

## SARBE® 7 - BE 549



The SARBE 7 Personal Locator Beacon is a new compact lightweight radio beacon designed for use as a military or commercial Survival aid. Produced using SMD technology and assembled using the very latest flexible manufacturing systems (FMS) this quality unit heralds a new generation of radio beacon equipment.

Activated by the removal of an operating pin - either manually or automatically by such functions as liferaft inflation or ejector seat operation, the unit transmits an internationally recognised swept-tone radio distress signal on both UHF and VHF distress frequencies.

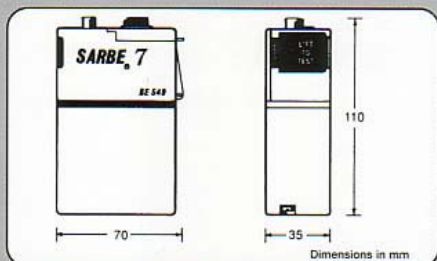
Simultaneous, omnidirectional transmission of both 121.5 and 243 MHz signals then continues automatically for a minimum of 48 hours at -20°C or longer at 0°C. This enables maximum detection opportunity by the orbiting Cospas-Sarsat satellite system and provides scene of search homing ranges of 50 nautical miles with receiving aircraft at 10,000 ft.

Built in test (BITE) facilities allows the user to check battery condition, circuit integrity and RF output to the antenna via a 'Go' green LED confidence indicator. Operated by lifting a 'Test' lever mounted on the side of the unit, SARBE 7 can be quickly tested before the commencement of a flight or at regular intervals.

An optional antenna extension lead is available for life preserver storage. On inflation of the life preserver, correct deployment of the antenna is automatically ensured even in the worst survival environment at sea.

The SARBE 7 is waterproof to a depth of 10 metres and the battery has an unused shelf life of 5 years when stored in continuous temperate conditions.

Fully approved by the CAA (Approval No. WR01012), FAA to TSO C91a and meeting NATO STANAG 3281, 5th edition, the unit is Cospas-Sarsat compatible.



## Technical Specification

**Purpose**  
Personal Location Beacon.

**Storage**  
Carriage by individual aircrew members and in Personal Survival Packs or Liferaft.

**Operating Frequency**  
121.5 MHz (VHF) and 243 MHz (UHF).  
Simultaneous operation on 121.5 MHz / 243 MHz.

**Frequency Range**  
VHF range 119 MHz to 124 MHz.  
UHF range 238 MHz to 248 MHz.

**Carrier Output Power**  
100mW peak envelope radiated power  
min end of battery endurance.

**Range**  
At least 50nm at 3000 metres ASL.

**Emission Class**  
A2A.

**Tone Modulation**  
Tone modulated amplitude modulation (A2A).  
Swept downwards over at least 700Hz between limits 1600Hz and 300Hz.  
Modulation duty cycle between 33 and 55%.  
Modulation factor between 0.85 to 0.99.

**Modulation / carrier keying**  
2 sweep per transmission.  
Sweep rate 2 to 3Hz.  
Carrier duty cycle 1:2 nominal. (0.75s on and off period of 1.5s).  
'MARK' period 0.75s nominal, 'SPACE' period 1.5s nominal.  
A factory fit link option for continuous carrier of 1:1 duty cycle is available.

**Occupied Bandwidth Limits**  
VHF 30% power, within 30Hz. UHF 30% power, within 60Hz.

**Operational Endurance**  
At least 48 hours at -20°C using battery Part No. 100443 (Lithium Manganese Dioxide) OR at least 24 hours at -40°C using battery Part No. 100444 (Lithium Sulphur Dioxide).

**Operating Temperature Limits**  
-20°C to +55°C when using Lithium Manganese Dioxide battery.

**Storage Temperature Limits**  
-40°C to +55°C non operating.

**Humidity Limits**  
Up to 100% over -30°C to +50°C operating.

**External Pressure**  
Waterproof to a depth of 10 metres.

**Construction**  
Cast single unit, with removable backplate and battery pack.

**Operation**  
Manual or automatic activation.

**Release Mechanism**  
Metal pin, released by pulling attached strap or steel lanyard.  
Compatible with auto activation on aircraft ejector seat separation or liferaft inflation.

**Dimensions**  
Length: 110mm. Width: 70mm. Depth: 35mm.

**Weight (max)**  
Beacon and battery 450 gms.

**Colour**  
Signal yellow.

**Antenna**  
Omnidirectional 1/4 - wavelength 243 MHz. Loaded 1/4 - wave at 121.5 MHz. Vertical, either equipment or life preserver mounted.

**Battery**  
Type: Lithium Manganese Dioxide (LiMnO<sub>2</sub>) Part No. 100443  
Emf (nominal) 12v.

**Options**  
TX carrier keying = 1:1 or continuous carrier.

**Accessories**  
Flexible Sleeve Antenna attachment, Part No. 100446.  
Ejector seat activating pin with nylon cord attachment, Part No. 100453.

**Design Specification**  
NATO STANAG 3281, 5th edition (Relevant Sections), relevant sections of NATO STANAG 7007 edition 2, CAA CAP 208 Volume 1, EUROCAE - ED-62, EUROCAE - ED14C, RTCA/DO-183, DEF STAN 07-55.

**Approvals** CAA Approved REF: WR01012 and FAA to TSO C91a.

