



LCIE

LCIE SUD EST
Laboratoire de Moirans
Z.I. Centr'Alp
170, Rue de Chatagnon
38430 MOIRANS - FRANCE

GENERAL INFORMATION

FCCID: O9BARVANEOPRO

1.1. Product description

PRACTICE :

Practicing and being well-trained in using your transceiver is essential in order to conduct a successful search in the event of an avalanche.

RESPONSABILITY :

Skiing off trail or skiing in the backcountry are activities that present inherent risks. Wearing a transceiver should in no way influence your decision making when in avalanche terrain. Know when to turn around.

STORAGE :

Store your device in a cool and dry place. Remove the batteries when storing for long periods of time. The device is no longer under warranty if the batteries leak.

WARRANTY :

Your device has a 5-year warranty. We recommend sending your transceiver in for maintenance on a regular basis: once every 3 years for amateurs, and once every two years for professionals.

REGISTRATION AND UPDATES :

Every ARVA transceiver has a unique identification number. Registering your device on www.arva-equipement allows us to link your contact information your device to for optimal tracking (maintenance, customer service, software updates, etc.).

BATTERIES :

The ARVA transceiver only operates with 3 standard Alkaline AAA/LR03 batteries. Do not use rechargeable or lithium batteries. The batteries should all be replaced at the same time. The label in the battery compartment is important for all servicing procedures, do not remove it.

IMPORTANT FOR SWITZERLAND: APPENDIX 4.10 FOR STANDARD SR 814.013 APPLIES TO BATTERIES

CAUTION: THERE IS A RISK OF EXPLOSION IF THE BATTERY IS THROWN INTO A FIRE OR REPLACED BY THE WRONG TYPE OF BATTERY. FOLLOW INSTRUCTIONS ON HOW TO PROPERLY DISPOSE OF USED BATTERIES.

→ INITIAL START-UP

- 1- To switch on your device, turn the ON/OFF button 90°.
- 2- After switching on your device, place it in the holster with the screen facing out so that the ON/OFF button fits into the safety notch. This notch locks the ON/OFF button in place and prevents it from turning the device off unexpectedly.
- 3- Place the black strap over your shoulder with the ARVA logo facing out.
- 4- Place the red elastic strap around your waist, clip the red buckle, and adjust as needed.

→ DEVICE CARRYING

The holster must always be worn against your inner layer of clothing (underwear or next to skin). The ARVA should preferably be covered by a garment to prevent cold and impacts.

→ BATTERY CHECK

Just after turning on your device, it will indicate the battery level. We recommend that you replace the batteries as soon as they drop below 50%.

→ GROUP CHECK WITH FREQUENCY CONTROL

After switching on your device, the NEO startup mode offers a group check. To conduct a group check, press the center button when "CH" appears on the screen. Check your partners' beacons by positioning your device 0.5m to 1.5m from theirs.

- If the device being checked works properly, your beacon will display the distance between your device and the device being checked and emit a standard search beep.
- If you are more than 1.6m from the device being checked, your beacon will display the distance without emitting a beep.

- If you are less than 0.5m from the device being checked, your beacon will display the distance and emit a double beep.
- If the device's frequency is too weak relative to the standard, your transceiver will display an "Er"/"02" and emit a double beep.
- If the device's frequency is too strong relative to the standard, your beacon will display an "Er"/"03" and emit a double beep.
- If you are <0.5m from the device being checked, your beacon will display an "Er" and emit an error beep. Begin your check again, this time standing between 0.5m and 1.5m from the other device.
- If you do not detect a signal, verify that your partner's beacon is switched on. If it is, then have their device inspected.

→ SEARCH MODE

SWITCHING TO SEARCH MODE

In avalanche situation, to switch in search mode, open the holster and take off the device which will stay attached by the elastic leash and the black strap. To switch in search mode, push the side button up.



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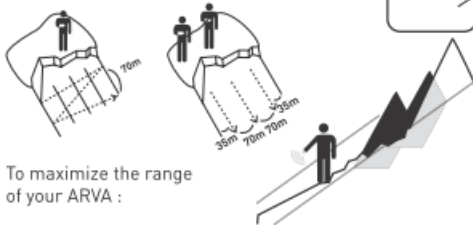


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→ SIGNAL SEARCH

Start searching for a signal based on one of the two diagrams below.



To maximize the range of your ARVA :

It is important to point your ARVA in the direction of the avalanche, parallel to the slope and not pointing upwards towards the sky.



Slowly rotate back and forth to try to detect the signal(s).



- Point the device in the direction of the signal
- Search in a calm and focused manner
- Slow down as you approach the fine search

- If the displayed distance starts to increase even though you are moving in the direction indicated by the arrow, turn around
- In a complex situation with multiple victims, the device may have trouble analyzing the signal. In this case, move a few steps away and then return towards the critical point by following another direction.



DURING THE SEARCH, PAY ATTENTION TO VISUAL CLUES SUCH AS POLES, SKIS, CLOTHING, ETC.

→ COARSE SEARCH

During the coarse search :

- Carefully follow the distance and direction indicators on the screen



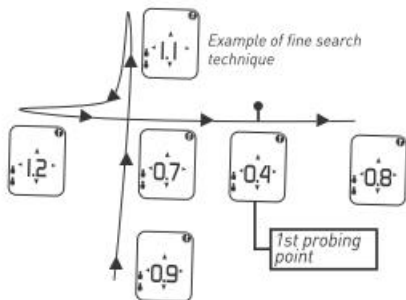
→ FINE SEARCH

Once within 3 meters of the victim, your ARVA no longer indicates a direction and you must start bracketing [searching in a cross pattern].



1. Lower your device to near snow level
2. Move your device in a cross pattern to locate the point where the distance reading is the lowest

It is then much quicker to start probing once you have defined the probable burial zone within a less than one-meter range



→ MULTIPLE VICTIMS INDICATED

Victims appears on the left part of your screen. When a victim is marked a flag appears close to it. The + indicate that there is 4 or more victims.



→ MARKING



When within 3 (or 5) meters of a victim the flag icon will Flash in the upper right corner of the screen. Pressing the center button will mark this

signal. The transceiver then searches for the next closest signal, without returning to a marked victim.

→ AUTOMATIC RETURN TO TRANSMIT MODE

When probing/shoveling, you do not want your beacon to switch back to transmit mode and interrupt searches for other buried victims. This is why the new NEO+ holster allows you to wear your device in search mode when probing.

In the event of a secondary avalanche, your device will automatically switch back into transmit mode. The default setting for the NEO+ is to revert to transmit mode after 4 minutes without movement.

After 4 minutes without detecting any movement, an alarm will sound and you will be asked to press on the marking button on your device to confirm that you are not buried. If no action is taken, the device will return to transmit mode.

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→ PROBING



Search for the victim by probing in concentric spirals progressively away from the minimum distance point detected by your ARVA. Probe perpendicular to the slope.

→ SHOVELING

Statistically, shoveling takes at least as much time as the ARVA search. It is important to take a methodic approach to shoveling.



The V-shaped conveyor technique allows you to optimize the excavation phase of shoveling. As soon as the person is uncovered, it is important to turn their transceiver off immediately.

→ INTERFERENCE

Certain electronic devices as well as electrical and electromagnetic installations can significantly interfere with transceiver signals.

These sources are:

- carried: smart phone - analog radio - camera - heart rate monitors - GPS - etc.
- permanent: relay towers - power lines / electrical generating equipment - ski lifts, etc.

In order to reduce the risk of signal deterioration, we recommend that you keep your transceiver as far as possible from sources of electrical and electromagnetic activity.

IN SEARCH MODE:

Move all metallic and electronic devices at least 50cm away from your transceiver.

During an active search, we recommended turning off all devices except:

- Analog radio
- Headlamp without dimmer
- Watch without a radio function
- Backup devices in the event of a secondary avalanche

Means of communication:

We recommend turning off all digital telephones and radios during the active search phase. All calls should be made at least 25m away from the individuals conducting the active search.

IN TRANSMIT MODE:

Move all metallic and electronic devices at least 20cm away from your transceiver.

→ DYNAMIC INTERFERENCE MANAGEMENT

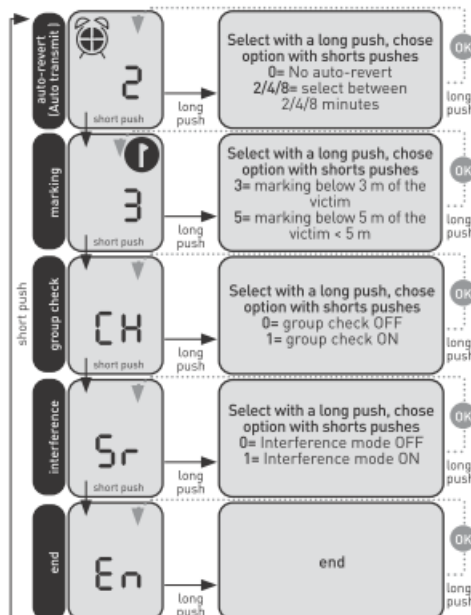
Beacon users are carrying more and more electronic devices that can cause interference during the primary search.

This has been observed in mountain resorts and in rare cases in backcountry. You can activate in the menu a specific mode that prevents the device from additional electronic noise by reducing the search band, depending on the level of interference there are three selections.

- The search band in normal environment is 70m => the device will display SR 70 when you switch to search.
- If the interference is at a minimum level select SR 30=> device will reduce the search band to 30m.
- If the interference is at a maximum level select SR 15 => device will reduce the search band to 15 m.
- Pay attention, use good judgment, and adapt your search scenario to the best option for your needs.

→ MENU CONFIGURATION (Experienced users)

With the beacon switched off, go into the search mode by sliding search button up. Turn beacon on while holding the center button until the batteries status. The only button used to manage the menu is the central one.



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1.2. Tested System Details

Equipment information:

EQUIPMENT INFORMATION			
RF module:	Nc*		
Frequency Carrier:	[457 kHz]		
Frequency band:	[456.9-457.1kHz]		
RF mode:	<input checked="" type="checkbox"/> Transmitter	<input type="checkbox"/> Transceiver	<input checked="" type="checkbox"/> Receiver <input type="checkbox"/> Standby
Antenna type:	<input type="checkbox"/> External:		<input checked="" type="checkbox"/> Internal: Coil
Antenna gain:	0 dBi		
Equipment location	<input checked="" type="checkbox"/> Mobile station		<input type="checkbox"/> Fixed station
Extreme temperature range:	<input checked="" type="checkbox"/> Category I (General) -20°C to +55°C	<input type="checkbox"/> Category II (Portable) -10°C to +55°C	<input type="checkbox"/> Category III (Indoor) +5°C to +35°C
Extreme test source voltage:	<input checked="" type="checkbox"/> ±10%	<input type="checkbox"/> other: From XXVDC to XXVDC (ask from provider)	
Rmq:			

Nc*: Not Communicated

1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 or/and ANSI C63.10, FCC Part 15 SubPart 15C.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.4. Test facility

Tests have been performed: **December 4th, 2019**

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4 or/and ANSI C63.10.

This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55032/CISPR32 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.