Product Support Manual

ResQFix™ 406
GPS Personal Locator Beacon

Product No. 2897

PLB-300

Y1-03-0215
Rev. B

Personal Locator Beacon
FCC ID: B66ACR-PLB-300

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COBHAM
Avionics & Surveillance

*** * * WARNING * * ***

THIS TRANSMITTER IS AUTHORIZED FOR USE ONLY DURING SITUATIONS OF GRAVE AND IMMINENT DANGER

*** * * DELIBERATE MISUSE MAY INCUR A SEVERE PENALTY * * ***

For proper use refer to section 2 – Responsible Use

PLEASE READ ALL INSTRUCTIONS BEFORE PERFORMING ANY OF THE TESTS.

If you should have any questions or problems with this product, do not return to the store, in which you purchased, call ACR Electronics, Inc. directly at 1 (800) 432-0227 or +1 (954) 981-3333.

Congratulations and thank you for purchasing the ACR ResQFix™ 406 GPS Personal Locator Beacon. The combination of superior design, high quality raw materials and quality controlled manufacturing results in a product that will perform for years to come. The Test Facility at ACR can reproduce some of the harshest environmental conditions known to man. This assures that ACR life saving devices can stand up to the rigors found in any environment on earth. With proper care and maintenance, your PLB will be in service for years to come.

ACR is proud to be certified to the ISO 9001:2000, the International Standard for Quality.

This manual provides operation and maintenance instructions for the ResQFix™ 406 GPS PLB, hereinafter referred to as the PLB or Beacon. This manual also describes the characteristics and details of the PLB System.

TABLE OF CONTENTS

SECTION 1 – FREE REGISTRATION OF 406 MHz PLBS

1.1 Registration Importance (Registration is FREE and can be updated as many times as you want)

It is **mandatory** that the owner of this 406 MHz PLB registers it with the National Authority*. All 406 MHz PLBs transmit a Unique Identifier Number (UIN) when activated. This UIN is programmed in the PLB based on the country in which the PLB was purchased. Registration provides the Search and Rescue (SAR) forces with emergency contact information, and will speed the launch of a rescue operation. The National Authorities use the information to verify if an actual emergency exists. Valuable Search and Rescue personnel are put at risk and resources are wasted every year responding to false alerts. For PLBs that are not registered, SAR authorities will not know who you are, or who to contact regarding additional information about your current situation. This could **delay** the launch of a rescue operation.

**The National Authority is the governmental body that is responsible for PLB Registration Database administration in the country for which the PLB is programmed.*

1.2 Where to register

The owner of a 406 MHz PLB should register it with the National Authority of which the PLB was programmed, (typically the country where purchased), regardless of where you use your PLB. Each PLB is programmed with a UIN for the country where the unit is shipped, and will only be accepted for registration in that country. To verify the country, for which a PLB is programmed, see the label with the UIN on the back of the unit. Units that do not have a country specified on the UIN label are programmed for the United States. If you should move to a new country, you must register your PLB with the national authority of that country. For a list of the national authorities in your area, please view them at http://www.cospas-sarsat.com/Management/listOfParticipants.htm

1.3 Registration in the United States (Registration online is quick and easy: www.beaconregistration.noaa.gov)

It is the Owner's responsibility and required by law to Register 406 MHz PLBs that are programmed for and purchased in the United States. The National Authority that accepts registrations in the United States is the National Oceanic and Atmospheric Administration (NOAA). The owner can complete the online registration by visiting www.beaconregistration.noaa.gov or complete the enclosed registration form (Do not confuse this with the ACR Electronics Warranty Card) and mail it with the pre-addressed; postage paid envelope to:

SARSAT Beacon Registration,
E/SP3, RM 3320, FB-4
NOAA/NESDIS
5200 Auth Rd.
Suitland, MD 20746-4304

The information provided on the Registration Form is used only for Search and Rescue purposes. The Registration Form should be filled out immediately. Registration can be expedited by registering online or by faxing the registration form in the event the PLB is to be placed in immediate use.

Typically, registration forms will be entered in the 406 MHz PLB Registration Database within 48 hours of receipt. A confirmation letter, a copy of the actual registration and a proof-of-registration decal will be mailed to you within two weeks. When you receive these documents, please check the information carefully and affix the decal to your PLB in the area marked "Beacon Decal here". If you do not receive confirmation, contact NOAA for additional information at: +1-888-212-7283.

1.4 Registration in Canada

The National Authority in Canada is the NSS (National Search & Rescue Secretariat). Canadian residents can register online at http://beacons.nss.gc.ca/. For more information please contact the NSS at (613) 966-1504 or (800) 727-9414.

National Search and Rescue Secretariat
400-275 Slater Street
Ottawa, Ontario K1A 0K2

1.5 In countries other than the United States, 406 MHz PLBs are registered with that country's National Authority at the time of Purchase. The Sales agent should assist in filling out the forms and sending to that country's National Authority. To verify that the unit is properly programmed for that country, view the UIN label on the side of the unit. In the event that the PLB is not programmed for the country in which it has been purchased, the sales agent, (if properly equipped) can reprogram the unit for that country.
If your country has registered with the International Registration Database can apply easily online at www.406registration.com.

1.6 Change of ownership or contact information

It is the owner's responsibility to advise the National Authority of any change in the information on the registration form. If the current owner of the PLB is transferring the PLB to a new owner, the current owner is required to inform the National Authority by Letter, Fax or telephone, of the name and address of the new owner. The new owner of the PLB is required to provide the National Authority with all of the information requested on the Registration form. This obligation transfers to all subsequent owners. Registration forms are available from NOAA, call +1(888) 212-7283 or visit our website at www.acrelectronics.com.

1.7 Lost or stolen PLB's

In the U.S. contact NOAA immediately at 1-888-212-SAVE (7283), or contact your national authority, that your beacon has been lost or stolen. They will update your beacon registration information with the appropriate information.

Things that you need to do if your beacon is stolen:

- Report to your local police department that the PLB has been stolen.
- Contact NOAA (in the U.S. only) at 1-888-212-SAVE (7283), or your national authority as appropriate with the Police Department Name , Police Phone Number, Police Case Number.

If your PLB were to activate, the information you provide will be forwarded to the appropriate Search and Rescue Authorities who will ensure that your PLB is returned to you. If someone attempts to register a PLB reported as stolen, NOAA or your national authority will notify the appropriate Police Department.

Visit the COSPAS-SARSAT website for more detailed information: www.cospas-sarsat.org

SECTION 2 – RESPONSIBLE USE

The ResQFix™ 406 GPS PLB is a distress signaling device of last resort, for use when all other means of self-rescue have been exhausted; where the situation is grave and imminent and the loss of life, limb, eyesight or valuable property will occur without assistance. *Deliberate misuse may incur a severe penalty.*

2.1 Preventing False Alerts

Ensure that your PLB is registered. This does not reduce false alerts rates, but does have a dramatic effect on the impact of a false alert. If the PLB is properly registered, the situation will be resolved with a phone call.

Be careful who you leave your PLB with. Ensure that they how to use it, and the ramifications of causing a false alert. A lot of false alerts are generated by curious individuals. If you notice the PLB is flashing the red LED and BEEPING periodically on its own, this likely means it accidentally has been activated and needs to be shut off and reported.

The COSPAS-SARSAT satellites are very good at detecting distress PLB transmissions. The activation of a 406 MHz PLB for just a few seconds will usually be detected. After a few minutes, it will usually be detected and located. This is good if you're in distress, but if you're not, you just generated a false alert.

Should there be an inadvertent activation or false alert, it must be reported to the nearest search and rescue authorities. The information that should be reported includes the PLB Unique Identifier Number (UIN), Date, Time, duration and cause of activation, as well as location of PLB at the time of activation. Outside the United States contact your National Authority.

If the ON/OFF button is continuously depressed for longer the 10 minutes, the PLB will go into shut down mode and will stop transmitting your distress message. Once the ON/OFF button is no longer pressed, the PLB will reset and can be activated by holding the ON/OFF button for greater then 1 second.

2.2 To report false alerts in the United States contact:

United States Air Force Rescue Coordination Center (AFRCC) Tel: 1-800-851-3051

Inadvertent alerts or activations that are rectified must be reported to the AFRCC to let them know that the situation has been fixed and everything is fine. Responsibly reporting these events to the AFRCC or your proper authority, will not incur a penalty, *deliberate misuse or not notifying the proper authority may incur a severe penalty.*

SECTION 3 – OPERATION

The ResQFix™ 406 GPS PLB models are designed to be manually deployed and activated. It is only to be activated when all other means of self-rescue have been exhausted. When properly registered as required, the activation of the PLB tells Search and Rescue who you are, where you are, and that you are facing a life threatening situation.

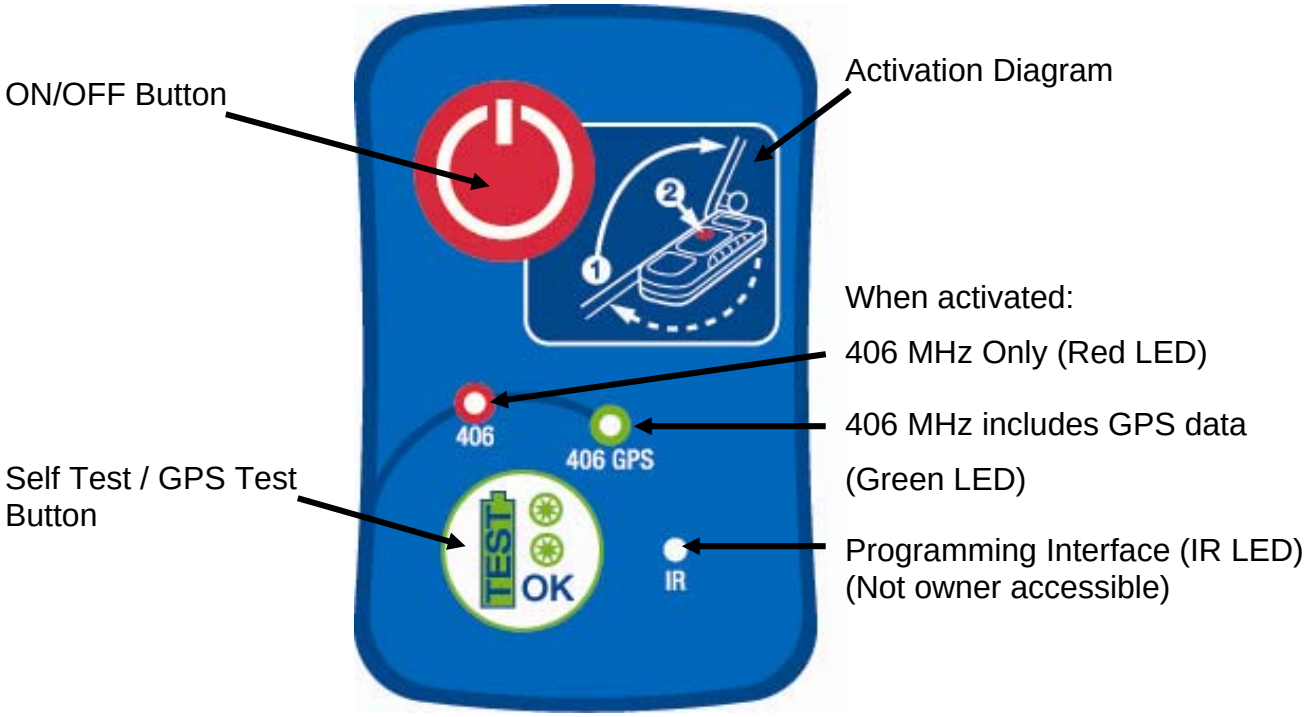

Figure 1 - Key Pad Functions

3.1 Activation

To activate your PLB in a distress situation, unfasten the antenna from the case and move it into the upright position (See figure 2). Depress the ON/OFF button for 1 full second. You will hear a BEEP and your PLB is now activated. While transmitting your distress signal, the red LED will flash once every 2 seconds alerting you that your PLB is transmitting. An additional BEEP will sound every time your PLB sends off a burst to the satellites (roughly every 50 seconds).

Note: If you notice the PLB is flashing the red LED and BEEPING periodically on its own, this likely means it accidentally has been activated and needs to be shut off and reported.

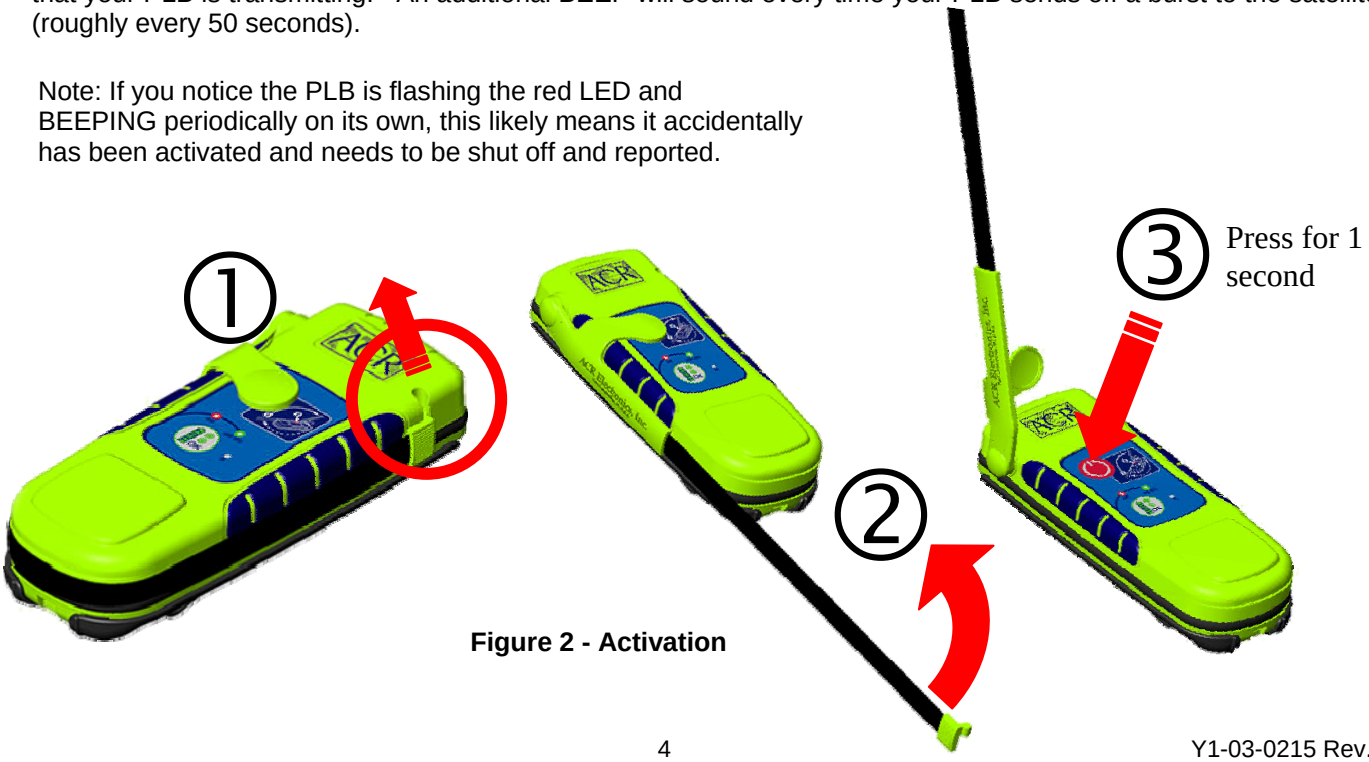

Figure 2 - Activation

3.2 Activation with GPS

This PLB is equipped with an internal GPS receiver. Once activated the GPS engine will start up and search to find your LAT/LON and incorporate it into your 406 MHz signal. As soon as the GPS receiver acquires good positioning data the red LED will stop blinking and the green LED will begin flashing once every 2 seconds.

Once good global positioning data has been obtained, the GPS receiver waits for 20 minutes before looking for new positioning data again. If for any reason a time period of 4 hours passes without the GPS receiver being able to update the last good set of GPS coordinates, the 406 message being transmitted will revert to the default data. At this point the green LED will stop blinking and the red LED will flash once every 2 seconds until new GPS coordinates have been obtained.

3.3 GPS Receiver Orientation

When activated it is critical that you do not cover the PLB with any body part, water, clothing, etc. The GPS receiver is located under the bottom portion of the case behind the ResQFix™ logo (See Figure 3). To ensure optimum performance the PLB needs to have an unobstructed view of the sky. Avoid submerging the GPS receiver in water if possible, as water will shield and inhibit the GPS receiver and may cause difficulties obtaining your GPS coordinates. Avoid leaning over the PLB to view blinking LED as you may shield the GPS reception. **In order to acquire GPS data, you must have your PLB outside with a clear view to the sky.**

Figure 3 – GPS Receiver Location

3.4 406/121.5 Antenna Position

For maximum performance you must deploy the PLB antenna into the proper position (see Figure 2). If at all possible, be sure the antenna is positioned facing the sky and avoid submerging in water. If afloat, employ all means to keep the PLB antenna blade out of the water and as dry as possible. Water acts as a detractor from the performance and reduces the PLB's effectiveness. This device is not intended to operate while floating independently.

3.5 Deactivation

To deactivate your PLB, depress the ON/OFF button for 1 second.
Once off, all blinking LED's will stop signifying that the PLB is no longer sending your distress message.

3.6 Self Test

ACR strongly recommends performing the self test once per month.

Self test is initiated by holding the self test button for at least ½ second and less than 5 seconds. Your PLB will sound an initial beep and the green LED flash to signify the test has begun. The green LED will flash a second time to indicate that the self test was successful.

Components Tested: Data Integrity and Memory; 406 MHz Synthesizer; RF Power/Battery; GPS header
If a RED LED flashes at the completion of the self test, your PLB has failed. Repeat the self test. If the failure persists, please contact ACR Electronics or an authorized Battery Replacement Center for servicing of your PLB.

NOTE: During a self test your PLB will send a 406 MHz signal coded as self-test to the satellite system. The 121.5 MHz homing signal is inhibited during self test; this allows you to test your PLB any time during the day without causing any false alerts.

Self Test Sequences	**Self Test Guide** (Green LED Red LED)
Green LED, 4 BEEPS, Green LED	Successful Self Test
Green LED, Less then 4 BEEPS, Red LED	Failed Self Test – Return PLB to ACR
Red LED, 4 BEEPS, Green LED	Successful Self Test – At least 1 hour of battery power has been depleted, have battery replaced.
Red LED, Less then 4 BEEPS, Red LED	Failed self test – Return unit to ACR for service.

3.7 Battery Witness Seal Life

If your PLB flashes an initial Red LED at the beginning of the Self Test, this indicates that your electronic witness has been broken and you have used more than 1 hour of battery life. While the PLB will still operate normally in a distress situation, ACR strongly recommends you have your battery replaced and the electronic witness reset to ensure that you will have 24 hours of battery power.

3.8 GPS Testing

This test is NOT required as 100% of all GPS receivers that leave ACR have been tested to ensure they perform perfectly. However, if you would like to ensure your GPS receiver is working, please follow these instructions very closely.

Warning: To conserve battery power the following test should not be performed more than once during the five-year life of the battery pack!

Note: The GPS receiver is located under the front portion of the case (See figure 3). It is imperative that the receiver is not obstructed during self test or activation to ensure that the GPS receiver is acquiring your latitude (LAT) and longitude (LON) position. **This test must be performed outside with a clear view of the sky**.

To test the internal GPS you must be outdoors and have a clear view of the sky. You must observe the PLB for the entire GPS test. Pressed the Self Test button for greater than 5 seconds, a BEEP and green LED will indicate that the GPS has been turned ON. The PLB will BEEP every 5 seconds and the GPS will remain ON until LAT/LON coordinates have been obtained or until 10 minutes have elapsed. If good navigation data has been obtained, the GPS will be turned OFF and the green LED will light for at least 3 seconds along with a long beep. This LAT/LON data is not saved for use when the PLB is turned ON. The green LED is proof that the GPS is functioning properly and that the PLB is in a location or environment where it can receive the necessary signals from satellites. If the GPS does not acquire good navigation data, the GPS will turn OFF after 10 minutes and a RED LED will light for 3 seconds along with a long beep.

GPS Test Sequences (max. 10 minutes)	GPS Test Guide
Green LED and BEEP at start followed by continuous BEEPS every 5 seconds, Green LED & Long BEEP	Successfully acquired GPS data
Green LED and BEEP at start followed by continuous BEEPS every 5 seconds, Red LED & Long BEEP	GPS data was not successfully downloaded

SECTION 4 – Accessories

4.1 PLB Attachment Holster

The ResQFix™ comes standard with an attachment holster. To install the holster, simply align the bottom tabs on the holster with the insert holes located on the bottom of the PLB. Snap the holster in place by pressing the top of the holster so that the two top tabs engage in the two insert holes on the top of the PLB (See figure 4). To remove the holster, push up and back on the top tabs one at a time to disengage from the PLB.

The ResQFix™ holster has been designed to accommodate your extreme adventures. You can secure your PLB directly to backpack webbing straps, life jackets or belts to ensure the PLB is close at hand. ACR recommends that you secure your PLB someplace that is easily accessible in case of an emergency for rapid activation. Ensure the PLB is secured and protected before heading out to avoid damage or loss.

Note: ACR recommends that once you have clipped your PLB in place that you also secure the PLB with the lanyard to your life jacket, backpack, etc. to ensure the unit will not be lost if it should break out of the holster.

Figure 4- PLB Clip

4.2 Flotation Pouch

The ResQFix™ is a Category 1 PLB thanks to the neoprene floatation pouch attached to the lanyard. The pouch has been designed to work with and without the attachment holster. Simply open the bottom of the pouch using the Velcro and slide the top of the ResQFix™ into the pouch with the GPS receiver exposed through the special cut out hole on the front underneath the ACR logo.

The neoprene floatation pouch is only designed to accommodate the ResQFix™ and the attachment clip. If you secure any additional objects to the pouch, this may cause the unit to sink.

Figure 5- Floatation Pouch

SECTION 5 - CARE AND MAINTENANCE

Carefully inspect the PLB case and gasket for any visible cracks or damage. Cracks may admit moisture, which could cause a malfunction. In the event of any cracking or structural damage, the PLB should be immediately sent to ACR for evaluation and repairs, (Call toll free 1-800-432-0227 or +1 (954) 981-3333).

Do not clean your PLB with household cleaners and materials such as gasoline, benzene, bleach, sanitizers, soaps, etc. To clean, simply wipe your PLB down with a damp cloth. Use care not to falsely activate your PLB.

5.1 Battery Replacement

Power is provided by self contained long life batteries with a five-year recommended replacement cycle. See Factory Authorized Service Center for replacement.

The batteries (P/N 1100) must be replaced by the date indicated on the PLB. At each inspection, check the time remaining until replacement is required. Batteries should be replaced if the PLB has been activated for any use other than the self test.

Batteries should be replaced at an Authorized Battery Replacement Center. Services include: replacement of battery packs and disposal of expired lithium batteries, gasket and O-ring examination and replacement if necessary, lubricated gaskets and O-ring, air pressure test to ensure watertight integrity, and a full electronics diagnostic check.

NOTE: This unit is a life saving device and all repairs and replacements need to be made by ACR or an authorized ACR battery replacement center to ensure the beacon will perform properly when called upon.
For the nearest location of an authorized ACR service center visit our website at www.acrelectronics.com or call 1-800-432-0227 or +1 (954) 981-3333.

SECTION 6 - THE SEARCH AND RESCUE SYSTEM

6.1 General Overview

The PLB provides a distress message on 406 MHz to satellites of the COSPAS-SARSAT network and to the GEOSAR network that includes GPS latitude and longitude coordinates when GPS data is present.

The message transmitted is unique for each PLB, which provides identification of the transmitter through computer access of registration files maintained by the National Oceanic and Atmospheric Administration or other National Authority. Remember, if your PLB is not registered, Search and Rescue (SAR) Authorities do not know who you are, or how to contact anyone who might know anything about your situation (Refer to section 1).

Once the signal (406 MHz) is relayed through the LEOSAR and/or GEOSAR network, SAR forces determine who is closest, and then track the signal using the 121.5 MHz homing frequency for intermediate and short-range location.

6.2 Satellite Detection

The PLB transmits to the satellite portion of the COSPAS-SARSAT System. COSPAS-SARSAT is an international system that uses Russian Federation and United States low altitude, near-polar orbiting satellites (LEOSAR) that assist in detecting and locating activated 121.5/243 MHz beacons and 406 MHz Satellite beacons.

COSPAS and SARSAT satellites receive distress signals from PLBs transmitting on the frequency of 406 MHz. The COSPAS-SARSAT 406 MHz beacon signal consists of a transmission of non-modulated carriers followed by a digital message format that provides identification data. The 406 MHz system uses Satellite-borne equipment to measure and store the Doppler-shifted frequency along with the beacons digital data message and time of measurement. This information is transmitted in real time to an earth station called the Local User Terminal (LUT), which may be within the view of the satellite, as well as being stored for later transmission to other LUTs.

The LUT processes the Doppler-shifted signal from the LEOSAR and determines the location of the beacon; then the LUT relays the position of the distress to a Mission Control Center (MCC) where the distress alert and location information is immediately forwarded to an appropriate Rescue Coordination Center (RCC). The RCC dispatches Search and Rescue (SAR) forces.

The addition of the GEOSAR Satellite system greatly improves the reaction time for a SAR event. This satellite system has no Doppler capabilities at 406 MHz, but will relay the distress alert to any of the LUT stations. When there is GPS data included in the distress message, SAR authorities instantly know your location to within 110 yards. This speeds up the reaction time by not having to wait for one of the LEOSAR satellite to pass overhead.

Because most of the search and rescue forces presently are not equipped to home in on the 406 MHz Satellite PLB signal, homing must be accomplished at 121.5 MHz.

6.3 Global Positioning System (GPS)

The GPS system is a satellite group that enables a GPS receiver to determine its exact position to within 30m anywhere on Earth. With a minimum of 24 GPS satellites orbiting the Earth at an altitude of approximately 11,000 miles they provide users with accurate information on position, velocity, and time anywhere in the world and in all weather conditions. The ResQFix™ PLB stores this data into its distress transmission allowing search and rescue forces to narrow the search into a very small area and thus minimize the resources required and dramatically increases the effectiveness of the overall operation.

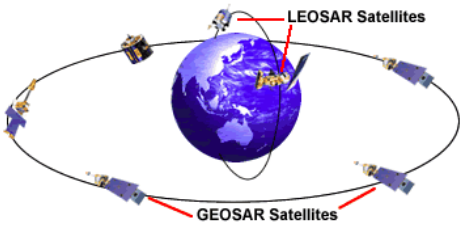

Figure 6- Satellite coverage

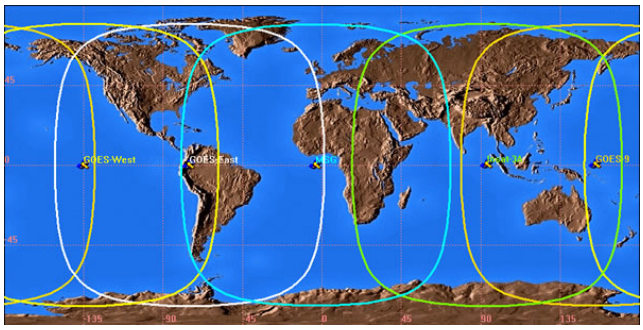

Figure 7- GEOSAR satellite orbits

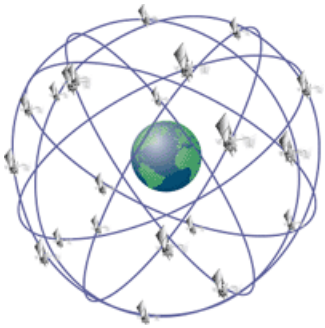

Figure 8- GPS satellite orbits

SECTION 7 – AUTHORIZATIONS

The ResQFix™ 406 GPS PLB meets the requirements of Federal Communications Commission (FCC) Part 95 Subpart K, European R&TTE Directive.

7.1 Characteristics

The ResQFix™ is a battery operated Personal Locator Beacon. The PLB case, with its antenna, is waterproof, while semiconductor circuits are mounted within the case assembly which also contains the battery power supply. Keypads with "self test" and "ON" buttons are installed on the case, along with an internal beeper and three LED's. The PLB contains a GPS receiver that will acquire your LAT/LON located under the bottom of the front case.

SECTION 8 - Technical Data - ResQFix™ 406

8.1 Applicable Documents

- NSS PLB01-01 Standard for 406 MHz Satellite PLB's, Canada
- COSPAS-SARSAT Document C/S T.001 & T.007 (spec for 406 MHz distress beacons)
- RSS 187 Radio Standards Specification for Emergency Position Indicating Radio Beacons, Emergency Locator Transmitter, and Personal Emergency Position Indicating Radio Beacon
- FCC Part 95, Subpart K
- ETSI 302152/1 version 2003

8.2 Specifications

406 MHz Transmitter	
Frequency	406 MHz
Frequency Stability	±2 parts per billion/100ms
Output Power	5 watts
Digital Message	
Format / Long message	Serialized[1*]
Message protocol	Standard Location
Duration	520 ms
Rate	400 bps
Encoding	Biphase L
Modulation	±1.1 radians peak
[1*] PLB's are shipped from ACR with a Serialized code but can be reprogrammed at a service center to other coded formats including nationality of registration.	

121.5 MHz Transmitter	
Frequency	121.5 MHz
Frequency Tolerance	±50 ppm
Output Power	25 mW PEP
Morse Code "P" ID	Every 50 seconds (approximately) (U.S. Protocol)
Modulation	
Type	AM (3K20A3N)
Sweep Range	400 to 1200 Hz
Sweep Rate	3 Hz
Duty Cycle	37.5%
Morse P	AM (2K00A2A) (U.S. Protocol)
Antenna	
Frequency	406 & 121.500 MHz
Polarization	Vertical
VSWR	Less than 1.5/1

General/Environmental	
Battery Life	
Minimum Operating Life	+24 hours minimum @ -20°C to +55°C (-4°F to +131°F)
Replacement Interval	5 years, after use in an emergency, or expired battery witness seal
Batteries meet the UN Classification for Non-dangerous goods	
Size of PLB less Antenna	1.25 x 5.81 x 2.31 in (3.71 x 14.75 x 5.8 cm)
Material	High impact and UV resistant plastic

Color	High Vis Yellow
Weight	9.8 oz (277 grams) w/o holster
Waterproof	Factory Tested to 32.8 ft (10 m) for 1 hour, at room temperature - Exceeds RTCM Standards
Buoyancy	This PLB will not float without neoprene floatation pouch (Category 1)

Temperature Range		
Operating	Class 2	-20°C to +55°C (-4°F to +131°F)
Storage	Class 2	-40°C to +70°C (-40°F to +158°F)

SECTION 9 – FREQUENTLY ASKED QUESTIONS

QUESTION:
Why do I have to register my beacon?
ANSWER:
Registering your PLB is mandatory. Registration is ***FREE*** and should be continually maintained. When you register your beacon you are providing potential search and rescue personnel with valuable information that will expedite a rescue. If you should be in an emergency and activate your PLB, the MCC will pull up your registration information based on the satellite signal received from your beacon. With this information in hand, they will now know who the beacon belongs to, what type of trip you may be on, an who to contact to verify that this is an emergency. You can also add other valuable information to your registration like any medical conditions that you or someone accompanying you may have. In an emergency, every piece of information helps. Take the time and properly register this beacon.

QUESTION:
Is their a monthly fee for this service?
ANSWER:
No, its FREE.

QUESTION:
Why does my PLB say give clear view to sky, will it work inside my house or car if need be?
ANSWER:
Your PLB can work indoors or in a car, but due to the shielding effect on the distress signal your location may be skewed and take SAR personnel longer to identify your location. To maximize the PLBs potential, it is best to activate it in an open clearing, with a clear view of the sky. In order for the GPS receiver to work, it needs to have a clear view of the sky so that your beacon can acquire GPS data and transmit this information to search and rescue personnel. This will decrease the time it takes for SAR forces to know exactly where you are.

QUESTION:
Will my PLB work if I cannot download any GPS data?
ANSWER:
YES, the GPS receiver is an added bonus that may shorten response time. If for some reason you are unable to download GPS data, rest assured that the LEOSAR satellites will pinpoint your location using Doppler Shift. With each pass of a satellite, your position is recalculated and the search area is narrowed down. SAR forces will then home in on your location using the 121.5 MHz homing frequency.

QUESTION:
How long does the PLB hold GPS data in memory?
ANSWER:
Four hours. If new GPS data has not been downloaded, the ResQFix™ will return to default mode and utilize the LEOSAR satellites to obtain your position using Doppler shift. PLB does not retain GPS data from self test.

QUESTION:
Can I remove the neoprene floatation pouch from the lanyard?
ANSWER:
This is your choice, but if you do please know that your PLB will no longer be buoyant.

QUESTION:
Why can I only test my GPS once per battery life?
ANSWER:
All ACR beacons that have internal GPS receivers are extensively tested before they leave the factory, so rest assured that your GPS receiver will work properly. If you do feel the need to test your GPS receiver, you are consuming some of the PLB's battery power. ACR recommends a one time test per battery life cycle because we want to make sure that in an emergency you have as much battery life as possible in case you are stranded in a remote location that takes search and rescue forces longer to get to.

QUESTION:
Is it okay if I lend my PLB to a friend who is going on a trip?
Answer:
YES, give a copy of this product support manual so your friend will properly know how to use this beacon in an emergency, along with the responsibilities that come along with owning one. Then you must register the beacon again with your friend's information in case an emergency should arise. Once the PLB is returned to you, update your registration. Remember, registering your beacon is free, so update your registration as often as you want.

QUESTION:
What should I do with my PLB when I am not using it?
ANSWER:
Stow it away in a safe location to prevent it from an inadvertent activation.

QUESTION:
What is the IR LED on my keypad for?
ANSWER:
The IR LED is for programming the country code into your PLB, and resetting the battery witness seal. Both activities can only be done by an authorized ACR certified service center.

QUESTION:
Can I use my PLB outside of the country I have registered it with?
ANSWER:
Yes, they work as part of a global system. Be sure to update your registration file with your travel itinerary so that the country your beacon is registered with knows your trip plan so that any useful information can be passed on to the SAR authorities governing the country you are visiting if an emergency should occur.

QUESTION:
If I move to another country, do I need to have my PLB reprogrammed?
ANSWER:
If you should move to a new country you should bring your PLB to an authorized ACR service center to be reprogrammed with that countries national code. Next it is very important to update your registration files. Register your beacon with your new country so that they have your latest information and contact information in case of an emergency. Also, notify the country you previously had your PLB registered with that you have moved and that your registration has been updated with your new countries 406 registration database.

QUESTION:
Can I take my PLB on a airplane?
ANSWER:
With regards to general aviation, Yes, the PLB can be very useful if your plane should happen to crash. A 406 MHz PLB is more likely to summons help faster then a 121.5 MHz ELT. The higher altitudes while flying will not cause your PLB to activate.

With regards to commercial traveling, it is a personal preference if you want to store your PLB in your carry on bag or your checked baggage. If you choose to carry your PLB in your carry on baggage, you may wish to check with the airline about any restrictions or proper documentation that you may need to carry with your PLB. The higher altitudes while flying will not cause your PLB to activate.

SECTION 10 – LIMITED WARRANTY

This product is warranted against factory defect in material and workmanship for a period of five years from date of purchase or receipt as a gift. During the warranty period ACR Electronics, Inc. will repair or, at its option, replace at no cost to you for labor, materials or return transportation, provided you obtain a Return Authorization from ACR Electronics, Inc., 5757 Ravenswood Road, Ft. Lauderdale, Fl. 33312-6645. To obtain a Return Authorization, call our Customer Service Department at (800) 432-0227. This warranty does not apply if the product has been damaged by accident or misuse, or as a result of service or modification performed by an unauthorized factory.

Except as otherwise expressly stated in the previous paragraph, the COMPANY MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER WITH RESPECT TO THIS PRODUCT. The Company shall not be liable for, consequential or special damages. In order to place the warranty in effect, the accompanying registration card must be returned to ACR Electronics, Inc. within ten days of purchase.

SECTION 11 – CUSTOMER SUPPORT INFORMATION

For general product support information, returns or battery replacements, please contact ACR Customer Service:

Email: customersupport@acrelectronics.com
Tel: +1 (954) 981-3333
Fax: +1 (954) 983-5087

Address: ACR Electronics, Inc. Attn: Customer Service
5757 Ravenswood Road
Fort Lauderdale, FL 33312 U.S.A.

For a battery replacement center near you, please visit www.acrelectronics.com/brcloc/

How to return equipment to ACR for repairs or battery replacement

1. It does not matter why you want to return the equipment, visit www.acrelectronics.com or contact ACR using Email, Fax or Telephone. (Detail above.)

   Explain why you want to return the equipment, give your contact information, your equipment and the cause of return.

2. Attach a label securely to the equipment. On the label mark clearly your name and address, your preferred contact details (email, fax, and telephone).

3. Enclose with the PLB a letter describing the reason for the return; give as much information as possible about the problem, as this will help to improve our service to you.

4. Products that have been designed to generate distress signals need to be carefully packaged and secured to ensure that they do not accidentally activate during transit. If possible, use the box in which the product was supplied. Use padding (i.e. bubble wrap, newspaper, foam, etc.) to protect the product from further damage inside the box.

5. Ship the package to the address above. ACR does not insure your package, please contact your local shipping company for shipping insurance information.