

500-30 Series Personal Locator Beacon



Personal Locator Beacon 500-30 Series

- Robust, super compact and light-weight
- Multiple activation methods
- Increased functionality
- Speech mode
- Transmission of 406 MHz and 121.5 MHz or 243MHz SAR frequencies
- User re-programmable
- Fully certified COSPAS SARSAT system
- Meets NATO STANAG 7007 and Eurocae ED-62A

The 500-30 is a miniature titan; the smallest and most robust, lightweight Techtest PLB, providing a 406 beacon fully compatible with the COSPAS-SARSAT system. The unique design of the 500-30 allows it to be fully configurable to the user's requirements, enabling it to be as diverse as your requirements are.

As standard, the beacon will transmit the 406 distress message with embedded GPS and the 121.5 / 243 MHz homing frequencies to provide rescue teams with greater location accuracy, the key to saving time and reducing risk to lives. The beacon features lanyard activation, additional RF port and a user replaceable battery, offering easy operator level maintenance. Furthermore, the unique integrated antenna is ready to go when you are. The beacon can be customised further with the following features:

- Water switch - automatic activation in water
- G-switch - automatic activation in a crash or ejection scenario
- Speech - two-way speech on 121.5, 243 or 282 MHz
- Float - inflated on beacon activation in water
- Life vest antenna - separate antenna deployed on inflation.

This adaptability suits various installations including; life rafts, life vests, flight jackets and ejection seats. The sheer flexibility of this products capabilities, offers an almost bespoke service, dedicated to meeting your exact needs, in a compact and portable design.

The 500-30 is also a direct upgrade to the URT 44, providing interface compatibility with pre-existing automatic activation mechanisms such as the ACES II/ III and Martin Baker ejection seats and BA-22 parachute. Once on the ground the pilot can utilise the integrated antenna to provide portable functionality. Visual indicators and audible sounder provide aircrew with certainty of transmission, in even the most hostile environments. Manual control provides the option to suppress transmissions where circumstance requires.

Adaptable, lightweight, and configurable, the 500-30 is the ultimate in PLB design, providing end users with the ability to reprogramme the 406MHz protocol to suit installation.

Specification

Transmitter Signal

The PLB transmits modulated signals on 121.5MHz / 243MHz distress frequencies with characteristics in accordance with STANAG 7007, plus 406MHz in accordance with COSPAS/SARSAT. An option is available for the inclusion of voice communication on 121.5MHz / 243MHz.

Modulation (121.5MHz / 243MHz)

Continuous Swept Tone of at least 700Hz within the Sweep Range.

Sweep Range 1.6KHz to 300Hz

Sweep Rate 2-3Hz

Amplitude Modulated with Rectangular Wave

Modulation Depth 80% minimum

Modulation (406MHz)

0.5 Secs 5W pulse every 50 secs.

Phase modulation of $\pm\pi/3$ rad (peak)

Digital modulation (see C/S G.005 Iss. 2 Rev 7, Section 3) to include:

- Bit Synchronisation
- Protected Field
- Long Message
- Frame Synchronisation
- Emergency-Code/National Use Field

GPS Receiver (Embedded)

Hot Start (avg)	1 sec typical	Sat. Signal Reacquisition Time	100ms
Warm Start (avg)	<31 sectypical	Number of Channels	66(Search)/22(Track)
Cold Start (avg)	<31 sectypical	Min Signal Level Tracked	-165dBm
Receiver	L1 C/A Code	Power Consumption	13mA
Protocols	NMEA		

Power Output

406MHz 24 hours min 5W (+37 ±2dBm) at -20 °C

121.5MHz/243MHZ 48 hours min >100mW (+20dBm) at -20 °C

Operational at -40 °C

Mechanical

Activation Lanyard
Manual ARM/OFF SWITCH
Automatic Water Switch/G-Switch/ACES II/III Remote Activation Cable

Dimensions 125mm x 70mm x 33mm nominal

Weight <587g nominal

Colour NATO green or yellow

The unit is designed to survive for up to 20 years with the only maintenance being battery replacement every five years.

Compliance

The PLB is compliant with the following specifications:

Civil	EUROCAE ED62A / RTCA DO-204A / EUROCAE ED14F RTCA DO-160F / COSPAS / SARSAT
Military	NATO - STANAG 7007 / MIL STD 810G

PLB Options

500-30-C	121.5, 243, 406, GPS & Speech
500-30-D	121.5, 243, 406, GPS
500-30-E	121.5, 243, 406, GPS, Speech & Float

Accessories

A02634	G & Water Switch
A02647	G-Switch
A02559	Water Switch