

# EVO5+

## **USER MANUAL**

MODE D'EMPLOI

INBETRIEBNAHME

GUIDA INTRODUTTIVA

GUÍA DE UTILIZACIÓN

KÄYTTÖOHJE

BRUKERMANUAL

ANVÄNDARMANUAL

取扱説明書

**arva**



**Congratulations on purchasing a new ARVA transceiver.** This user manual will provide all of the key information you need on how to operate your new device. This manual is also available on our website on the “downloads” page.

**Register your ARVA transceiver on our website [www.arva-equipment.com](http://www.arva-equipment.com)** to receive an additional 3-year warranty.

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## OPERATING INSTRUCTIONS

- 1/ GETTING STARTED
- 2/ TRANSMIT MODE
- 3/ SEARCH MODE
- 4/ PROBING - SHOVELING
- 5/ INTERFERENCE
- 6/ WARRANTY - MAINTENANCE - LIFECYCLE
- 7/ DECLARATIONS OF CONFORMITY (at the end of the manual)

## 1/ GETTING STARTED

### 1.1/ TECHNICAL FEATURES

- Digital 3-antenna device
- Frequency: 457 kHz
- Search strip width: 50m
- Active interference management
- Automatic revert to transmit by timer (8 min)
- Power supply: 1 AA/LR06 alkaline battery
- Battery life (alkaline battery): minimum 200 hours in transmit mode followed by 1 hour in search mode.
- Weight: 165g (battery included).
- Storage temperature range: -20 °C to +70 °C
- Operating temperature range: -20 °C to +45 °C
- Maximum altitude to function properly: 10 000 m
- Avalanche beacon / Frequency band :  
456.9 - 457.1 kHz
- Avalanche beacon / Maximum power used : H-Field  
< 2.23  $\mu$ A/m @ 10 m



**LOCK BUTTON**

**OFF/SEND/SEARCH  
SELECTOR SWITCH**

**MARKING BUTTON**

**WAIST BELT**

**ELASTIC ATTACHMENT  
LANYARD**



The information contained in this user manual is for reference purposes only and may be modified at any time. The technical and product specifications may change without prior notice for future versions of this and other devices.

## 1.2/ PRACTICE - RESPONSIBILITY

Practice makes perfect, and knowing how to properly use your device is essential in an avalanche search. Off-piste skiing, ski touring, and ski mountaineering are activities with inherent risks, and wearing a transceiver should not influence your decision making in risky locations. Know when to turn around.

## 1.3/ STORAGE - BATTERY

Store your transceiver in a cool and dry place, away from direct sunlight. Remove the battery when storing the device for long periods of time (in summer). Your transceiver is no longer under warranty if the battery leaks. Check your device on a regular to make sure that the OFF/SEND/SEARCH selector switch and screen function properly, and that there are no traces of corrosion in the battery compartment.

The EV05+ operates exclusively with one AA/LR06 alkaline

battery. Do not use a lithium or rechargeable battery. The label in the battery compartment is important for customer service, do not remove it. After changing the battery, make sure that the cover is closed properly.

**Important for Switzerland: appendix 4.10 for standard SR814.013 applies to batteries.**

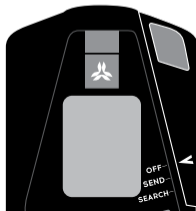
**CAUTION:** There is a risk of explosion if the battery is thrown into a fire or replaced by the wrong type of battery. Follow the instructions on how to properly dispose of used batteries.



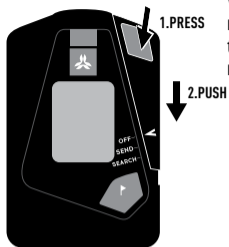
## 2/ TRANSMIT MODE

### 2.1/ TURNING ON THE DEVICE

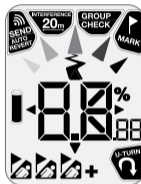
The device is off when the OFF/SEND/SEARCH selector switch is in the top position and the selector's white arrow points to "OFF". To turn on the device, unlock the OFF/SEND/SEARCH selector by pressing the lock button and at the same time, move



the OFF/SEND/SEARCH selector down until it locks mechanically via the lock button (white arrow pointing then on the mark "SEND"). The selector is properly locked when, in transmit mode, the lock button pops out and you hear it click into place and you cannot push it down any further.



When the device turns on, it automatically checks that all main functions are working properly. Verify that the auto-test runs correctly and pay close attention to any error messages that display when turning on your device.



The selector is properly locked when, in transmit mode, the lock button pops out and you hear it click into place and you cannot push it down any further.

The device then displays the software version installed and remaining battery life. We recommend that you replace the battery as soon as it drops below 50%. Holding down the marking button in transmit mode will allow you to check battery life left at any time.

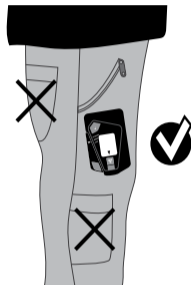
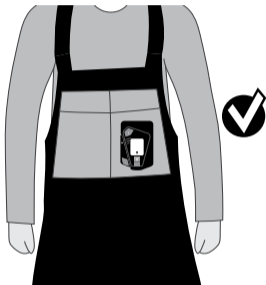
Once the start-up phase is complete, the device automatically switches to transmit mode. A flashing arrow appears at the top center of the screen and a characteristic melody to confirm that your unit is in emission mode.



Position the EV05+ in a zippered pant pocket for the entire duration of your outing. The zipper slider should be fully closed, leaving only enough room for the elastic cord to exit. Adjust the belt around your waist and then buckle it.

## 2.2/ WEARING THE DEVICE POCKET OPTION

Once the EV05+ is in transmit mode, make sure that it is connected to the elastic attachment lanyard (the device is delivered attached to the lanyard), and then verify that the carabiner on the elastic attachment lanyard is connected to the waist belt.



Make sure that you do not place any other contents in the pocket carrying your EV05+ avalanche transceiver. Do not place a cell phone in the same pocket and follow the distance guidelines detailed in paragraph 5, "INTERFERENCE".

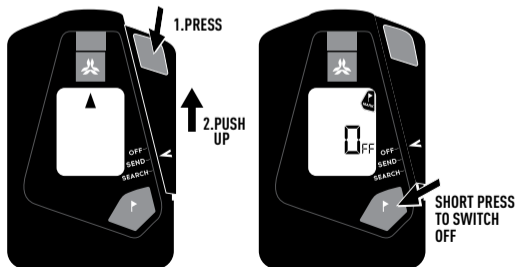
### 2.3/ WEARING THE DEVICE HOLSTER OPTION

If you have an EV05+ HOLSTER (sold separately as an accessory), make sure that the carabiner on the elastic attachment lanyard is connected to the holster's waist belt (2 positions, left or right), position the device in the holster with the screen facing out, and then buckle the holster closed. The EV05+ should always be worn over a base layer and as close to your body as possible.



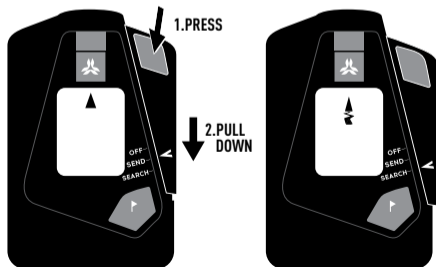
## 2.4/ TURNING OFF THE DEVICE

To turn off the device when it is in transmit mode, press the lock button to unlock the OFF/SEND/SEARCH selector switch and then push the selector into the upper position, with the white arrow pointing to "OFF". You will then be asked to confirm that you want to turn off the device by **pressing on the marking button**. A melody will then confirm the good extinction of the device. Otherwise, the device will continue to emit and warn you after 15 seconds with a beep that your device is still on. It will again offer to press the marking button to properly turn off your device.



## 3/ SEARCH MODE

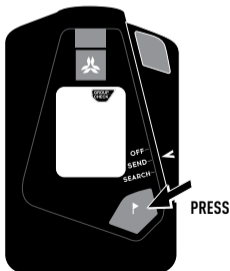
In the event of an avalanche, to switch from search to transmit mode, take the device out of your pocket or holster and press the lock button down to unlock and push the selector switch down to the "SEARCH" position.



### 3.1/ GROUP AND FREQUENCY CHECK

Before starting your outing, check to make sure that everyone's device is in transmit mode and working properly. The group leader should switch their device into GROUP CHECK mode to check the devices of the other members in the group.

When turning on the EV05+ in transmit mode, it will prompt you to switch to GROUP CHECK mode. To enter GROUP CHECK mode, push on the marking button when the GROUP CHECK icon is blinking in the upper part of the screen.



You will then be able to test your partners' devices one by one by positioning your device 1m away from each device you check.

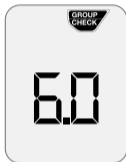


In GROUP CHECK mode, the EV05+ starts by analyzing the transmit frequency. If the frequency does not comply with current standards, a "no" message will appear indicating that the device being checked is defective and should be sent to customer service. If the frequency meets the standard, a distance reading will display on your screen and you may then proceed to checking transmit power :

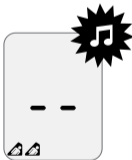
- If the distance displayed alternates between 0.5m and 1.5m, and you are positioned 1m from the device being checked, your device will emit a standard search beep indicating that the transmit power meets standard requirements.



- If the distance displayed seems strange, this means that the transmit power might be faulty and that the device should be sent to customer service for further inspection and maintenance.



- If the beacons you are testing are too close to one another, two horizontal lines and two victims will be displayed. The persons to be tested must be at least 3m apart.

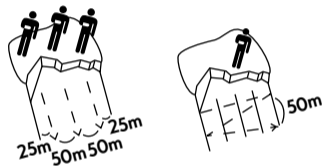


Make sure that the group leader's device is also checked once the group check is finished. Push on the marking button to switch to transmit mode.

## 3.2/ RESCUE

### 3.2.1/ STEP 1: SIGNAL SEARCH

To search for a signal, move through the avalanche debris using one of the two techniques illustrated in the diagrams below.



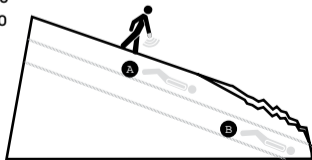
It is important to point your transceiver in the direction of the avalanche, parallel to the slope. Listen carefully for the first signs of a signal while also paying attention to any visual clues (poles, skis, and clothing). As soon as you receive a signal, a victim icon appears on the screen.

The victim icons are located on the bottom left of your screen. The “+” icon indicates that there are more than three burials.



### 3.2.2/ STEP 2: COARSE SEARCH

As soon as you receive a signal, place the device in the palm of your hand, parallel to the slope, and pointing in the direction indicated on the screen. Pay close attention to the distance and the direction indicated on screen. For the initial signal received (the strongest signal), the first avalanche victim icon appears on screen, and once locked in, the icon will start to blink. The victims are ranked by signal strength, from strongest to weakest. So the victim corresponding to the strongest signal will blink on your screen. If you come close to another burial during your search, the icon corresponding to this victim will also start to blink.



If you are not heading in the right direction, an alarm will sound and “u-turn” icon will appear on screen indicating that you should turnaround to head in the correct direction towards the victim(s) burial zone.



In a complex situation where there are multiple burials or in an environment where there is a lot of interference, the device might reach analysis overload. In this case, distance yourself from that specific area and then return by following another direction.

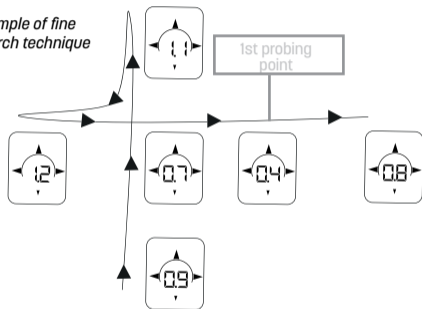
During the search phase, the beacon might re-synchronise the victims. It will display the following animation:



### 3.2.3/ STEP 3: FINE SEARCH

When the screen indicates that you are "3 meters" from a burial, your device will no longer indicate a direction. At this point you need to conduct a fine search using a "cross pattern".

*Example of fine search technique*

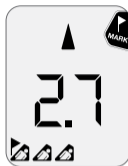


1. Position your device near snow level.



2. Move your device in a cross pattern to locate the point where the distance reading is the lowest.

**Marking function:** When you are less than 3 meters from the burial(s), a marking icon blinks in the upper right-hand corner of the screen. Press the marking button to mark the victim. The device will start searching for the next victim without any already marked burial(s) interfering.



In a multi-burial situation, as soon as you mark a victim, step 1 meter away to prompt the device to more quickly start searching for the next buried victim. When you mark a victim, a flag appears next to that victim's icon.

If "no" is displayed, marking a victim is impossible. This is due to one of the following reasons:

- The victim is not synchronised yet.
- The victim you are trying to mark, is more than 3m away.
- The victim's transceiver is emitting outside the regulatory transmission band.



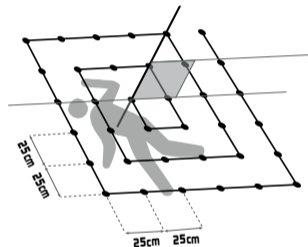
### 3.3/ AUTOMATIC REVERT-TO-TRANSMIT MODE

In the event of a secondary avalanche, the automatic revert-to-transmit mode allows the device to automatically switch back to transmitting a signal. In search mode, the device will beep every 8 minutes and the "AUTO-REVERT" icon will appear on screen asking the user to confirm they would like to continue in search mode. Press on the marking button to signal to your device that you are not buried. If no action on your part is detected, the device automatically reverts to transmit mode.



**Warning:** if a search is still in progress to find other buried victims, is important for your device to stay in search mode. If it reverts to transmit mode, it will interfere with the search for other victims. Make sure that you push your device's marking button to stay in search mode if you are not caught or buried in a secondary avalanche.

device in the dedicated pocket you chosen to carry it, with the zipper closed, to keep it out of the cold and well-protected from impacts. As soon as you have defined the zone where the victim is likely buried, it is quicker to start 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 takes at least as much time as the transceiver search. It is important to take an organized approach to shoveling.

### 4/ PROBING - SHOVELING

Before you start probing, make sure that you place your

The conveyor belt technique is the most efficient and effective way to dig. As soon you uncover the person, it is important to turn off their transceiver as quickly as possible.



## 5/ INTERFERENCE

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

These sources are:

- Carried: smart phones, radios, cameras, heart rate monitors, GPS, electric airbag backpack, etc.
- Permanent: relay towers, power lines / electricity generating equipment, ski lifts.

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.

## 5.1/ RECOMMENDATIONS IN SEARCH MODE

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

When conducting a search, we recommend turning off all electronic devices except analog radios, headlamps without an automatic regulator, watches that do not have a radio feature, and backup transceivers in the event of a secondary avalanche. Turn off all telephones and digital radios during an active search. All telephone calls should be made at least 10m from the people conducting the active search. If you wear an electric airbag backpack, it is recommended to turn it off or to hold your device more than 50cm from the system.

## 5.2/ RECOMMENDATIONS IN TRANSMIT MODE

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

## 5.3/ ACTIVE INTERFERENCE MANAGEMENT

With the huge increase in the use of wearable electronic devices, the potential has increased for electromagnetic interference of the search signal. These incidences have

primarily been observed near ski areas. Active interference management is a default setting on the EV05+, allowing your device to detect interference zones and, if necessary, reduce the search strip width. The user can then adapt their search strategy accordingly.

**With no interference, the theoretical search strip width is 50m. If there is any interference, the device will reduce the search strip width to 20m and display an "INTERFERENCE 20m" message. If there is indeed interference, it is important to adapt your search technique by narrowing your search strips to 20m.**



**tracking and to add another 3 years to your warranty.**

Any damage caused by improper use is not covered by the warranty. The warranty is void if the device was opened by the user or an unqualified third party. We recommend sending us your device once every 3 years for maintenance (and once every 2 years for professionals).

## 6/ WARRANTY – MAINTENANCE - LIFECYCLE

Your device (without batteries) has a 2-year warranty starting from the purchase date. All ARVA transceivers have a unique identification number.

**Registering your device on [www.arva-equipment.com](http://www.arva-equipment.com) allows us to link your contact information to your device to for optimal**



**Disposal of electronic instruments by users from private households:** this symbol indicates that the product is not allowed to be disposed of with household waste. It is your responsibility to bring your waste to a designated recycling center to properly recycle or dispose of your electric and electronics devices. Separate disposal and recycling of your waste will contribute to preserving our natural resources and ensure an environmentally-friendly disposal that is safer for public health. For more information regarding the closest recycling center to your residence, contact your local city hall, waste management company, or the store where you purchased the product.

## 7. DECLARATIONS OF CONFORMITY

### 7.1. DECLARATION OF CONFORMITY - EUROPE

<b>FR</b>	Par la présente, NIC-IMPEX SAS déclare que l'équipement radioélectrique ARVA EV05+ est conforme à la directive RED 2014/53/EU. Le texte complet de la déclaration UE de conformité est disponible sur notre site <a href="http://www.arva-equipment.com">www.arva-equipment.com</a> à la rubrique téléchargements.
<b>EN</b>	NIC-IMPEX SAS hereby declares that the ARVA EV05+ radio electronic device complies with directive RED 2014/53/EU. The full text of the EU declaration of conformity is available on our website, <a href="http://www.arva-equipment.com">www.arva-equipment.com</a> , on the downloads page.
<b>DE</b>	Hiermit erklärt NIC-IMPEX SAS, dass das Funkgerät ARVA EV05+ der Funkanlagenrichtlinie (RED) 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist auf unserer Website <a href="http://www.arva-equipment.com">www.arva-equipment.com</a> in der Rubrik Downloads verfügbar.
<b>IT</b>	NIC-IMPEX SAS dichiara con la presente che il dispositivo elettronico radio ARVA EV05+ è conforme alla direttiva RED 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile sul nostro sito internet <a href="http://www.arva-equipment.com">www.arva-equipment.com</a> sulla pagina dei downloads.
<b>ES</b>	NIC-IMPEX SAS declara que el dispositivo radioeléctrico ARVA EV05+ cumple con las disposiciones de la Directiva RED 2014/53/UE. El texto completo de la declaración de conformidad UE está disponible en nuestro sitio web, <a href="http://www.arva-equipment.com">www.arva-equipment.com</a> , en la página de descargas.
<b>FI</b>	NIC-IMPEX SAS vakuuttaa, että ARVA EV05+ -radioelektroniikkalaite on direktiivin RED 2014/53/EU mukainen. Vaatimustenmukaisuusvakuutus-teksti kokonaisuudessaan löytyy verkkosivustostamme: <a href="http://www.arva-equipment.com">www.arva-equipment.com</a> , kohdasta lataukset.
<b>NO</b>	NIC-IMPEX SAS erklærer herved at det radioelektroniske apparatet ARVA EV05+ er i overensstemmelse med direktivet RED 2014/53/EU. Den fullstendige teksten i EU-erklæringen om overensstemmelse er tilgjengelig på vår nettside, <a href="http://www.arva-equipment.com">www.arva-equipment.com</a> , på nedlastingsiden.
<b>SV</b>	NIC-IMPEX SAS förklarar härmed att ARVA EV05+ radiokommunikationsenhet överensstämmer med Direktiv 2014/53/EU (direktivet om radioutrustning). Den fullständiga texten till EU-försäkran om överensstämmelse kan laddas ned från vår webbplats, <a href="http://www.arva-equipment.com">www.arva-equipment.com</a> .
<b>JA</b>	NIC-IMPEX SAS は、ARVA EV05+ 無線電子機器が無線機器指令 (RED) 2014/53/EU を遵守していることをここに宣言します。EU適合宣言書の全文は弊社ウェブサイト <a href="http://www.arva-equipment.com">www.arva-equipment.com</a> のダウンロードページにてご覧いただけます。

## 7.2. DECLARATION OF CONFORMITY - CANADA

CANADA - IC requirements

- IC: 22008-ARVAEVO5+

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) L'appareil ne doit pas produire de brouillage; (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This device complies with ISSED radiation exposure limits set forth for general population. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Le présent appareil est conforme aux niveaux limites d'exigences d'exposition RF aux personnes définies par ISDE. L'appareil ne doit pas être installé à proximité ou être utilisé en conjonction avec une autre antenne ou un autre émetteur.

### 7.3. DECLARATION OF CONFORMITY - USA

USA - FCC requirements - FCC ID: 09BARVAEV05+

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.
- To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with the Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This device complies with FCC radiation exposure limits set forth for general population. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

### 7.4. PICTOGRAMS DESCRIPTION



ELECTRONIC DISCHARGES - Warning: electrostatic discharges, use the product only when battery cover is closed.



INSTRUCTION MANUAL - Please read and follow the instruction manual carefully before using your new ARVA beacon for the first time.

### Manufacturer / Fabricant :

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