



FAST FIND RANGER PLB

USER MANUAL

This manual is applicable to the FAST FIND RANGER PLB.

ONLY IN EMERGENCY
FALSE ALERTS
ENDANGER LIVES

SOS ONLY IN EMERGENCY

ONLY PULL IN AN EMERGENCY

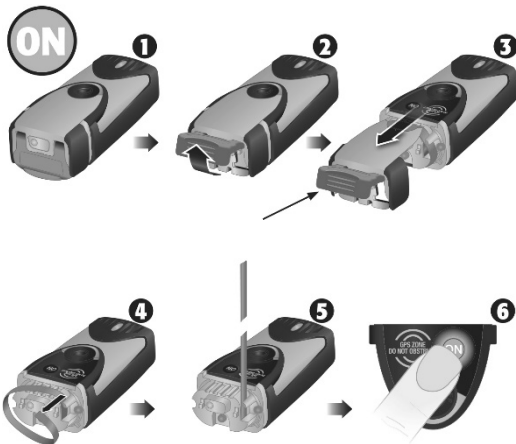
Pulling breaks the plastic anti-tamper seal that cannot be reset by the user.

TIRER UNIQUEMENT EN CAS D'URGENCE

Le fait de tirer brise un dispositif plastique de sécurité que l'utilisateur ne peut pas réarmer.

TIRAR SOLAMENTE EN CASO DE EMERGENCIA

Al tirar se rompe el precinto anti-manipulación prohibida de plástico que no puede ser reseteado por el usuario.



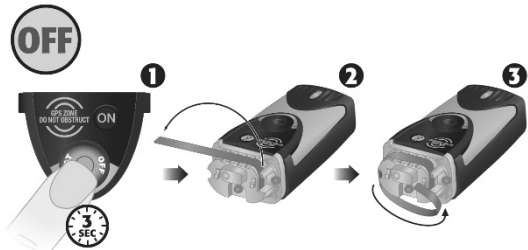
HOLD MAINTENEZ LE DECLENCHEUR MANTENER	
ORDER NEW CAP COMMANDEZ UN NOUVEAU CAPOT PIDA UNA NUEVA TAPA	

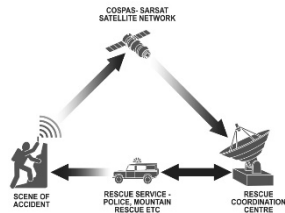
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1. INTRODUCTION

The Fast Find Ranger Personal Locator Beacon (PLB) gives you the reassurance of a last resort safeguard against any life threatening incidents that may occur anywhere in the world. If you find yourself in a remote area without any other form of emergency communication, on land or at sea, your Fast Find Ranger can call for help.

When triggered, the Fast Find Ranger transmits a unique serialized ID to the Cospas-Sarsat MEOSAR satellite system which can pinpoint your location anywhere on the earth's surface. This is typically within minutes, but can be up to 45 minutes depending on satellite coverage. The Rescue Coordination Centre (RCC) then forwards the details of the emergency to the appropriate local Search And Rescue (SAR) services.

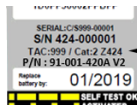


Waterproof and fully submersible to 10 meters, the Fast Find Ranger features an inbuilt GPS and GALILEO receiver that can pinpoint your location to within a few meters. Dense tree cover or a steep-sided canyon can sometimes make it difficult for the GPS-GALILEO to obtain a position fix. If this is the case, the satellites will still be able to pinpoint your approximate location and the unit's secondary homing transmitter enables SAR teams to home in on your exact location once they are in the vicinity. The unit also features a flashing SOS light which can be used to attract attention.

The lithium power cell offers a minimum 24 hours continuous operation and a 6 year battery storage life.

Please take time to read this manual fully before using the Fast Find Ranger as it contains important information regarding the correct use and maintenance of the product.

IMPORTANT: The present user manual only applies to Fast Find Ranger with model number Z424. The model number is visible on the rear label of the PLB. If model number is different from Z424, please refer to the original User Manual delivered with your PLB.



Model
Number

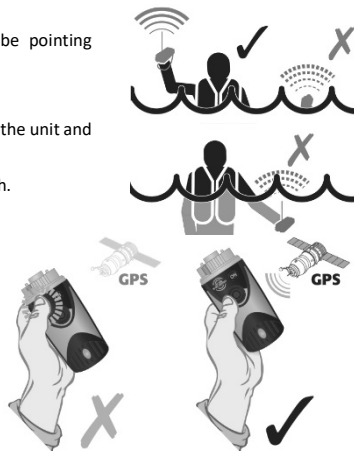
2. SAFETY NOTICES

It is recommended that the Self Test is performed once a month in the limit of 10 tests per year - unnecessary testing reduces battery life in the event of an emergency. Return the unit to a service center for battery replacement if battery level is low (single flash in Self Test mode).

Confirm that the battery expiry date shown is in date for the duration of intended use.

Transmission of the first emergency alert message occurs 50 seconds after the unit is activated. This allows time for the unit to be switched off before the rescue services are alerted if accidentally activated.

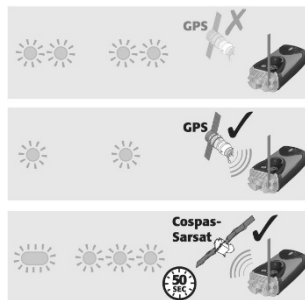
- For optimum transmission, the antenna must be pointing vertically upwards at all times.
- Do not hold the antenna.
- Fit the lanyard through the eye hole in the base of the unit and fasten securely to your clothing.
- The unit will not float without the buoyancy pouch.
- The unit is not designed to float in an upright position or transmit a distress alert when floating in water. Once activated it must always be kept above water, as direct contact with the sea will severely reduce the transmission range.
- Ensure that the area marked "GPS Zone" is not obstructed or covered in any way and always has a clear view of the sky.
- In strong winds, turn the unit so the indicator light faces into the wind.



3. INDICATOR LIGHT

As soon as the PLB is activated, the indicator light will start to flash:

- Two flashes every second indicates the unit is activated and is attempting to acquire a GNSS position fix.
- One flash every 3 seconds indicates that a GNSS position fix has been acquired.
- A long flash followed by three rapid flashes every 50 seconds indicates that the PLB has transmitted a distress signal along with the current GNSS position.



While the PLB is active, pressing the **ON** button again will cause the indicator light to flash a Morse code SOS pattern. This can be used to attract attention in low light conditions. The SOS pattern is repeated four times each time **ON** is pressed.

NOTE: To conserve battery life a maximum of 30 presses is allowed, after which this feature is disabled.



4. CAUTIONS

ACTIVATE ONLY IN AN EMERGENCY

- This PLB should only be used in situations of grave and imminent danger to life.
- False alerts endanger lives and cause expensive disruption to Search & Rescue services.
Deliberate misuse of the device could result in a penalty.
- Spring action antenna. Mount and deploy in such a way as to avoid eye injury.
- Product and battery pack contain no user-serviceable parts. Do not dismantle.
- Contains lithium batteries. Do not incinerate, puncture, deform, short-circuit or recharge.
- Avoid cleaning the unit with chemical solvents as this may damage the case material.
- Radio Licensing. This product is a radio transmitter. Although US and UK owners are not required to hold a radio license to operate a PLB on land, some administrations may require that the user holds a valid radio license to cover its ownership and use.
- This product emits low levels of radio frequency energy during operation. Avoid handling the antenna once activated.
- The unit will not float if removed from the buoyancy pouch, fit a lanyard restraint when near water to avoid loss.
- The top cap is fitted with an anti-tamper seal which is broken on activation of the unit and must then be replaced. A new cap should then be fitted and the battery has to be replaced following any operation other than a Self-test or a GNSS Test.
- For future servicing by a service center, keep the original packaging for transportation.
- **False alarm:** If the unit has been accidentally activated or you are no longer in danger prior to the arrival of the rescue services, switch off the unit and contact the relevant rescue services as soon as possible to provide the following: 15-Hex ID, date, time, duration and cause of false alarm, location at the time of activation.

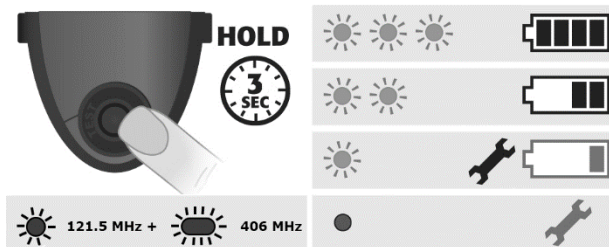
5. SELF TEST

The Self Test verifies all key functions of the PLB including the remaining battery life and transmitter operation.

WARNING: ONLY SELF TEST IN THE FIRST FIVE MINUTES OF THE HOUR.

NOTE: The **TEST** button must be pressed hard to activate - if necessary, use a blunt object such as a pencil.

- Press the **TEST** button for 3 seconds and release it. The indicator light flashes once after release.
- After a few seconds, there will be one short flash for 121.5 MHz homing signal transmission and one long flash for 406 MHz test signal transmission.
- At the end of the test, there will be a sequence of flashes.
- The PLB will switch off after the test is completed.



6. GNSS SIGNAL ACQUISITION TEST

IMPORTANT: To preserve battery life, a maximum of 10 GNSS Tests are permitted during each battery's 6 year storage life, after which further GNSS Tests are prohibited until the battery is replaced.

- **Begin this test indoors, out of view of the open sky.**
- To start the GNSS Signal Acquisition Test, press and hold the **TEST** button again for 15 seconds until the indicator light will start flashing slowly, indicating that the GNSS is searching for a signal. Then, release the **TEST** button.
- Move outside so that the PLB now has a clear view of the sky.
- Ensure "GPS Zone" on unit is not obstructed.
- Unit will flash slowly until GNSS fix is acquired. When no GNSS Test remains, the unit will only flash once a single long flash and the PLB will switch off without performing the GNSS Test.
- A series of long flashes indicates a successful GNSS fix and the number of GNSS tests remaining.
- If no GNSS fix is acquired after 5 minutes, the test will fail and the indicator light will stop flashing.



	✓ 4-10 TESTS LEFT
	✓ 1-3 TESTS LEFT
	✓ NO TESTS LEFT
	✗ TEST FAIL

7. SPECIFICATION

Standards	COSPAS-SARSAT T.001/T.007 class2, RTCM 11010.2 ETSI EN 302152-1, AS/NZS 4280.2, NSS-PLB11
Sealing depth	Immersion to 10 m (30 ft) for 5 minutes
Operating temperature	-20 to +55 °C (-4 to + 131 °F)
Storage temperature	-30 to +70 °C (-22 to +158 °F)
Altitude	12,192 m (40,000 ft)
Buoyancy	Category 2, will not float (optional buoyancy pouch available)
Battery type	Lithium Manganese
Transmit duration	> 24 hours @ -20 °C (-4 °F)
Battery life (storage)	6 years
Battery replacement	Service center
Battery Use	Logged by microprocessor
Transmitter Frequency	406.031 MHz (alert) / 121.5 MHz (homer)
Transmitter Power	5 W (alert) / 50 mW (homer) nominal
Unique ID Number	Factory or dealer programmed
GNSS Receiver	GPS(L1)+GALILEO(E1), 72 channel, ceramic patch antenna
Size (D x W x L)	36 x 50 x 112 mm (1.42 x 1.97 x 4.41 in)
Weight	164 g (5.8 oz)
Indicator Light	High brightness LED signal light
SOS flash light	Morse code SOS flash pattern, 30 operations
Activation	Manual, three stage
Self-test	Tests transmitters, battery and light
Standard Compass Safe Distance	1 m (3 ft)
Warranty	1 year (+ 4 years with online registration)

This PLB will not float unless held in the optional buoyancy pouch. A PLB is not an ELT or an EPIRB and does not meet the regulatory requirements for an ELT or an EPIRB.

8. REGISTRATION INFORMATION

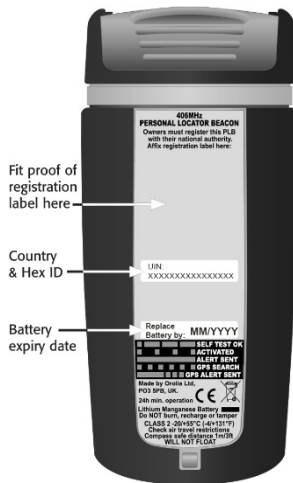
Registration of the PLB with the relevant national authority is mandatory. For further information applicable to your region refer to the information on the registration form provided and the annex at the end of this manual.

Some national authorities provide the registered user with a label which must be fitted to the rear of the PLB as proof of registration.

Failure to register the PLB is illegal and could delay a Search & Rescue response.

Some national authorities require a completed registration application form to be submitted by letter or fax, others offer an online registration. For more information, visit the emergency beacon registration database IBRD at www.406registration.com and also www.cospas-sarsat.org. The addresses of the national authorities are listed in the annex at the end of this manual.

Sale or transfer: The new owner must file a new user registration. Should the country hosting the user registration also change then the PLB will need to be re-programmed by a service agent.



9. ACCESSORIES

Included with your Fast Find Ranger PLB are:

- A neck lanyard (not to scale)
- A universal pouch



10. TRANSPORTATION

- The product contains a lithium metal battery with a lithium content exceeding 2 g and a total net quantity of 0.068 kg. It is classified as dangerous goods for transportation purposes: Class 9, UN3091, Lithium metal Batteries Contained in Equipment.
- **Transport by air:** the product cannot be carried on a passenger aircraft either as carry-on or checked in baggage. For transport by air, the product must be packaged and shipped as cargo via a qualified dangerous goods shipper. Packing instruction P970 Section 1 applies.
- **Transport by sea:** It may be possible to carry the product in a private vehicle or as carry-on baggage – this must be checked with the ferry company/shipping line prior to travel. If this is not allowed, the product must be packaged and shipped as cargo via a qualified dangerous goods shipper. Packing instruction P903 applies.
- **Transport by road:** The transport of dangerous goods regulations do not apply to items carried in a private vehicle for personal use. Product being transported by courier/road haulier must be packaged and shipped as cargo via a qualified dangerous goods shipper. Packing instruction P903 applies.

11. EU DECLARATION OF CONFORMITY

Hereby Orolia Ltd declares that the Type Z424 is in compliance with the essential requirements and other relevant provisions of Radio Equipment Directive 2014/53/EU. A copy of the full Declaration of Conformity can be obtained online from: www.mcmurdogroup.com/contact/support/marine-products/

Orolia Ltd hereby declares that all materials, components and products supplied are in full compliance with RoHS & Weee Directives.

Use of this equipment is subject to restrictions of use and / or licensing in the following EU countries:



AT	BG	CY	CZ	DE	DK
EL	ES	FI	FR	HR	HU
IS	IT	LI	LU	LV	MT
NL	NO	PL	PT	RO	SI
SK	UK				

12. END OF LIFE STATEMENT

- At the end of its life, the product must be disposed of according to local laws and regulations and it must be disposed of separately from household waste.
- The battery should also be removed to prevent false alerts.
- Do not incinerate, but take it to a recycling facility.



ANNEX: LOCAL AUTHORITY INFORMATION

Australia

Beacon Registration Section, AusSAR

Tel: +61 2 6279 5766 or 1800 406 406

Email: ausbeacon@amsa.gov.au

Fax: +61 2 6230 6868 or 1800 406 329

Registration: www.beacons.amsa.gov.au

Owners in Australia please note the following requirement from the Australian Standards Authority:

"Advice to owners of personal locator beacons (PLBs). Registration of 406 MHz satellite PLBs with the PLB Registration Section of the Australian Maritime Safety Authority (AMSA) is mandatory because of the global alerting nature of the system. The information provided in the registration card is used only for rescue purposes. See the owner registration card for the AMSA contact details on how to register your beacon upon completion of the sales transaction. Before a beacon enters service, it should be registered with AMSA. If the beacon is being transferred to a new owner, the current owner needs to inform AMSA of the name and address of the new owner. The subsequent owner of the beacon is required to provide AMSA with the information as shown in the owner registration card. This obligation transfers to all subsequent owners."

Beacon disposal: After disposing of your unwanted beacon please advise the Australia Maritime Safety Authority (AMSA) by updating your online registration account or by phoning 1800 406 406

False alert: In event of a false alert call the JRCC at 1- 800 815 257 (aviation) or 1-800 641 792 (maritime).

Austria

Austrian Telecommunications Authority (OFB)

Telephone: +43 1 71162 - 65 4224

Online registration: www.bmvit.gv.at/ofb

Belgium

www.406registration.com

Under "Register a new beacon", select the relevant option and follow instruction.

Canada

Canadian Beacon Registry,
PO Box 1000 Stn Forces, Astra, ON K0K 3W0

Tel: 1-877-406-SOS1 (7671)

Fax: 1-877-406-FAX8 (3298)

Email: CBR@sarnet.dnd.ca -

Web: www.cbr-rcb.ca

Finland

The Finnish Communications Regulatory
Authority

Tel: +358 295 390 100

Email: radiotaajuuDET@ficora.fi

France FMCC Email: fmcc@cnes.fr Registration: registre406.cnes.fr	Greenland (Denmark) Greenland Telecom Administration Tel: +45 299 327 850 Fax: +45 299 328 033 Email: radioforvaltningen@nanog.gl
India INMCC/ISTRAC/ISRO www.406registration.com Under "Register a new beacon", select the relevant option and follow instruction.	Ireland PLB owners can register their PLB online: Web: https://serviceregister.comreg.ie/Account/Login Email: licensing@comreg.ie Tel: 01 804 9600
Italy ITMCC Tel: +39 080 5341571 (24/24) Direct Line: 080 5341830 - office hours Fax: +39 080 5342145 Email: bancadati@cospas-sarsat-italy.it Registration: www.cospas-sarsat-italy.it	Netherlands Radio Communications Agency Tel: +31 50 5877444 Fax: +31 50 5877400 Email: info@agentschaptelecom.nl Web: www.agentschap-telecom.nl
New Zealand Rescue Co-ordination Centre New Zealand Tel: +64 4 577 8042 Online registration: www.beacons.org.nz Owners are asked to notify RCCNZ if they sell their distress beacon or it is lost, stolen or destroyed. False alert: <i>In event of a false alert call the RCCNZ at 0508 472 269</i>	Norway Norwegian Communications Authority Tel: +47 2 2824600 Fax: +47 2 2824890 Email: firmapost@nkom.no
Portugal Navigation, Transport, Marine inspector Tel: +351 21 303 5700 Fax: +351 21 303 5702 Email: dgrm@dgrm.mamaot.pt	South Africa SASAR, MRCC Cape Town Tel: +27 21 9383300 Fax: +27 21 9383309 Email: mrcc.ct@samsa.org.za

Sweden www.406registration.com Under "Register a new beacon", select the relevant option and follow instruction.	Switzerland www.406registration.com Under "Register a new beacon", select the relevant option and follow instruction.
UK The EPIRB Registry, Maritime & Coastguard Agency Tel: 020 3817 2006 Fax: 01326 319264 Email: epirb@mcga.gov.uk or UKBeacons@mcga.gov.uk Registration: www.gov.uk/406beacon	
USA NOAA SARSAT Beacon Registration NSOF, E/SPO53, 1315 East West Hwy, Silver Spring, MD 20910 Tel: 301-817-4515 or toll-free: 1-888-212-SAVE (7283) Fax: 301-817-4565 Email: beacon.registration@noaa.gov Owners in the USA please note this important information: <i>PLB beacon registration is now available online. This is the preferred method of registration; visit www.beaconregistration.noaa.gov and follow the instructions on-screen.</i> Other Information: <i>At present, NOAA still accepts registration by mail or fax. The registration forms are pre-printed with the correct mailing address and fax number. A registration form may be down-loaded from the website given above. However you register the beacon, you will be sent a decal which must be attached to the beacon.</i> Emergency Contact: <i>It is VITAL that the Emergency Contact information is accurate, particularly regarding the telephone number, as this will be used to validate an alert. Only if the beacon registration and approximate location details can be confirmed will USCG (United States Coast Guard) launch an immediate rescue, otherwise there will be a delay whilst further alerts from the same source are received and verified.</i> False alert: <i>In event of a false alert call the US Air Force Rescue Coordination Center at 1-800-8513051.</i>	

If the registration details for your country are not shown here then please check for latest information at www.406registration.com

REGISTRATION UID ENREGISTREMENT UID REGISTRO UID

Stick copy programming label here
Collez l'étiquette de programmation ici
Colocar aquí la etiqueta de registro

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