1800 to 1814 and saved over 40 people in the mountains around the Great Saint Bernard Pass from ice and snow. Situated at an altitude of over 2,400 meters, this mountain area is one of the harshest climate zones. Fierce snow storms sweep over the summits and passes. In the middle of this remote mountain landscape, the Holy Order of St Bernard of Menthon founded a refuge, known as a hospice, around 1050 AD. Their aim was to offer protection, help and hospitality to the people who were forced to cross the mountains by foot at the time.

The monks needed helpers to accompany them on their arduous treks through ice and snow. They therefore decided to breed the famous St Bernards, large, very intelligent and trainable dogs with a wide chest and powerful paws. The breed is good natured, great with kids and devotedly loyal to their owners.

1. Background

Out of the many dogs who saved countless human lives, the St Bernard named Barry rose to particular fame. His name is derived from the word “Bari”, which means little bear in the Bernese dialect. Barry was a dog with an exceptionally keen sense of smell, great sensitivity, courage and an almost supernatural ability to sense approaching danger, blizzards and avalanches.

One of his historically documented heroic deeds was the rescue of little Mario. One evening, Barry was very restless and kept whimpering and running to the door. “Hold on, Barry”, called the monk Benno (Barry’s best friend), “I’ll get the lantern!” But as soon as he had opened the door a crack, Barry pushed past him and disappeared into the darkness.

A storm was raging. Drifting snow swept over the slopes. Barry fought his way through the blizzard, meter by meter, without lifting his nose. He ran straight ahead, stood still, ran in a semi-circle, stood still again and sniffed. He then jumped forward and began barking furiously. A child was lying there in the deep snow. He wasn’t moving. Barry licked his hands and face. He kept pushing the child with his nose until he came round. He was stiff with cold. Barry lay beside the child to warm him up.

The child painfully stretched out his hand out and grasped the dog’s soft fur. Without showing any fear of the great animal, lying on his back, he clung onto Barry’s collar. Barry then cautiously stood up and carried the child all the way back to the hospice.

Barry’s heritage remains. His body was embalmed in the Natural History Museum in Berne, where it can be viewed by admirers of the legendary rescue dog.

-vox (Latin)

Original meaning: loud, noise

Current meaning: voice

Still found in many languages: voix (French), voce (Italian), voice (English)

1. Background

Register your Barryvox® and receive a three-year extension to your warranty!

Register your **Barryvox® device** at **barryvox.com** to receive important information about software updates. On successful completion of registration, you will receive a free three-year extension to your warranty. This will give you a total of five years' protection for your Barryvox® device, consisting of the warranty and guarantee.



Simply scan the QR code on the side of the packaging to easily register your Barryvox® in less than two minutes.



1. Background

Made in Switzerland Barryvox® avalanche transceivers

Perpetuating our heritage. Mammut and Barryvox® stand for the tradition of world-leading Swiss quality products. From the first design sketches through to development and production, the entire process takes place in Switzerland. The device is compatible with all avalanche transceivers that meet the EN 300718 standard and therefore operate on the frequency of 457 kHz.

2. USPs

USPs

It is the Barryvox® that you already know: over 45 years of experience, produced and developed entirely in Switzerland, an item you can rely on unconditionally when it counts.

The new Barryvox® generation continues the faultless reliability that the previous avalanche transceivers were known for. At the same time, we have incorporated some major enhancements in terms of usability and performance.

However, the new Barryvox® is not just the device with one of the largest ranges and widest reliably usable search strips on the market. Where the Mammüt® avalanche transceiver really stands out is its intuitive operation. Because we realize: that it is only if you can operate your device almost with your eyes closed that you will actually manage to use it correctly in an emergency.

Top performance and simple operation can mean a critical time saving, especially under stress. The new Barryvox® generation combines a highly powerful search with intuitive handling, to help you find buried subjects quickly, easily and reliably.

POWERFUL SEARCH
PERFORMANCE
CAN SAVE LIVES



EASY HANDLING
SIMPLER IS SAFER



FAST RESCUE
STRAIGHTFORWARD
IS QUICKER



2. USPs

POWERFUL SEARCH

PERFORMANCE

CAN SAVE LIVES

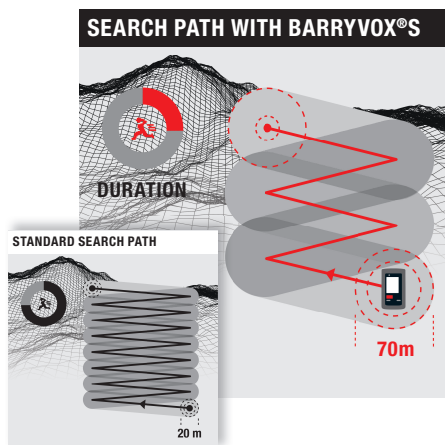
Search strip width of 70m: Or, why performance can save lives

Larger, circular ranges mean that buried transmitters are detected faster, search strips are wider, search paths over the avalanche deposit shorter and buried subjects are found faster.

With a search strip width of 70 meters (digital mode) and a reliably usable range of 70 meters, the Barryvox® S is one of the top devices in the world.

This high performance reduces the search path over the avalanche deposit and therefore shortens the search time.

We insist on maximum performance, because we know:
performance that saves time saves lives.



Search strip width: 70m

Circular receiving bandwidth: up to 70 meters

For a shorter search path and less lost time

2. USPs

EASY HANDLING

SIMPLER IS SAFER

Completely revised user interface: Or, why simpler is often safer

Performance brings benefits only if the user can tap into it as simply as possible. We have therefore carried out a complete review of the operation of the Barryvox® S.

From an easy-to-read display to buttons that can be operated even wearing gloves, shock-proof and break-proof housing, intuitive acoustic search guidance and a revolutionarily simple visual interface, the Barryvox® S shows that powerful performance does not need to be complicated.

Because we know: **only an avalanche transceiver that is easy to use will save lives in an emergency.**

INTUITIVE HANDLING



Extra-large, easy-to-read display

Intuitive acoustic search aid

Simplified visual interface

User-friendly, even in situations of extreme stress

2. USPs

FAST RESCUE

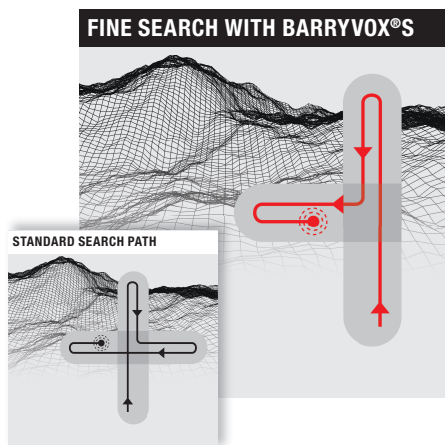
STRAIGHTFORWARD

IS QUICKER

Smart Search: Or, why direct guidance gets you to your target faster

As well as indicating the distance and direction to the buried subject, the Barryvox® S also navigates you unbelievably precisely and intuitively during the search.

Complex burial situations remain understandable even under stress. **In short: just follow the arrow!**



Intuitive, arrow-guided navigation for easy use

Extremely reliable navigation

Guided search to avoid detours

Benefits in detail

Powerful search - Search strip width of 70 m. Or why performance can save lives

Effective search strip width

The Barryvox® has a search strip width of 70 meters. In analog mode, the Barryvox® S even reaches 100 meters. A wider search strip width allows the first signal from a buried device to be received sooner. For you as the rescuer, this means you can switch faster from the signal search to the coarse search, and therefore be guided more quickly to the buried subject by the direction and distance indicator.

The Barryvox® recognizes any deviation of a TRANSMITTER from the standardized frequency (457 kHz). As transmitters that deviate from the avalanche transceiver frequency are more difficult to locate, the Barryvox® automatically shows a reduced search strip width in the display.

Definition of the search strip width

The search strip width determines how quickly an avalanche can be searched. The search strip width ensures that the avalanche transceiver's receiving bandwidth is sufficient to reliably search the avalanche deposit for buried subjects in an "overlapping" pattern.

For a chance of survival, the time to search a given area must be weighed up against the likelihood of overlooking a buried person (according to Walter Good, 1986*). The larger the search strip width, the faster a signal can be received from the buried subjects and the shorter the search time. In the case of search strip widths of 60 meters or more, in a large proportion of avalanches, it is possible to receive all signals in the very first search strips.

On the other hand, small search strip widths of around 20 meters require a longer search path. Not only does the additional time reduce the chances of survival by an average of 15%, the longer search path also means that the rescuer is forced to expend more physical energy before he or she even starts digging. Devices with a small range also have a far lower tolerance in relation to underestimating and overestimating the search strip width on the avalanche.

**SEARCH
STRIP WIDTH**

**70 m digital
100 m analog**



* Good, W., 1987. Electronic transceivers for locating avalanche victims, an optimal strategy for the primary search. Proceedings ISSW 1986, International Snow Science Workshop, Lake Tahoe, California, U.S.A., 22–25 October 1986. ISSW Workshop Committee, Homewood, CA, USA, pp. 177–182. Genswein M., Reiweger I., Schweizer J. 2009. Paper: Survival chance optimized search strip width in avalanche rescue, Cold Regions Science and Technology 59 (2009) 259–266

3. Selling points in detail

Range

The new generation of the Barryvox® is distinguished by an excellent range of up to 70 meters. Thanks to the two main antenna (X and Y antenna), the device covers an almost circular search area. For the rescuer, this means faster and more reliable reception of the first signal, and for the buried subjects, improved chances of survival.

Barryvox® S Extended Search Range

Extended search range (analog): up to 95 meters

Extended search strip width (analog): 100m

Circular receiving field: almost identical range for the X and Y antennas

The Barryvox® is a 3-antenna device. This allows an easily understandable search using a direction and distance indicator and reliable fine-searching in close range, even with deep burial depths and in difficult conditions.



Batteries

The Barryvox® S and Barryvox® are operated as standard with alkaline batteries. The Barryvox® S is also compatible with lithium batteries. In low temperatures, lithium batteries offer longer operating times and cause virtually no damage in the event of a leak.



Alkaline battery life: approximately 300 hours SEND*

Barryvox® S Lithium-compatible: operating time 350 hours SEND*

* Standard requirement: at least 200 hours SEND at 10 degrees Celsius, followed by 1 hour SEARCH, at -10 degrees Celsius

3. Selling points in detail

Easy handling – completely revised user interface: Or, why simpler is often safer

Display: with background lighting, very easy to read even when wearing polarized glasses
Large displays with background lighting ensure excellent clarity in all light conditions, even when wearing polarized glasses. The Barryvox® S has a 2.2 inch fully graphic display, while the Barryvox® has a 2.0 inch segment display.

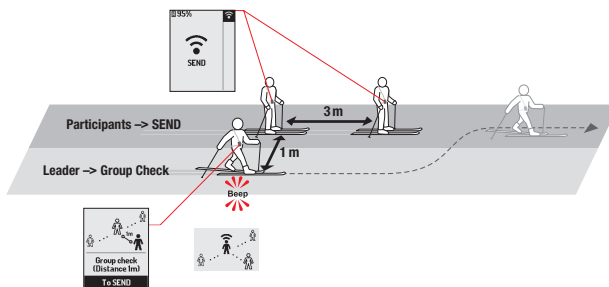
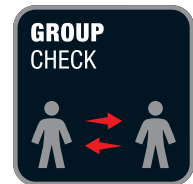


Acoustic search guidance: allows the rescuer to visually search the avalanche field
The tone (patent pending) allows you to concentrate visually on the avalanche field during the search. The tone becomes louder and faster when you are going in the right direction and moving closer to the buried subject.



Group test with clear instructions

The intuitive group test function on your Barryvox® or Barryvox® S is carried out at the start of a tour to quickly and easily check the transmission frequency and level, and make sure that all devices are in SEND mode and transmitting without any technical issues. The group test is an essential part of any tour, like the partner check in climbing.



3. Selling points in detail

User interface shows distance, direction and number of buried subjects

The Barryvox® interface guides you quickly and reliably from the signal search through the coarse and fine search to the buried subject. The Barryvox® can be operated in a similar way to a smartphone, which speeds up the familiarization process enormously.

USER INTERFACE



Design: ergonomic design, impact-proof and break-proof, can be operated wearing gloves

The Barryvox® has been designed to ensure it can be used without hesitation even under extreme conditions: It fits ideally in your hand, the main switch can be operated from the top and the front, all buttons are glove-compatible and suitable for both left- and right-handed users and the speaker cannot be covered.

ERGONOMIC HANDLING



Self-test function

The Barryvox® self-test checks that the device is transmitting and searching correctly before you set out each time. It also checks that the batteries have sufficient capacity.



3. Selling points in detail

Fast Rescue – Smart Search: Or, why direct guidance gets you to your target faster

Barryvox® S Smart Search: reacts to the rescuer's actions/movements during the search. This makes searching simpler and more reliable.

The Barryvox® S is the first avalanche transceiver capable of reacting to the user's actions. In the event of misuse, the system corrects the error and always guides the rescuer on the ideal path. Instead of following a rectangular search pattern (fine-searching in a cross (bracketing)) in the fine search as before, the guided fine search guides the user interactively to the target. This feature makes the Barryvox® S one of the simplest search devices on the market for users.



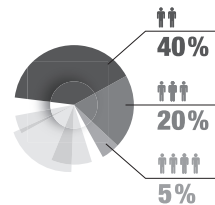
Multiple buried subjects: Digital signal processing in the event of several buried subjects.

The classic scenario of buried subjects assumes one buried subject and one or more rescuers. However, the reality does not always reflect this theory. In Switzerland, around 40% of people buried in an avalanche are involved in an event with multiple buried subjects, which makes searching significantly more difficult.

Devices without a marking function can sometimes send rescuers to and fro between two buried subjects, wasting valuable time and reducing the chances of survival for the persons involved. The marking function allows the rescuer to search for each buried subject as if he or she were the only person involved.

The avalanche transceiver filters out the signals of the other buried subjects. As soon as you have found and marked the first person, the Barryvox® guides you on. While your team-mate starts digging out the first buried subject, you are already on your way directly to the second one.

Accidents involving multiple burials occur more often than generally assumed: 40% of all buried subjects are involved in an accident with two people, for 20% of buried subjects, more than three people are involved. And 5% of cases even involve four or more buried subjects*. This makes it even more important for avalanche transceivers to make it as simple as possible for ski tourers and freeriders to operate them.

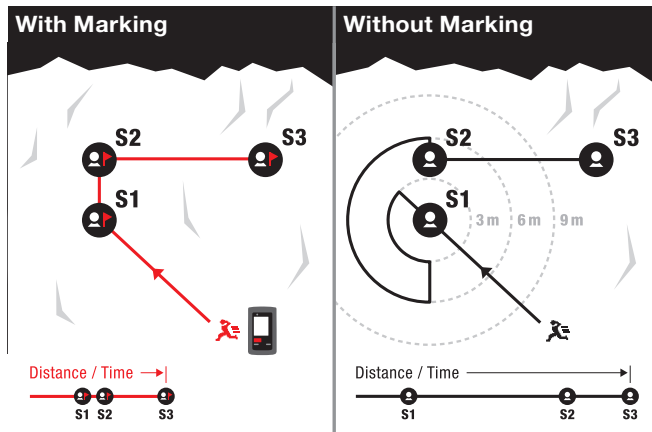


* Schweizer, J., 2014. On the frequency of avalanche incidents with multiple victims [Abstract]. High Alt. Med. Biol., 15(2): A-278.

3. Selling points in detail

Marking function: buried subjects are recorded in a list and can be marked

The Barryvox® recognizes the buried subjects (pattern recognition) and adds them to the list. The marking function allows you to mark these individuals as “found”. Pattern recognition and the marking function also make it possible to find multiple buried subjects without having to use special search methods such as the 3-circle method.



The Barryvox® automatically maintains an overview of the located buried subjects within the receiving bandwidth, even during the fine search.

The revised marking function allows the rescuer to search for multiple buried subjects in the same way as for just one subject. Reduced complexity when searching means greater speed and reliability in locating.

Barryvox® S (Pro Search): Buried subjects can be selected from the list and also be unmarked (UNMARK)

3. Selling points in detail

Automatic switching from search to send (Auto Revert):

if a rescuer does not move for 4 minutes, we assume a secondary avalanche and the device switches to SEND mode (motion sensor-controlled)

Barryvox® S: automatic switching from search to send can be adjusted in the device settings.



Barryvox® S Rescue Send: is a protective feature for non-searching rescuers in the event of burial by a secondary avalanche.

In this mode, the 457 kHz transmitting signal is temporarily stopped to avoid disrupting the search for buried subjects. The motion sensor detects any burial by a secondary avalanche and automatically switches to SEND mode. This allows the buried rescuer to be found using the avalanche transceiver.



Barryvox® S Auto Guidance: The device continues to guide the rescuer to the buried subject in the event of signal failures or overlaps

Your Barryvox® S guides you toward the target even in the event of signal overlaps or brief signal failures. This means that you no longer need to wait for the device to separate overlapping signals or for the receiver to recognize a signal again. Instead, you can continue to search for buried subjects without any interruption.



Barryvox® S Vital Data

The highly sensitive acceleration sensor (g-sensor) in your Barryvox® S measures even the tiniest movements in the body, caused by the activity of the heart or lungs, for example.

Each movement is interpreted as a sign of life and displayed, by means of W-Link as "high chance of survival" information in the list of buried subjects on the searching devices.



3. Selling points in detail

How is the vital data function used?

Any motion within a certain maximum period of rest is interpreted as a sign of life. The buried subject is thereby considered as belonging to the category with "increased chance of survival." Buried subjects who survive the first 35 minutes are likely to be able to breathe within the avalanche (air pocket) and to have higher chances of survival.

At the same time, the detectability of vital data decreases due to increasing hypothermia. Buried subjects who have survived the first 35 minutes according to the vital data are therefore considered to belong to the category with "increased chance of survival" for the entire duration of their burial time.

All buried subjects not carrying a device capable of detecting vital data or whose device does not detect any vital data belong to the category with "unknown chance of survival."

The data is displayed both on the buried device itself and sent via W-Link radio transmission to the rescuers' devices. Rescuers determine which order to search for and excavate buried subjects based on the list of buried subjects. The use of the vital data triage criterion reduces the burial time of the buried subjects in the "increased chances of survival" category. The overall efficiency of the rescue mission is thereby increased.

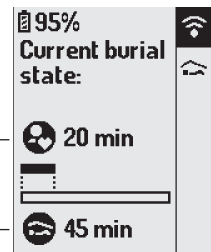
The vital data is insufficient for a medical assessment of the buried subject. It is not a substitute for a thorough assessment by medical experts (physician).

Only rescuers carrying an avalanche transceiver with W-Link radio communication are capable of receiving vital data.

What do the times shown under "vital data" in SEND mode mean?

If you press a button in SEND mode, the data from the most recent burial appears. The lower time is the total burial time; the upper time is the time during which the device has detected vital data.

The device stores the last five burials and automatically overwrites the data for the oldest one in the event of a new avalanche. The burial history can be viewed by scrolling in the list at the side.



The person has not moved for 45 minutes.

Vital data for the buried person was measured in the first 20 minutes of the burial time.

4. Additional features

Additional features

Digital signal processing (DSP)

Digital signal processing means that the signal is processed completely automatically. For the rescuer, this means extremely fast digital reception of the first signal with reliable indication of direction and distance, as well as reliable recording of multiple buried subjects in the list, even in challenging search scenarios.

Barryvox® S Advanced Search Settings

Individually configurable search settings: Pro-Search, acoustic and visual guidance; automatic switching from search to send (Auto Revert)

Barryvox® S users can configure their device to suit their preferences. For example, it is possible to fine-tune the Pro-Search, as well as the acoustic and visual guidance and automatic switching from search to send.



Barryvox® S Alternative Search Mode: (analog) helps to resolve challenging search scenarios.

The alternative search mode (analog search mode) increases the range of your Barryvox® S to around 95 meters. This feature also helps you to reliably resolve challenging search scenarios (many buried subjects, very deep burial depths or high avalanche deposit). Analogue mode is ideal for special search strategies, such as the 3-circle method, micro-search strips or fine searching in a circle. The receiver sensitivity can be adjusted manually.



What is the benefit of the Pro-Search setting in the Barryvox® S?

The analog tone makes it possible to grasp demanding burial situations very quickly and extremely reliably. In particular, the correct number of buried subjects can be determined simply and reliably using a sound check.

In challenging search scenarios (many buried subjects, very deep burial depths or high avalanche deposit), the analog tone is the only reliable aid to help you decide whether to use a special search strategy such as the 3-circle method or micro-search strips in the alternative search mode.

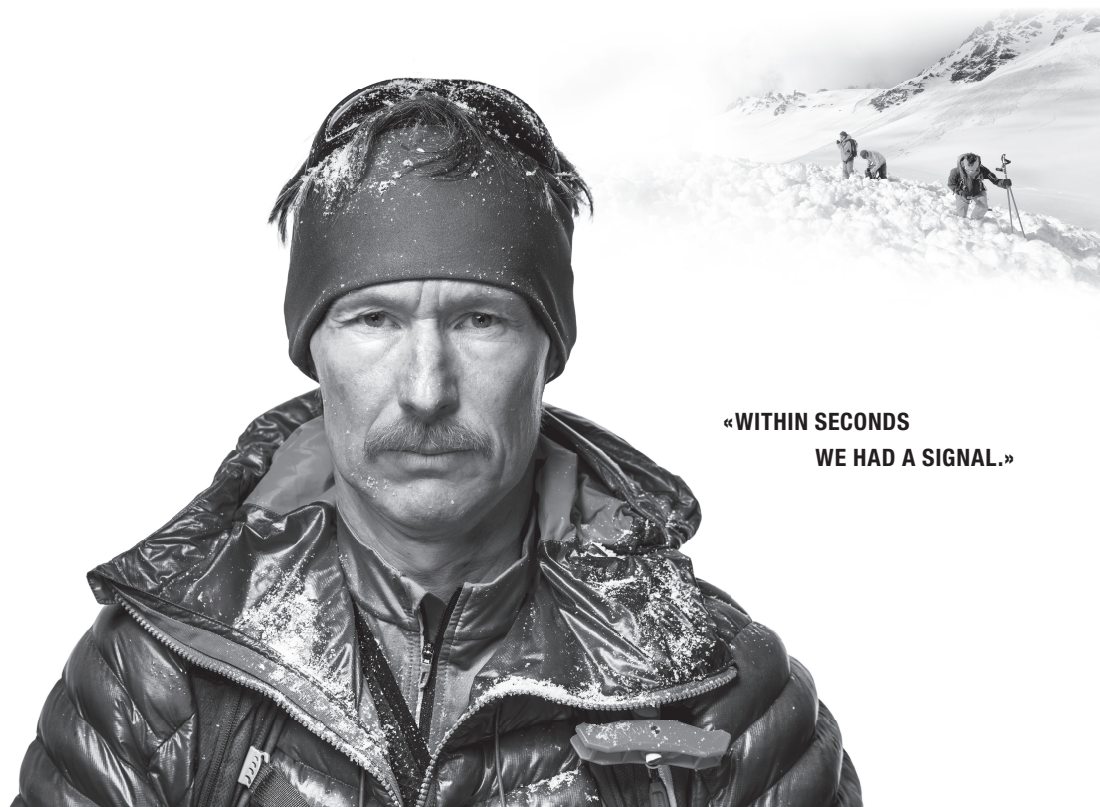
4. Additional features

Pro-Search setting in the Barryvox® S

The Pro-Search setting is a combination of a digital direction and distance indicator with an analog tone in standard search mode, and allows access to the Alternative Search Mode.

Avalanche transceiver frequency (457 kHz)

The Barryvox® is compatible with all avalanche transceivers which transmit on the international standard avalanche transceiver frequency of 457 kHz (according to EN 300718).



4. Additional features

Important information for institutions and organizations

W-Link

W-Link is the second communication channel for all 3-antenna devices (Barryvox® S, Barryvox®, Pulse Barryvox, Element Barryvox) in addition to the standard avalanche transceiver frequency (457 kHz). It supports the unbelievably fast and efficient recording and display of buried subjects in the list and serves as the foundation for the transmission of vital data. W-Link is also used for maintenance, configuration and updating of the device software.



Barryvox Service Software and Barryvox Service Devices

Barryvox service software and Barryvox service devices allow retailers and organizations to communicate wirelessly with many Barryvox devices. A fleet of devices can be managed, configured and updated at the click of a mouse, and basic functional tests carried out.

Barryvox Firmware

Barry Brain is the software required to operate the Barryvox device. It is optimized as required and new functions added.



4. Additional features

BarryMount carrying system

The BarryMount is a high-quality carrying system for your Barryvox® or Barryvox® S. It is easy to carry, and can be quickly adjusted and opened or closed using one hand. The carrying system almost completely prevents accidental activation of search mode, increasing your safety in the terrain. It protects the device from mechanical damage, whether on tours or during transport. At the end of the season, you can simply wash the carrying system in the washing machine at 30 degrees. Clean and ready to go.

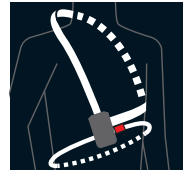


SafeLock
prevents activation of SEARCH mode in the carrying system



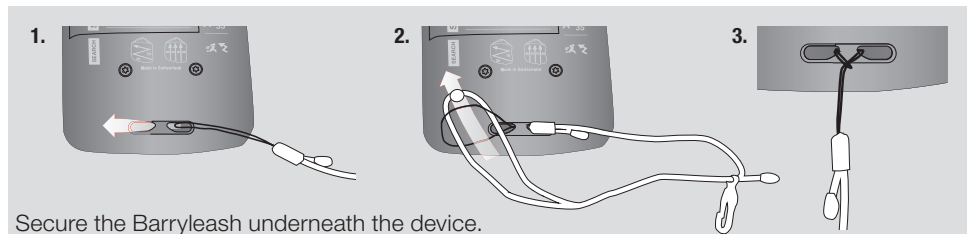
One-hand operation
easy to operate with gloves and with one hand

Quickly adjustable
The BarryMount can be quickly and easily adjusted to the size of the user's body



BarryLeash

to easily secure the Barryvox® to your wrist or the BarryMount during the search



5. Barryvox® comparison

Barryvox® comparison

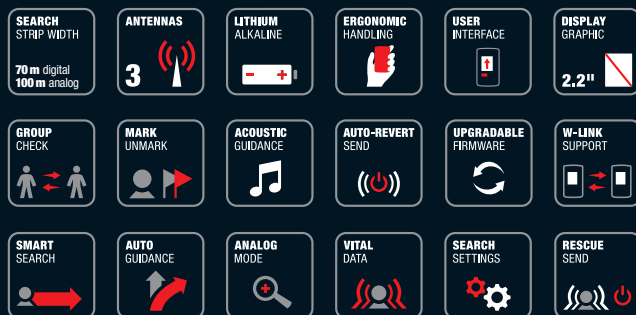
Barryvox® S

The Barryvox® S is Mammut's flagship avalanche transceiver and is designed to offer you maximum assistance.

Thanks to sophisticated software support, for the first time the device works interactively with you. As well as showing you the distance, it also indicates the speed and direction, guiding you unbelievably precisely and clearly to the buried subject. The Barryvox® S is probably the most intuitive device in Barryvox® history.



The new design has also resulted in a more ergonomic and robust device that can be operated easily and reliably even when wearing gloves. The larger display is clearer than ever before, even with polarized glasses. Our developers have also worked on the performance parameters: the Barryvox® range now has a search strip width of 70 meters, which can also be used effectively thanks to an almost circular receiving field. The performance of the new Barryvox® series combined with the revolutionary simple operation of the Barryvox® S, saves seconds and minutes that could prove critical in an avalanche rescue scenario.



5. Barryvox® comparison

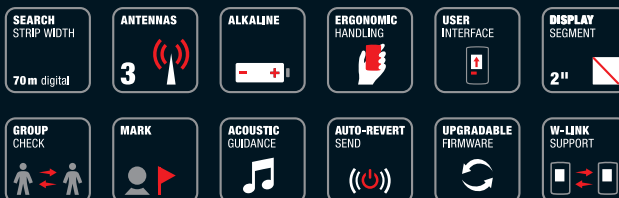
Barryvox®

As a top performer in its class, the new Barryvox® is perpetuating Mammut's tradition of outstanding avalanche transceivers.

Our developers have further enhanced the performance of the Barryvox®: the Barryvox® range now has a search strip width of 70 meters, which can also be used effectively thanks to an almost circular receiving field.

The new design is also more ergonomic. It allows the device to be operated easily and reliably even when wearing gloves. The larger display is clearer than ever before, even with polarized glasses.

The new Barryvox® combines tried-and-tested usability with top performance to ensure you are in a position to provide help reliably and as quickly as possible in an emergency.



5. Barryvox® comparison



Avalanche transceiver comparison	Barryvox® S	Barryvox
Powerful search - search strip width of 70 m. Or why performance can save lives.		
Maximum range	Up to 70 m digital / 95 m analog	Up to 70 m digital
Search strip width	70 m digital / 100 m analog	70m digital
Number of antennas	3	3
Batteries (3 x AAA)	Alkaline, lithium	Alkaline
Operating temperature range	-25 °C / + 45 °C -13 °F / +113 °F	-25 °C / + 45 °C -13 °F / +113 °F
Frequency check	✓	✓
Easy handling – completely revised user interface Or why simpler is often safer.		
User navigation	12 languages	Symbols
Display	2.2 inch fully graphic dynamic	2.0 inch segment
Acoustic search guidance	✓	✓
Group test	✓	✓
Self test	✓	✓
Illuminated display	✓	✓
Personalization	✓	
Smart Search Or why direct guidance gets you to your target faster.		
Smart Search	✓	
Auto-Guidance	✓	
Reverse direction function	✓	✓
Multiple buried subjects	✓	✓
Marking function	mark/unmark	mark
Scrolling in the list of buried subjects	✓	
Automatic switching from search to send	✓	✓
Rescue-SEND	✓	
Pro Search (Analog)	✓	
Advanced search settings	✓	
Vital data	✓	
Additional functions for institutions and organizations		
Software updates	✓	✓
Configuration changes	✓	
Fleet management	✓	✓
Fleet configuration	✓	
Customizable start-up screen	✓	
Functional test with tester	✓	✓

6. Who is each transceiver designed for?

Who are they for?

The Barryvox S and Barryvox transceivers share many features, but there are several key reasons why a user might choose the Barryvox S over the Barryvox so it's helpful to understand the differentiating features of the Barryvox S and who each is designed for. The differentiating features of the Barryvox S are simple to identify, and each provides real benefit to a variety of users. When choosing between the two Transceivers keep these benefits in mind to decide which will provide the best degree of function in an emergency.

6. Who is each transceiver designed for?

Why choose the Barryvox® S

The Barryvox S has several additional benefits built into it that provide searching assistance for both beginning and advanced users. For this reason, it's helpful to keep in mind what the differentiating features are, since this also informs the 2 main reasons why someone would choose the Barryvox S:

- 1) Barryvox S contains several features in the standard operating mode that benefit all users. These functions operate in the background of the standard operating mode, so the user doesn't have to "do" anything to take advantage of these benefits:
 - The **larger screen** makes it easier to see and read, even in difficult lighting conditions
 - **Dynamic screen icons** cue the user through a search, helping to keep the search moving and preventing moments of indecision
 - **Smart Search** operates in the background and allows for efficient, follow-the-arrow guidance through the coarse search and the fine search, ending at a specific probe-location, in a manner that is forgiving of imperfect searching technique.
 - **Auto guidance** also operates in the background and allows the transceiver to continue providing uninterrupted search direction even during signal-overlaps encountered during multiple burial searches.
- 2) Barryvox S also allows the user to activate the **PRO SEARCH** menu option. Activating this single setting allows the Barryvox S to positively identify signal-overlap or other difficulties encountered during multiple-burial searches, so the searcher has a definitive indication of when an alternate search strategy such as micro-strips, 3-circle or micro-box is required, and to solve this by going into the Alternate Search Mode. Anyone who will practice alternate search strategies such as Micro Strips or 3-circle will benefit from utilizing the Pro Search option to access the Alternate Search Mode, which is optimized specifically for these difficult situations.

The **Barryvox** is designed with ultimate simplicity in mind. This model is very capable in both single-burial and multiple-burial searches using the marking function, and has an extremely simple user-interface utilizing only one button.



Additional background information

Function

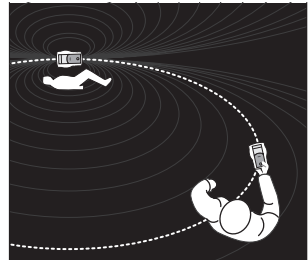
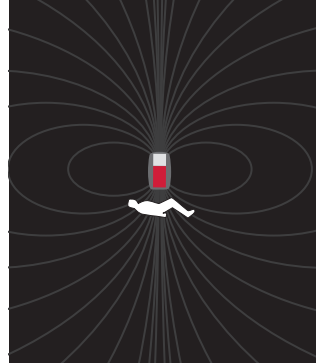
Avalanche transceivers are subject to the standard EN300718. A uniform standard specification ensures that all devices that meet the EN 300718 standard, and thus transmit on the 457 kHz frequency, are compatible with each other.

Avalanche transceivers have two operating modes: SEND and SEARCH. In practice, devices are normally carried in SEND mode and switched to SEARCH mode only in the event of an avalanche search. An avalanche transceiver's two operating modes can never be active at the same time.

The avalanche transceiver's 457 kHz transmitter has a spatial, kidney-shaped, field line pattern wave propagation characteristic. The searching transceiver guides the rescuer to the buried subject following the field lines and generally not in a straight line.

Barryvox® devices* are 3-antenna devices. All 3 antenna are used for searching, but just one antenna is only ever used for transmitting. The carrier frequency or the primary signal works in the 457 kHz frequency range and is transmitted in a field line pattern.

According to the specifications of the standard, the transmitted signal can vary from the base signal by ± 80 Hz. For extra security, Barryvox® devices* receive signals with a deviation of up to ± 180 Hz.



* Barryvox® S and Barryvox® as well as the Pulse and Element Barryvox

7. Additional background information

SEND mode

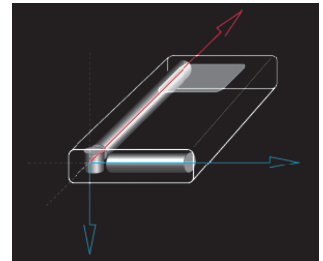
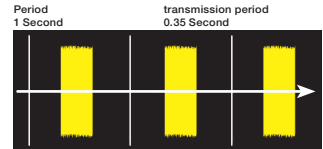
In SEND mode, avalanche transceivers transmit a periodic signal with the following characteristics:

Length of the transmitting signal at least 70 ms – 350 ms
Inter-signal interval at least 700 ms – 1300 ms

Regardless of the number of antenna included, every avalanche transceiver always transmits on a single antenna.

Physically and technically, an avalanche transceiver's max. range (transmitting power*) is defined by the length or profile of the largest single antenna or the power supply (battery capacity).

* The **transmitting power** is the sending field strength of a transmitter in micro-amperes per meter ($\mu\text{A/m}$).



SEND: X antenna (red)

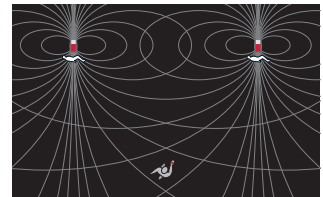
Signal processing

In SEARCH mode, the received signal is analyzed and a digital direction and distance indicator is shown to the rescuer to quickly guide him or her to the buried subject.

Depending on the distance to the transmitter, the signal is measured on all 3 antenna one after the other, but never simultaneously.

Multiple buried subjects

In SEARCH mode, the device attempts to analyze all receivable signals and determine the number of buried subjects. This is made possible by the fact that all signals transmitted from a buried subject have similarities which differ from the signals sent out by other buried subjects.



7. Additional background information

The more clearly defined the differences between the individual signals, the more reliably the different buried subjects can be recognized and located (pattern recognition).

The automatic connection of signals to specific transmitters can resolve the problem of multiple buried subjects without using a special search tactic, such as micro-search strips, 3-circle method, etc ...



two signals with no overlapping



two signals with overlapping

How many buried subjects can the Barryvox® detect simultaneously?

The number of buried subjects that can be detected depends on various factors, such as the signal duration of the devices involved. For this reason, no exact figure can be given. Under normal circumstances, 5 to 6 buried subjects do not pose a problem.

Theoretically, the device can separate up to 16 transmitters and add them to the list of buried subjects. The list of buried subjects can display a maximum of 3 buried subjects at the same time. If more than three transmitters are separated, this is indicated by a symbol on the device display.

Can the Barryvox®* also receive signals from older analog devices?

Yes – despite the fact that older devices (VS68, VS2000, Ortovox F1, etc) typically use longer transmission pulses. In the case of multiple buried subjects, this can often lead to signal overlaps, which makes signal separation and thus recognition of buried subjects more difficult.

Barryvox® devices* can receive any avalanche transmitter that transmits within the standard range of 457 kHz +/- 80 Hz. The Barryvox®* attempts to receive devices which transmit with a frequency that deviates from the standard range [457 kHz +/- 80 Hz] using a wider tolerance range. The reduction of search strip width necessary for this is indicated to the rescuer on the display.

* Barryvox® S and Barryvox® as well as the Pulse and Element Barryvox

W-Link

Barryvox W-Link – additional communication channel in the device

Aside from the standard signal frequency (457 kHz) used by all avalanche transceivers, the Barryvox® is equipped with an additional communications channel (W-Link).

Avalanche transceivers that also transmit W-Link information can be recognized particularly quickly and reliably during a search.

What is the difference between the US and the EU versions?

Varying regulations in different countries prevent the use of a single international frequency for this purpose. For this reason, we offer two different preconfigured versions of the devices. One for the European region (EU version) and the other for North America and Oceania (US version).

The only difference between the two versions is the preconfigured W-Link frequency. This does not affect the standard signal of the avalanche transceiver, and the devices are 100% compatible with other avalanche transceivers and which each other.

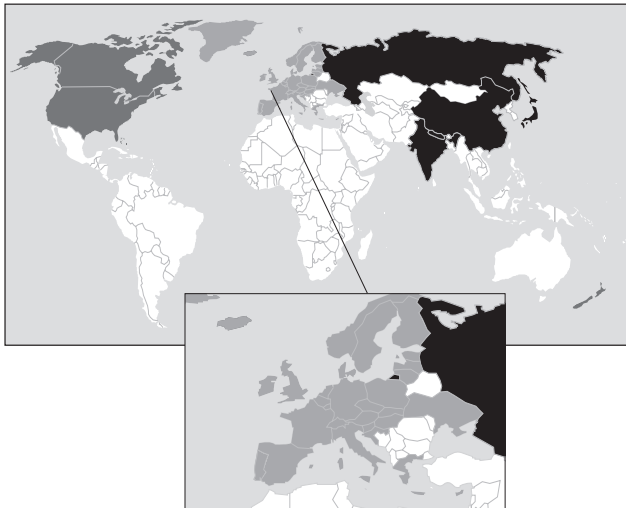
How can I change the W-Link frequency of a Barryvox® S or Barryvox®?

Please note that the user settings in the Barryvox S only allow switching between the assigned region and OFF in order to travel legally in another region. The settings on the Barryvox are fixed and any change must be performed at a Service Center.

Additional information

W-Link regions:

- **Europe and neighboring countries (W-Link region A)**
[= light gray]
- **US, Canadian, New Zealand and Australian version (W-Link region B)** [= dark gray]
- **Countries without W-Link** [= black]
- **Countries with unknown regional division** [= white]



The frequency provisions do not allow the user to change the frequency band. To take his or her Barryvox® on a trip to a different region, the user can switch the W-Link off and then switch it back on again on returning home.

Please note that the W-Link region has no effect on the signal used in the search for buried subjects. Searches are still possible between devices from all regions

If the W-Link is switched off, it will not be possible to transmit or receive vital data. (Chapter “Triage criteria and vital signs” in the Barryvox® S Reference Manual).

Documentation

The following documents are available for Barryvox® devices at **www.mammut.com/BarryvoxManual**:

Barryvox® User Manual (supplied with the product)

The User Manual describes the SEND and group test functions as well as the standard search mode. The User Manual also contains full details relating to maintenance and the guarantee, as well as the technical specifications.

Barryvox® Reference Manual (web-based)

The Reference Manual is a comprehensive reference work. The information in the Reference Manual complements the User Manual and covers the device settings, the alternative search mode (analog) as well as search and rescue techniques.

The Reference Manual is an important and useful tool for advanced and professional users, as well as instructors and sales people.

Application Safety Guide (web-based)

The Application Safety Guide is complementary documentation relating to the operation and maintenance of Barryvox avalanche transceivers and covers topics such as maintenance and cleaning of devices in fleet use or rental operations, as well as interference from electronic gadgets on avalanche transceivers.

Service Support and Guarantee Conditions

Barryvox Service Center

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Warranty and guarantee conditions for the Barryvox® S and Barryvox®

The Barryvox device (excluding batteries, carrying system and wrist loop) has a warranty period of two (2) years, starting from the purchase date shown on the sales receipt.

If the Barryvox device is registered in full at www.Barryvox.com, we will grant an additional guarantee period of a further three (3) years starting from the purchase date shown on the sales receipt on top of the existing warranty period.

In the event of a warranty/guarantee claim, all parts demonstrably affected by material or production faults will be replaced free of charge. This excludes damages caused by incorrect handling and normal wear and tear.

The warranty/guarantee expires in the case of devices that have been opened by the buyer or an unauthorized third party, as well as devices that have been used with replacement parts and accessories that are not original or not recommended by the manufacturer.

In the case of devices with no apparent fault, the cost of the functional test will be charged. Any guarantee services performed do not result in an extension of the warranty or guarantee period for the device. A guarantee of six (6) months is provided for replaced material. Warranty or guarantee services can be performed only if the device is sent back together with the purchase receipt.

The shipping costs are paid by the owner. Any further warranty/guarantee service and any liability, in particular for direct and indirect or consequential damages, are explicitly excluded.



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