






# ULTRACOM **R10** HYBRID

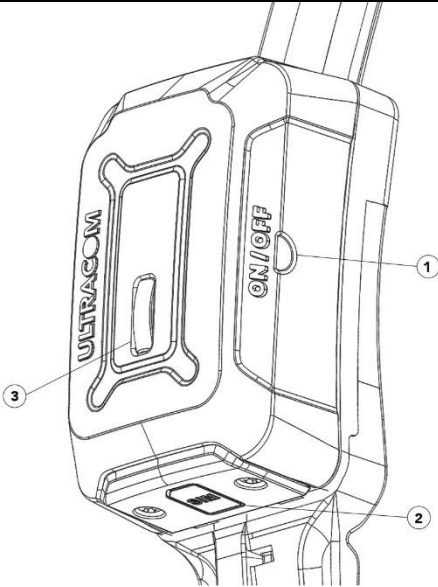
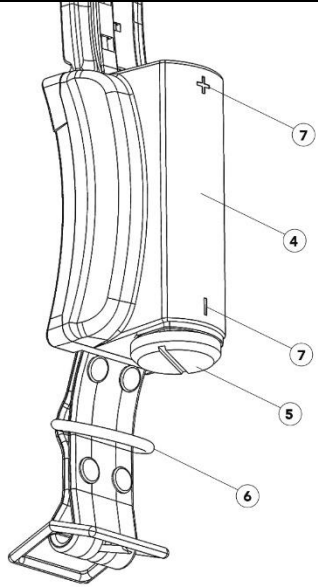
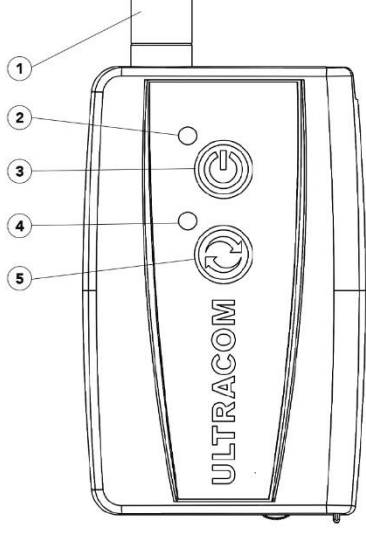
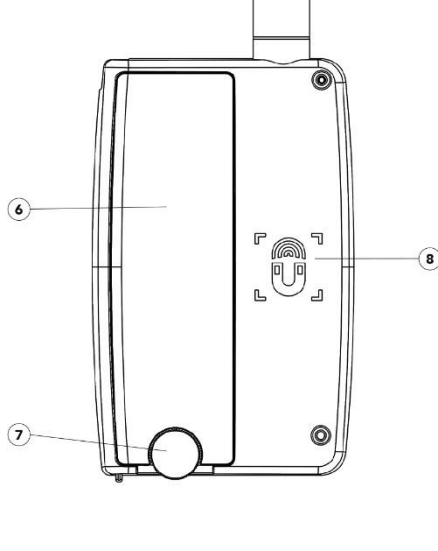
## USER GUIDE

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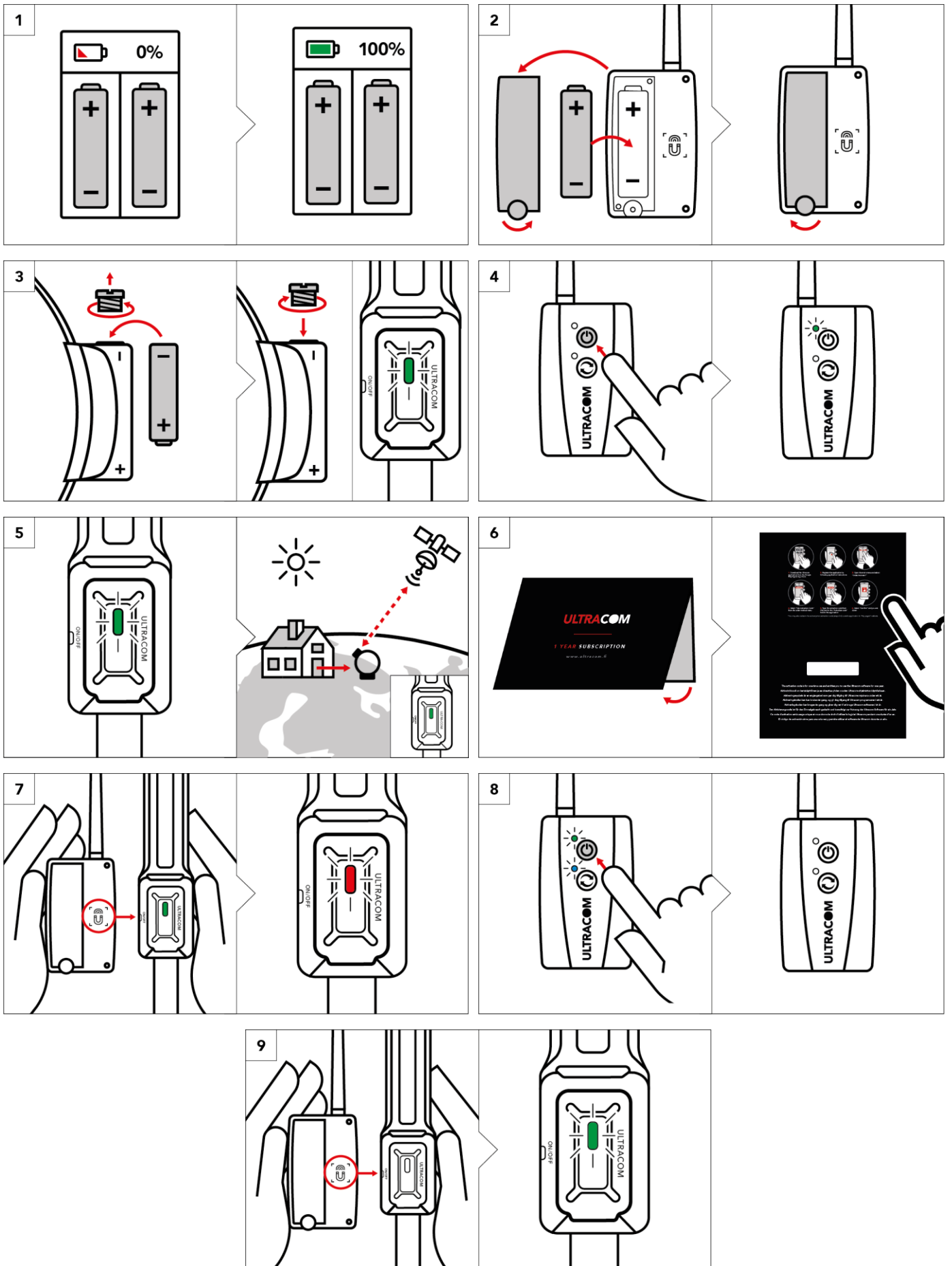
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## 1. Warnings and device reference

	<b>Warning!</b> Risk of explosion if the battery is replaced with an incorrect type of battery.
	<b>Warning!</b> Surface of the device may get hot if the device is used at high ambient temperature.
	<b>Warning!</b> Note the polarity on the battery and the battery casing.
	<b>Warning!</b> High intensity light emitted from the beacon light. Do not stare at the light when it is active.
	Use of the device may be subject to national frequency licensing requirements. One-way use of the device (no commands are sent to the collar) may require one radio license, and two-way use (commands are sent to the collar) may require two radio licenses. The owner of the device must check the radio licensing requirements and, if necessary, acquire the necessary licenses from the communications authorities in the country of use. Ultracom accepts no liability for unauthorized use of the device.

		<p><b>ULTRACOM R10 HYBRID COLLAR</b></p> <ol style="list-style-type: none"> <li>1. GPS casing ON/OFF</li> <li>2. SIM-card cover</li> <li>3. Beacon light</li> <li>4. Battery casing</li> <li>5. Battery cover</li> <li>6. Leash attachment ring</li> <li>7. Battery polarity</li> </ol>
		<p><b>ULTRACOM R10 HYBRID VHF-RECEIVER</b></p> <ol style="list-style-type: none"> <li>1. VHF antenna</li> <li>2. Green/red LED light</li> <li>3. Power button</li> <li>4. Blue Bluetooth LED light</li> <li>5. Connection button</li> <li>6. Battery cover</li> <li>7. Battery cover thumbscrew</li> <li>8. Magnet icon</li> </ol>

## 2. Figure references



### 3. Introduction

**Thank You** for purchasing Ultracom R10 Hybrid. We worked hard to bring you the most reliable and best quality locating device.

We wish that you and your dog have a great experience with your new Ultracom R10 Hybrid. Welcome to Share The Adventure with us.

### 4. General safety instructions

Please read this instruction manual carefully before using the device. The warranty does not cover damage caused due to improper use of the device. When you are familiar with the handling of the device, you will know how to use it correctly, safely, and as diversely as possible. You can find the warnings related to the devices on the beginning of this manual.

#### 4.1 Batteries and charger

Use high quality and approved 3.7 V 18650 Li-Ion batteries and chargers that are recommended by the manufacturer. The battery should be equipped with a protection chip. You can get recommendations for batteries from authorized Ultracom retailers or directly from the manufacturer.

Please note the (+) and (-) markings as you are installing a battery into the device or a charger (figure 1). To get the longest life out of your batteries, only charge them when necessary. Do not leave batteries unused for long periods of time. Always follow the recommendations of the battery and charger manufacturer.

The capacity and operating time of the batteries are reduced when they are under heavy use or remain unused for long periods of time. This can be alleviated by using a smart charger. Smart chargers can be acquired from well-equipped electronics stores. It is recommended that the batteries are replaced each year to ensure you can use the device without issues and for long periods of time.

#### 4.2 Location accuracy and signal obstruction

The maps may contain incorrect information and the position given by the device may be inaccurate, or issues may occur when acquiring a position. Several factors can affect the accuracy of a location device such as unfavourable position of satellites, large buildings, natural obstacles, and prevalent weather conditions.

The VHF signal quality between the collar and the VHF-receiver may be impacted by natural obstructions and buildings. The VHF signal is strongest when there is an unobstructed line of sight between the collar and the VHF-receiver. You can improve the VHF signal by moving to a more elevated area compared to the collar.

### 5. Device setup

#### 5.1 Changing the SIM card

Read more on the pre-installed Ultracom Global SIM from the leaflet that came with the device.

If you want to use your own SIM card, it is recommended that you remove the SIM card lock from the card (PIN query). The device can disable most PIN codes pre-set by service providers. If the device cannot disable the SIM card lock after starting up, the red light will remain lit. In this case, disable the SIM card lock using a mobile phone. More info on disabling the SIM card lock can be found on the instruction manual of your mobile device.

To install your own SIM card to the device, open the SIM card cover using the provided tool. Remove the pre-installed card by gently pressing the card inwards using your fingernail. The card springs out from the SIM card reader. Do not use tools when removing the SIM-card from the reader!

Install the new SIM card into the reader by gently pushing the card into the SIM reader until the card locks in place. Set the SIM card cover in place, facing as shown on the SIM cover. Carefully tighten the screws evenly using the provided tool. Do not use any other tool to tighten the screws!

#### 5.2 Installing the batteries

Charge the batteries before installing them into the collar and VHF-receiver (figure 1).

Remove the covers of the battery compartments by turning the covers counterclockwise. Insert a single 3.7 V 18650-sized Li-Ion battery into the battery compartments of the collar and the VHF-receiver. Take note of the (+) and (-) symbols on the battery and the battery compartments (figure 2 and figure 3). Close the covers to the battery compartments by turning them clockwise.

#### 5.3 Starting the devices

Start up the VHF-receiver by pressing the power button (figure 4). A light on the VHF-receiver will illuminate to indicate that the device is starting up. The collar will start automatically when the battery is installed into the collar. A light on the collar's GPS case will illuminate for three seconds to indicate that the device is starting up (figure 5).

Take the collar outdoors so it can connect to the satellites (figure 5). While the collar is searching for satellites a green light will blink once a second. When the collar has discovered a sufficient number of satellites to provide an accurate location, the green light on the collar will blink once every three seconds. Note that when the device has not yet been added to the Ultracom app, a green light will stay lit continuously.

*Note! If the battery level is between 25-75 %, instead of the green light an orange light will illuminate. If the battery level is under 25 %, instead of green or orange light a red light will illuminate. See more info on device function indication lights in chapter 6.5.*

*Note! If the SIM card on the device is installed incorrectly or the device cannot disable the SIM card lock, the device will not start, and the red light illuminates continuously. See more info from chapter 5.1.*

#### 5.4 Ultracom NEXT app and mobile device requirements

The Ultracom NEXT application is required to use the device. Ultracom NEXT app supports Apple iOS devices (iOS 11 and newer) and Android devices (Android 8.0 and newer). The Android device must also support Google Play-store.

Open your mobile device's app store and search with the keyword "Ultracom NEXT". Download and install the application. The application will instruct on registering/signing into the app and adding your Hybrid device to the app. The app requires device ID number that can be found on the first page of the quick start manual and under the detachable collar part on a separate sticker.

You will receive the free 12-month Ultracom subscription when you add the device to the app (figure 6). All the Ultracom NEXT functions are presented in the application manual, which can be found on our support site.

*Note! VHF-receiver must be paired once to your mobile device. It must be re-paired if the mobile device changes or if the VHF-receiver is removed from the Bluetooth device list of your mobile device.*

### **5.5 Changing the Bluetooth mode of the VHF-receiver**

If connecting to the mobile device is not successful with the default Bluetooth mode (Bluetooth Low Energy, BLE), try to change the Bluetooth mode by holding down the connection button of the VHF-receiver for 6 seconds. After the VHF-receiver blinks the green light, release the button, and wait for the VHF-receiver to change its Bluetooth mode to the compatibility mode (Bluetooth Classic).

After the VHF-receiver has changed the Bluetooth mode, the blue light will blink twice per second until the connection to the phone is successful. When the connection has been established to the mobile device, the blue light will blink once per three seconds.

If the Bluetooth mode is changed, you must restart the connection process from the beginning.

### **5.6 Attaching the collar on the dog**

Always acquire at least one location from the device before releasing the dog so that you can verify that the batteries are sufficiently charged, and that the device is operating normally.

When you have completed the setup of the device, you can attach the collar to the dog. Tighten the collar to a suitable tightness and fasten the buckle carefully. Place the device on the dog's neck so that the battery casing remains underneath the dog's neck.

You can attach a walking leash to the attachment point on the device. The attachment point is intended for short-term use only

### **5.7 Turning the devices off**

Turn off the collar by placing the magnet icon on the back of the VHF-receiver against the ON/OFF icon on the collar (figure 7). Hold the VHF-receiver against the collar until the red light on the collar starts to blink.

The VHF-receiver can be turned off by holding down the power button for three seconds (figure 8). The light on the VHF-receiver will illuminate for three seconds, after which the lights on the VHF-receiver will go out.

*Note! If the battery level is between 25-75 %, instead of a green light an orange light will illuminate. If the battery level is under 25%, instead of green or orange light a red light will illuminate. See more info on device function indication lights in chapter 6.5.*

### **5.8 Turning the collar back on**

The collar can be restarted by bringing the magnet icon of the VHF-receiver against the ON/OFF icon of the collar (figure 9).

## **6. Other functions and care instructions**

### **6.1 Washing the device and changing/shortening of the collar**

The collar part of the device is replaceable and can be cut to a desired length.

Hold the device in hand by the device's battery casing, with the battery casing and the buckle facing towards you. Pull the buckle towards you gently to slide the collar out from the device. To install a new collar into the device, thread the collar carefully into the device with the tip facing forward, beginning at the battery casing. Gently slide the collar in place and make sure that the buckle comes as close to the battery casing as possible.

The collar can be washed without using chemical detergents. Wipe the VHF-receiver with a slightly moist towel. Do not submerge the VHF-receiver under water or wash it under running water. The VHF-receiver is water resistant, but it is not waterproof.

### **6.2 Replacing the antenna**

You can replace the antenna on the VHF-receiver yourself. Turn the antenna counterclockwise by hand. Fix the new antenna by rotating it into the connector. Do not overtighten the antenna. Use only original spare part.

*Note! Using a third-party antenna can damage the device and it is not covered by warranty.*

The antenna on the collar cannot be replaced by the user. The antenna must be replaced at the Ultracom factory service. You can find more information on factory service on our support website.

### **6.3 Updating the devices**

The firmware on the VHF-receiver and the collar can be updated using the Ultracom NEXT application. See the latest update instructions on our support website.

### **6.4 Indication of a connection between the mobile device and the VHF-receiver**

When a Bluetooth connection has been established between the mobile device and the VHF-receiver, the blue light on the VHF-receiver will blink once every three seconds.

If the Bluetooth connection to the mobile device breaks off, the blue light on the VHF-receiver will blink once a second. The Ultracom application will also report that the connection has disconnected. Follow the instructions provided by the Ultracom application to re-establish the connection.

### **6.5 Device function indication**

When the VHF-receiver receives VHF signal from a collar, the green light will blink on the VHF-receiver.

If you have not selected your own Ultracom R10 Hybrid -collar on the Ultracom application, the green light on the VHF-receiver indicates that there is some other Ultracom R10 Hybrid at the same area.

The device indicates different functions and battery level as follows:

R10 HYBRID VHF-RECEIVER FUNCTIONS	RED LIGHT	GREEN LIGHT	BLUE LIGHT	ADDITIONAL INFORMATION
<b>Bluetooth connection</b>				
Normal	-	-	blinks every 3 seconds	
Searching for connection	-	-	blinks once a second	Bluetooth Low-Energy mode (normal mode)
Searching for connection	-	-	double blink once a second	Bluetooth Classic mode (compatibility mode). See more on chapter 5.5.
<b>Function</b>				
Data received from the collar	-	blinks once every 3 seconds	-	
Starting up	if the battery is low, the light illuminates for 3 seconds	illuminates for 3 seconds	-	
Turning off	illuminates for 3 seconds	-	-	
<b>Indication of battery level</b>				
Normal	-	-	-	
Low	blinks once every 3 seconds	-	-	Charge battery soon.
Critical	blinks once a second	-	-	Charge battery immediately.
<b>R10 HYBRID COLLAR FUNCTIONS</b>	<b>RED LIGHT</b>	<b>GREEN LIGHT</b>	<b>ORANGE LIGHT</b>	
Starting up	illuminates for 3 seconds (battery level under 25 %)	illuminates for 3 seconds (battery level over 75 %)	illuminates for 3 seconds (battery level 25-75 %)	
Turning off	blinks for approx. 10 seconds	illuminates for 3 seconds (battery level over 75 %)	illuminates for 3 seconds (battery level 25-75 %)	
Searching for satellites	blinks once per second (battery level under 25 %)	blinks once per second		Device is searching for satellites.
Normal function	blinks once every 3 seconds (battery level under 25 %)	blinks once every 3 seconds		Satellites and data connection found.
Initialization		illuminates continuously		First time start-up. Data connection OK and device can be added to the application.
Device error	illuminates continuously			Device error. For example, no SIM card found, or the SIM card lock is on.

## 7. Technical information

**Type:** Ultracom R10 Hybrid

**Battery type:** 1 x 3.7 V 18650 Li-Ion battery with a protective circuit (VHF-receiver and collar)

**Operating temperature:** -15°C to +55°C

**Collar Weight:** Without battery / with battery 298g / 345g

**VHF-receiver weight:** Without battery / with battery 133 g / 180 g

**Collar water resistance:** 0.5 m, 30 min

**VHF-receiver water resistance:** Splash resistant

**Operating time:**

- VHF-receiver: approx. 40 hours.
- Collar:
  - o Min. VHF tracking 3 sec and mobile data tracking 5 sec – approx. 31 h, from which in power saving mode 16,5 h (normal power saving mode in which the device will automatically change to a longer tracking intervals).
  - o Med. VHF tracking 3 sec and mobile data tracking 60 sec – approx. 40h, from which in power saving mode 20,5 h (normal power saving mode in which the device will automatically change to a longer tracking intervals).
  - o Max. VHF tracking 60 sec and mobile data tracking 600 sec – approx. 67 h (high power saving mode in which the device will automatically change to a longer tracking intervals) or VHF off and mobile data tracking 600 sec – approx. one week.

**Locating method:** GPS/Glonass

**GSM:** 900/1800 MHz

**VHF-frequencies:** 6-channel: 155.400, 155.425, 155.450, 155.475, 155.500, 155.525, and single channel: 169.4 MHz

**VHF antennae:**

- Collar: 460 mm whip antenna

- VHF-receiver: 158 mm stub antenna

**VHF-receiver Bluetooth:** Version 4.0 (BR/EDR/LE). Range approximately 10 m (depending on obstructions)

**Guarantee:** 2 years

**Country of manufacture:** Finland

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Hereby, Ultracom Oy declares that the radio equipment type: Ultracom VHF/GSM 900/1800MHz GNSS tracking device is in compliance with Directive 2014/53/EU(RED). More info can be found on our website [www.ultracom.fi/support](http://www.ultracom.fi/support)



The device has been manufactured since August 13, 2005. At the end of its life cycle, the device must be taken to a recycling point for electric and electronic devices.

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For questions or inquiries, please contact your local distributor or reseller first.