arva®
snow safety equipment

Mode d'emploi
Instructions for use
Gebrauchsanweisung
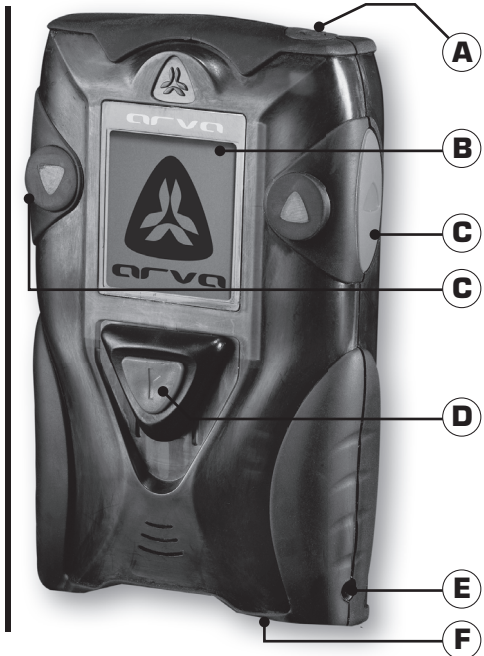Istruzioni d'uso
Modo de empleo

www.arva-equipment.com

arva Link®

Version 3.0 - 2011/2012

Ⓐ On/off button

Ⓑ LCD screen

Ⓒ Sensitivity settings, menu navigation and victim selection

Ⓓ Transmit/receive selector and Marking / Menu Validation

Ⓔ Clip for wrist loop

Ⓕ Earphone socket

Ⓖ Holster

Device carrying and holster
The holster must always be worn against your inner layer of clothing (underwear or next to skin). The ARVA should preferably by covered by a garment to prevent cold and impacts. If you use the device for searching, the little karabiner keeps it fastened to the holster.

Switch on	Battery check & Frequencies	Group check	Transmission confirmation	Primary search

W 868 mHz Z A

20%

KEVIN
📞 +33677227354
📞 +33478334552

GROUP CHECK ?

360° direction indicator

W-link detected victim

Detected victim

Searched-for victim

Progress indicator

22

Primary search

Marked victim

W-link marked victim

W-link searched-for victim

0.8

Final Search

Congratulations on buying your new ARVA LINK.

This device combines the latest technologies on the market, including:

◉ 360° detection thanks to built-in compass.

◉ 2 search modes (Novice, Expert) + Analogue option.

◉ Motion detector for automatic switch to transmit.

◉ Search band width of 50 m minimum in all conditions (for units manufactured to European standard ETS 300 718).

◉ 457 kHz transceiver whose transmission power does not depend on battery status.

◉ New transmission frequency on the common MAMMUT PULSE® and ARVA LINK® 868 mHz platform, increasing performance of compatible units.

◉ Simultaneous detection of multiple victims, with creation of a scrollable list.

◉ Able to mark/unmark the found victim.

◉ Device configurable to the user.

◉ LCD screen allows programme updates over time.

Advice on device use and personal safety

When you exit a secure ski run, you enter a world of risk where an avalanche, in particular, may occur. If you do this, you are solely responsible for moving around the mountains:

• **Before leaving your base**, obtain information (from websites, mountain professionals, etc.) and equip yourself with an ARVA, shovel and probe. This equipment is not an avalanche detector or absolute protection.

To use your ARVA effectively, you must be trained. So practise using it!

• **Never leave a run alone**, and do not follow just any traces: they are not an absolute guarantee of safety. If unsure about the stability of a slope you absolutely have to take, increase the distance between you, or better, go one at a time. And keep an eye on each other.

• **Lastly, know when to stop**. And be very careful: snow changes, and so does avalanche risk! Learn about avalanches, and prepare your route with **www.arva-equipment.com/experience**

arva
EXPERIENCE

Using your ARVA:

Move SLOWLY so you don't take the wrong direction in haste. You must search the entire avalanche surface.

When doing a search or check, be sure to stay away from any electronic equipment (high-voltage power lines, radio, mobile phone, heartbeat meter, etc.) or impose radio silence. A pacemaker may also disrupt the device in search mode. This list is not exhaustive.

Applicable to any DVA or GPS type transceiver device. The progress indicator describes progress along a field line; it is not the straight-line distance in metres.

Fitting batteries and advice

The ARVA LINK only operates with 4 standard AAA/LR03 alkaline batteries.

Open the battery compartment cover with a screwdriver or coin, or using the screws. The 4 batteries must always be of the same brand and replaced at the same time. Insert the batteries carefully, as per the directions shown in the compartment.

Avoid touching the contactors. Store the unit above 0°C to prevent battery deterioration.

⚠ **NEVER USE** rechargeable or lithium batteries. These do not resist cold and/or discharge in one go (unlike alkaline batteries, which discharge gradually).

Remove the batteries if the device is left unused for a long time (especially in summer). If batteries leak, the warranty does not apply.

Initial start-up (on removal from box)

Switch the unit on ①

When you briefly press the top-right button, the screen facing you lights up and performs its self-tests (transmission power, screen, loudspeaker, etc.)

For first use:

The Config screen appears automatically ②. You must:

      1 - Select a language

      2 - Enter your contact details (surname / first name, and contact telephone number in case of emergency)

      3 - Calibrate the compass

To access a configuration line, press the central flag button in the parameter to be changed. To scroll up and down, press the left- and right-hand arrow buttons, and validate using the central flag button.

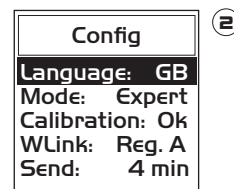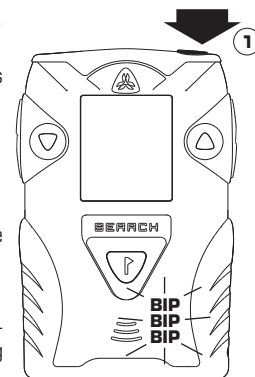If you reset the device, these steps must be repeated (Reset function in configuration menu).

If your device has been switched on in-store for testing, refer to page 6 to re-access the configuration menu.

The available settings are:

• Language (French / <u>English</u> / German / Italian / Spanish)

• Owner contact details (name, telephone number, etc.)

• Compass calibration (setting, p.6)

• Mode (<u>Novice</u>, p.9; or Expert, p.10)

• W-Link region (<u>Region A</u> / B or Deactivated)

• Automatic return to transmit (4 minutes / <u>8 minutes</u> or inactive)

• LCD contrast (Very Low, Low, <u>Medium</u>, Strong, Very Strong)

• Reset (all settings return to default configuration)

• Exit (to exit the configuration menu)

To configure the other settings, see pages 6-7.

The underscored options in the above list are default settings. They are obtained if you reset.


```
        Config
Language:   GB
Mode:    Expert
Calibration: Ok
WLink:   Reg. A
Send:     4 min
```
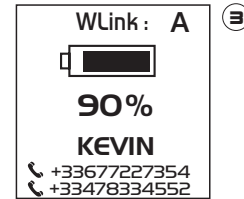
Switching on

Briefly press the ON/OFF button ① on the top of the device.

During start-up, the unit performs an automatic check (then a self-test every 5 minutes). The microprocessor, antennas, batteries and display are checked. Three beeps indicate that the loudspeaker is working correctly.

At the same time, the LCD screen displays the selected W-Link region, the battery charge (in %) and the data you recorded during initial start-up (surname, first name, telephone numbers, etc.) ③

The device then enters transmit mode. The green diode on the side flashes to show the device is working correctly. The transmit sign on the screen flashes.

Just before it starts transmitting, **the device offers to run a Group Check** ④. To run the check, press on the centre button before the window disappears.

If you press on the centre button, the device switches to Analogue mode with minimal reception (the equivalent of about 1 metre) to check the whole group. Each group member must switch to transmit mode in front of this "test" device. The tester must then switch his device to transmit mode and check it is working too.

Once the tests are done, you can exit this function by pressing the centre button. If you do nothing, the device will automatically switch to transmit mode after 5 minutes.
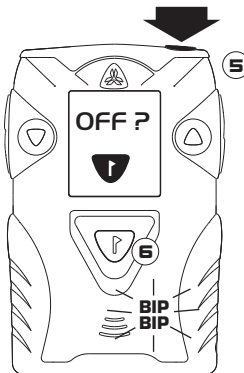
If the device detects an anomaly, it gives a long 5-second beep. This long beep is repeated 5 and 10 minutes later.

There are 3 possible explanations:

• Battery charge has dropped to 20% (the device can still transmit for 48 hours or search for 30 minutes). To warn you, the device gives a long 5-second beep. This long beep is repeated 5 and 10 minutes later.

• Technical problem (transmission or program). After a long 5-second beep, the LCD screen displays "Error"; this long beep is repeated 5 and 10 minutes later. **If this occurs, do not exit a run with the device. Contact your nearest reseller.**

• 457 kHz Emission power failure : if the transmission power is getting too low, the following message will appear : PROBLEME EMISSION 457 kHz. If the failure is temporally (due to the proximity of a large amount of metal), there's only one message. If the failure is permanent, the message will be displayed every five minutes (electronic problem). If this occurs, do not exit a run with the device. Contact your nearest reseller.

Switching off the device

Briefly press the ON/OFF button ⑤ on the top of the device. A double-beep alarm sounds to validate switch-off. To validate, press the centre button ⑥.
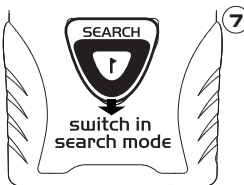
Transmit/receive selector

The centre switch is locked in the up position (transmit) ⑦.

To switch to receive mode, press the centre button and slide it down. The word SEARCH becomes visible: you are now in Search mode. To revert to transmit mode, switch the centre button to the up position, where it will relock mechanically.

The device can be in transmit mode while the selector switch is in the down position, especially after the software automatically reverts to transmit mode (see p.11). In this case, to correctly change to receive mode: firstly reset the switch to transmit mode, then change to receive mode.

WLink : A ③

90%

KEVIN
☎ +33677227354
☎ +33478334552

Start-up screen
• W-Link region
• battery status
• user name
• user phone number
• contact phone number in emergency

GROUP CHECK?

Group check ④

OFF ?

BIP BIP ⑥

Switching off the device ⑤

SEARCH ⑦

switch in search mode

Switching to search mode

To access the Configuration menu whenever you wish, you must:

Switch off the device (press top right button, then validate switch-off with centre button: see page 5, diagram ⑤)

Hold down the left- and right-hand buttons simultaneously ①

While still holding these two buttons down, press the On/Off button 2 for 5 seconds ②.

Selecting a language (default: English)

To select a language, scroll down the list using the two up/down arrows, and validate with the centre button.

The language options are French, English, German, Italian and Spanish.

To enter your contact details, proceed in the same way. If you do not want to enter your details now, select EXIT.

Entering your contact details

You have three lines of alphanumerical marks. We advise you to start with your surname and first name, to identify your device in case of loss.

The first telephone number can be the owner's. The second can be a number to call in case of emergency.

This information is displayed each time the device is switched on.

Calibrating the compass ③

This allows the direction indicator to react quickly, and lets the device know if your search direction is correct. To work correctly, the compass must be calibrated, especially if you have made a long journey or changed the batteries.

To start calibrating, place the device on a flat surface and access the Calibration tab. Keeping the device horizontal, rotate it clockwise until calibration ends. The device then automatically reverts to the configuration menu and displays "Calibration OK".

Selecting a search mode ④ (default: Novice)

The default mode is Novice. We advise you to start in this mode. The device will automatically search for the nearest victim, and the only available function is marking of the found victim, in case of multi-victim burial. After marking, the device will then automatically switch to the next detected victim.
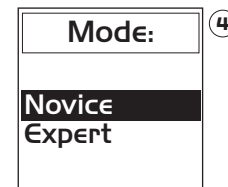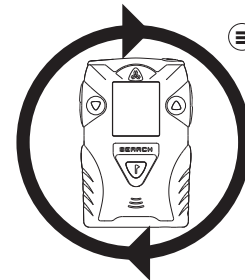
In Expert mode, you can select the victim you want to search for, mark/unmark victims, and obtain more information using W-Link technology.

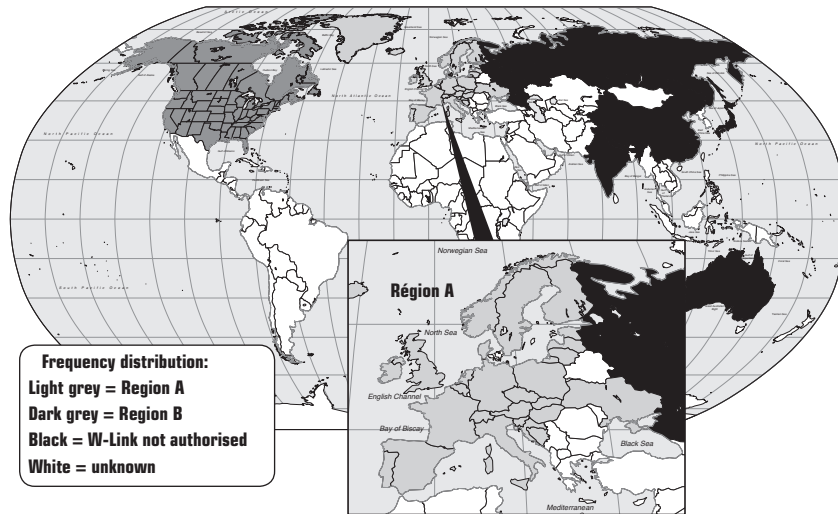### Selecting a W-Link region (default: region A)

The W-Link frequency is a protected radio frequency, with rights that must be respected, depending on the country you are in.
Some countries do not accept the use of this frequency on their territory. In such cases, the W-Link function in the configuration must be deactivated.
The user is solely responsible for changing or deactivating this frequency. The manufacturer can in no event be held responsible for any change to or non-management of this right of frequency use in the country where the device is used.

Mode:

Novice
Expert

The default setting is Region A, i.e. an extended Europe.
For winter 2010-11, Region B is not available. Some countries refuse the use of this technology: please consult the map below.
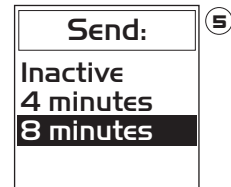

Région A

Frequency distribution:
Light grey = Region A
Dark grey = Region B
Black = W-Link not authorised
White = unknown

Automatic switch to transmit mode (default time: 8 minutes)

The device has a motion detector. This lets the device automatically switch to transmit mode if it detects that, in receive mode, you have not moved for 4 or 8 minutes. This function can be very useful in case of a second accident, if searchers have not had time to switch their device from search (receive) to transmit mode. The default time before switching is 8 minutes (5).

However, if you are in search mode, the device asks for validation ("SEARCH?") to authorise the switch to transmit. If you do not operate the centre button, the device switches even if your selector is set to SEARCH.

This function can be deactivated (no automatic switch to transmission mode). This means only you can switch from SEARCH (receive) mode to transmit mode

Send: (5)
Inactive
4 minutes
8 minutes

Automatic return to transmit mode

Adjusting LCD contrast (default: Medium)

This lets you adapt the display to ambient light (6).

Lcd: (6)
Very Low
Low
Medium
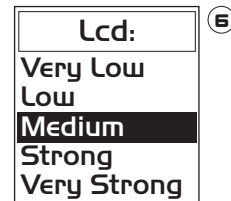Strong
Very Strong

Adjusting LCD contrast

Reset

This lets you restore all the default settings.

Exit

Once you have set your device, validate Exit to record your settings and return to transmit mode.
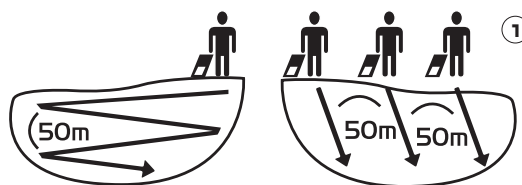If the configuration menu is inactive for 1 minute, the device automatically switches to transmit mode, starting with a self-test.

There are two main search modes that can be set in the Configuration menu: Novice and Expert.
In addition, you can easily switch from Novice or Expert mode to Analogue, to check information or resolve complex cases.
The first letter of the mode or option is displayed in the top-right of the screen (N, E ou A).
Below, each mode and its specific features is outlined.

Possibility to Analogue option

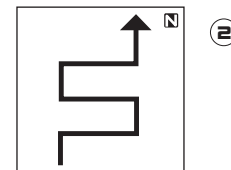| NOVICE mode N	EXPERT mode E	ANALOGUE option A
• List of detected victims • Possible to mark the found victim • Revert to Analogue once all victims have been marked -	• List of detected victims • Possible to mark the found victim • Switch back to Analogue once all victims have been marked • W-Link information displayed • Possible to unmark • Possible to switch between victims	• Accessed simply by pressing +/- buttons • Estimation of number of victims • Advice on setting sensitivity • Estimation of distance relative to sensitivity • Manual variation of sensitivity • Optimised range with screen unlit (max. sensitivity)

Switch to receive mode

Secondary search

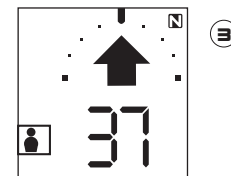## NOVICE mode (default setting) N

■ Primary search (approach phase)

• Press the centre button and slide it down (transmit position). The screen continuously displays symbol ②until you detect a signal.

• Zig-zag over the avalanche ①

• Hold the device horizontally, pointing it down and sweeping slowly (left to right, then right to left, over 180°)

• Continue until you obtain a first clear signal (direction arrow lit and AND progress number displayed) ③.

Turnaround function

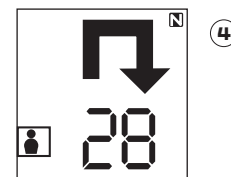### ■ Secondary search (locating phase). This phase starts once you receive the victim's signal.

• Once a direction arrows lights up, orient your device so that the central digital arrow is lit, and move in the direction shown. **If the number falls, you are getting closer. If you move in the wrong direction, sign ④ appears: turn around and check the number is falling.** Then continue, trying to reach the lowest figure.

• **In case of multiple burials,** the device creates a list on the left of the screen, and automatically searches for the nearest victim. The searched-for victim is framed on the screen ⑤. Continue your progress until the number falls to about 3.0.
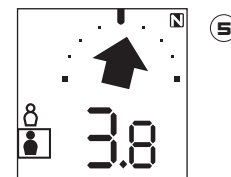

Multi-victim function

■ Final search (detecting phase) Ⓢ.

When you reach this number, with the arrow lit, lower the device horizontally, in the same position, to just above the snow. The beeps quicken, and the search number falls further.

Continue progressing to the smallest number. When it begins rising again, return to the lowest number and **locate the victim using the cross technique, keeping the device in exactly the same position** (parallel to snow).

During this phase, each time you obtain the lowest distance, the device must always point in the same direction (do not turn it to the left or right).

With an ARVA, you don't need to an extremely precise location. It is often quicker to immediately start probing once you have defined the like location zone to about 50 cm precision.

Final search
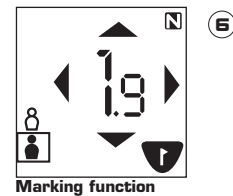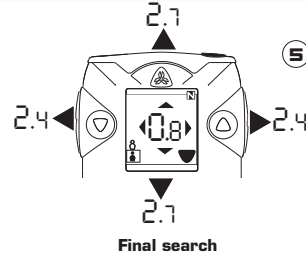
Marking a nearby signal

When the progress indicator falls to 3.0, the device offers to mark (i.e. mask) the detected signal. Pictogram Ⓢ flashes in the bottom right of the screen. Only mark the signal once you have pinpointed/touched the victim with the probe.

By pressing the centre button, you mark the nearby signal received. The device then locks onto the next nearest signal Ⓖ. The selection frame on screen moves to the current searched-for victim, and the found/marked victim is replaced by this pictogram ▶. Then continue searching until the final-search phase.

Once all the detected signals have been marked, the device reverts to analogue mode and invites you to check the entire avalanche by displaying the X sign.

NB: The marking mode works in most cases. However, some signal stacks are hard to separate, and multiple burials (more than 4 signals) reduce the searcher's ability to mark the signal. An alert message "⌛" may appear.

Move away and try again. Or, to increase your chance of success, proceed using the three-circle method or the micro-strip search method.

Marking function

EXPERT mode ⧖
(to be set in the configuration menu)

This mode works in the same way as NOVICE, but the searcher has extra information and possibilities Ⓗ
This mode is recommended for rescuers who are proficient and self-composed if an accident occurs.

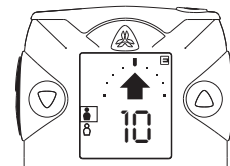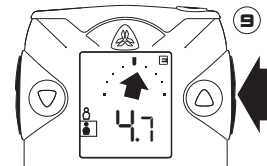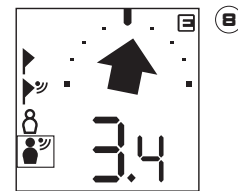|		
▶ Marked	👤 Victim	☐ Selected victim
▶)) W-Link Marked	👤)) W-Link Victime	

1.0 Scrolling between victims

In the victim list created on the left of the screen, the searcher can scroll between victims to evaluate distance to, and direction of, the detected victims. This also allows multi-search rescuing, and guiding of people with less efficient DVAs.

Change victim by pressing on the left- or right-hand button Ⓘ. The black frame moves to the detected victim, and gives you this victim's distance and direction.

By default, the device will lock onto the nearest victim.

2.0 Obtaining W-Link information

The W-Link radio platform is compatible with the ARVA LINK® and PULSE MAM-MUT® devices. These can send each other information to increase data reliability. Devices equipped with this technology are quicker in creating the victim/signal list, and mark more reliably.
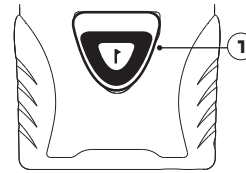
In EXPERT mode, a sign ッ may appear next to a victim in the list: this means that the detected signal is carried by the W-Link frequency. You can thus be sure that this detected signal is not interference, and that you can mark it reliably.

3.0 Marking/unmarking signals

As in NOVICE mode, a marked signal ↑ then appears.

In this mode, you can unmark the signal by moving the frame onto the marked signal and again pressing the centre button ①.

Marking/unmarking is only possible within a perimeter of about 3 metres. Beyond that, the function is not available, to prevent accidental marking.

Analogue option ▯
(available in both search modes)

To select/exit this option, simultaneously press the left- and right-hand buttons for 1 second ②.

To indicate Analogue mode, the symbol ▯ appears in the top right of the screen.

In this search mode, the user controls his receiver's sensitivity. The more he presses the right-hand arrow, the more sensitive it becomes, and vice versa.

An estimated number of detected victims appears in the top left.

The device gives sensitivity advice ③. If sensitivity relative to the proximity of a victim is too high or low, the values displayed on screen will be wrong or unreliable. The device displays small flashing arrows on the left and right of the screen, so the user can optimise the sensitivity.
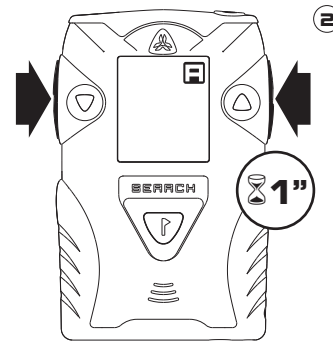
When these arrows disappear, the sensitivity is correct.

This mode has no direction feature. Assistance is by sound and number only.
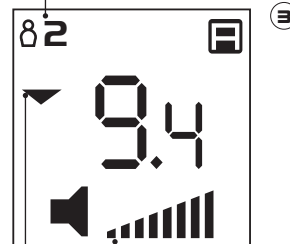
When the device switches to analogue mode, it is at maximum sensitivity (9 bars). You can increase sensitivity even further by pressing in the right-hand arrow: the display disappears and the device is subject to only very low interference, which can further increase its sensitivity. When you reduce sensitivity again, the display reappears.

Analogue searching is complex and requires lots of training.

You must listen for the strongest signal, and use the numbers to guide you closer. Proceed at right angles, keeping the device vertical. You can use the earphone (optional) to better perceive sound-level differences.

Estimated number of victims

**Sensitivity**

Arrow telling you to reduce sensitivity

Important informations

■ Informations about the W-Link

W-link is an exchange protocol that confirms and supplements the information carried by the 457 kHz international standard signal. This new protocol:
• Resolves complex multiple burial situations where standard-frequency transmit/receive reaches its limits.
• Allows a more reliable estimate of the number of burials.
• Lets you mark/unmark victims precisely.
• Lets you choose the victim you search for first (based not on identity, because this information is not provided, but on the search scenario: the nearest victim is not necessarily the easiest to access).

■ Informations about Error messages

If you search in a complex, multi-burial situation or encounter heavy interference, your device may take longer to provide relevant information: in this case, the ⌛ sign appears. If this happens, do not move for a few seconds, until the device tells you which direction it thinks is optimal.

■ Informations about Automatic switch to transmit mode

The device automatically reverts to transmit mode in the following cases:

• If you turn on your device with the centre button in SEARCH position: the device asks you to validate that you want to stay in search mode by pressing on the centre button. If after 10 seconds you have not pressed it, the device automatically reverts to transmit mode.

• If you are in search mode and motionless, and if your time before automatic revert to transmit mode is configured at 4 or 8 minutes: when this time elapses, your device will ask you to validate that you want to stay in search mode by pressing on the centre button. If after 10 seconds you have not pressed it, the device automatically reverts to transmit mode.

• If you do a group check that lasts more than 5 minutes: when this time elapses, your device will ask you to validate that you want to stay in group-check mode by pressing the centre button. If after 10 seconds you have not pressed it, the device automatically reverts to transmit mode.

■ Standby function :

This function need to be in case you are on an avalanche situation as a rescuer and but you're not searching with your beacon because you are probing, shoveling, or communicating with rescuers.

In this situation, you can't be in emission mode not to disturb the searching process, and you don't want to be in search mode to avoid the bip noises. Nevertheless you can't turn off your device in case a second avalanche would occur.

By activating the stand by function, the device is still turn on and in case you're not moving during 4 minutes (2nd avalanche), it switch into emission mode.To launch the Standby function (available only on search mode) : Press On/Off twice and press central button to confirm. To exit the Standby function: Press On/Off.

■ Victim Plus function 👤+ :

If the Victim Plus logo 👤+ appears in the upper part of the screen, that means that your beacon is detecting a signal that is stronger than the one selected in the list. This information could be really helpful in a complicated multiple buried victim situation. When you switch into research mode, your device detects the signals and classifies them from the closest one (stronger signal) to the remote one (weaker signal). By moving on the field while searching, this ranking may evolve.

Two situations may occur :

If you are in novice mode : this symbol 👤+ appears right before the automatic switch from the selected victim to the new closest one.

If you are in expert mode : this symbol 👤+ is highlighting the fact that there is a stronger signal than the selected one. There is no automatic switch to a closest victim in expert mode. We advise you to scroll in the list ▼▲ to check where the new closest victim is.

Register your arva beacon on www.arva-equipment.com to confirm the warranty

arva Link ® Version 3.0 - 2011/2012

arva snow safety equipment

F ▮ Caractéristiques techniques :

- Emetteur / Récepteur: 457 kHz, fréquence internationale.
- Emetteur / Récepteur: 868 mHz, fréquence W-Link
- Numérique et analogique.
- 3 antennes.
- Une détection simultanée des multi-victimes avec la création d'une liste et la possibilité de parcourir celle-ci.
- Fonction Stand By.
- La possibilité de marquer / démarquer la victime trouvée.
- Largeur de bande de recherche 50 m.
- 2 modes de recherche : Novice, Expert + option Analogique.
- 260 g - Autonomie + 250 heures.
- Détecteur de mouvement pour le passage automatique en émission
- Alimentation 4 piles alcalines AAA/LR03.
- Réalisé suivant norme européenne ETS 300718.

GB ⚹ Technical characteristics:

- Transceiver: 457 kHz, international frequency.
- Transceiver: 868 mHz, W-Link frequency.
- Digital.
- 3 antennas.
- Simultaneous detection of multiple victims with creation of scrollable list.
- Standby Fucntion.
- Possible to mark/unmark the found victim.
- Search band width: 50 m.
- 2 search modes (Novice, Expert) + Analogue option.
- 260 g – Operating time: 250+ hours.
- Motion detector for automatic switch to transmit mode.
- Power supply: 4 AAA/LR03 alkaline batteries.
- Manufactured to European standard ETS 300718.

R&TTE Declarations of Conformity

Hereby

Name of manufacturer : AsteelFlash France

Adress : 43, rue du Vieux Chêne

Zip Code : 38240

City : Meylan

Country : France

Declares that the avalanche beacon

Type designation : LINK

Trademark : ARVA

is in compliance with the essential requirements and other relevant provisions of directive 1999/5/EC

The compliance of the device has been evaluated according to the Electromagnetic compatibility standard test : FCC CFR 47 part 15, Subpart C

The complete declaration of conformity is available at the address above.

Name : TORRES

Fonction : Establishment Development Director

Date : 19/08/2011

Signature :

FCC requirements: - FCC ID: O9BARVALINK

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

Register your arva beacon on www.arva-equipment.com to confirm the warranty

Distribution - Vertrieb - Distribution - Distribuzione

www.arva-equipment.com

Distribution internationale / International Distribution / Internationaler Vertrieb / Distribuzione internazionale / Distribution internacional

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