

## Chapter 4

### FLACON ELECTRONIC BEACON

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#### LEADING PARTICULARS

<i>Flacon electronic beacon</i> ... ..	<i>Ref. No. 5A/4968</i>
<i>Micro switch and power unit</i> ... ..	<i>Ref. No. 5A/4969</i>
<i>Flash tube</i> ... ..	<i>Ref. No. 5A/4970</i>
<i>Battery SARBE Mk. II 10·7V</i> ... ..	<i>Ref. No. 5J/3554</i>
<i>Battery life during operation of beacon</i> ... ..	... .. 7 hours
<i>Temperature range</i> ... ..	-40 to 70 degrees C
<i>Flashing interval</i> ... ..	1·3 $\begin{matrix} +0\cdot2 \\ -0 \end{matrix}$ seconds
<i>Weight without battery</i> ... ..	... .. 1 lb. 4 oz.

#### DESCRIPTION

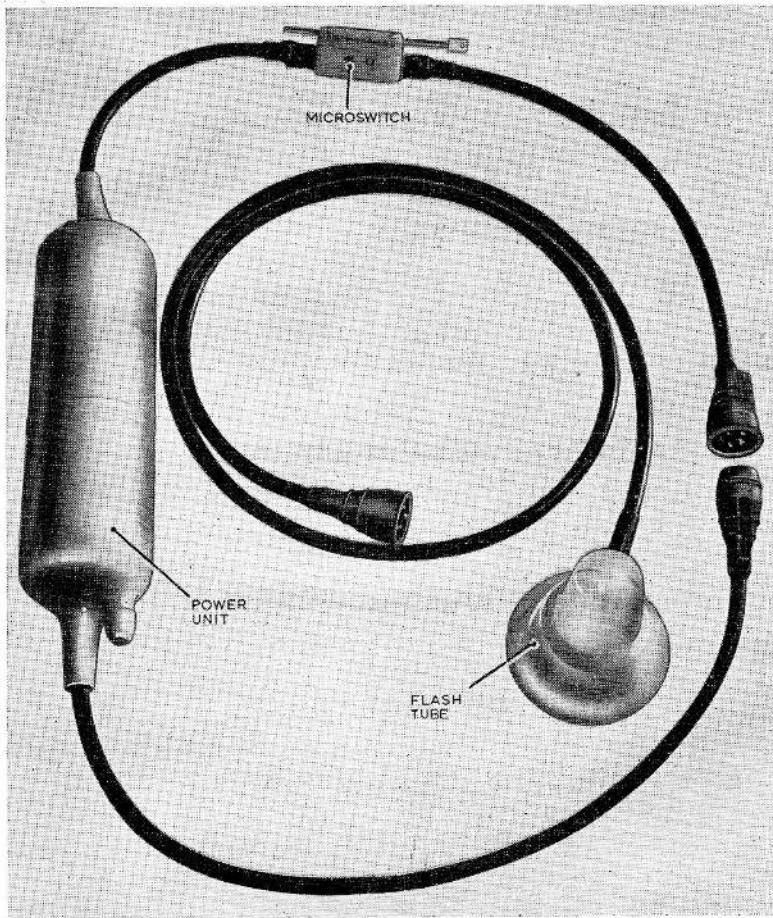
##### Introduction

1. The unit provides a flashing light and is designed for installation in inflatable liferafts, to function as a secondary aid to a radio beacon for search, rescue and homing operations.

2. The beacon consists of three interconnected items:—

- (1) Low potential battery supply (10·7V)
- (2) Micro switch and power unit
- (3) Flash tube.

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**Fig. 1. Flacon electronic beacon**

3. The beacon is fitted to the liferaft in such a way, that when it becomes inflated, a cord withdraws the pin attached to the micro switch and starts the beacon flashing.

4. Protection from the weather and mechanical damage is afforded to the power unit by complete encapsulation in silicone rubber and enclosure in a plastic shroud. It is directly connected to the micro switch which has a shock-proof plastic body and an operating pin.

5. The flash tube contains the discharge tube and the triggering components, which are enclosed by a plastic case and sealed. The control for variable resistor VR1 is available through a hole in the base of the flash tube and is provided for adjustment of the flashing interval.

#### **OPERATION**

6. The 10-7V supply is applied to the power unit which consists of a square wave oscillator (VT1, VT2 and T1) and a power amplifier (VT3, VT4 and T2).

7. The output of T2 is rectified, charges capacitor C3 and is applied to the anode and cathode of the discharge tube. A portion of this voltage is applied to MR3 via potentiometer VR1.

8. At a certain value of voltage, MR3 breaks down and applies a pulse to the striking electrode via transformer T3 and ionises the gas of the discharge tube. Capacitor C3 then discharges through the lamp and the cycle starts again.

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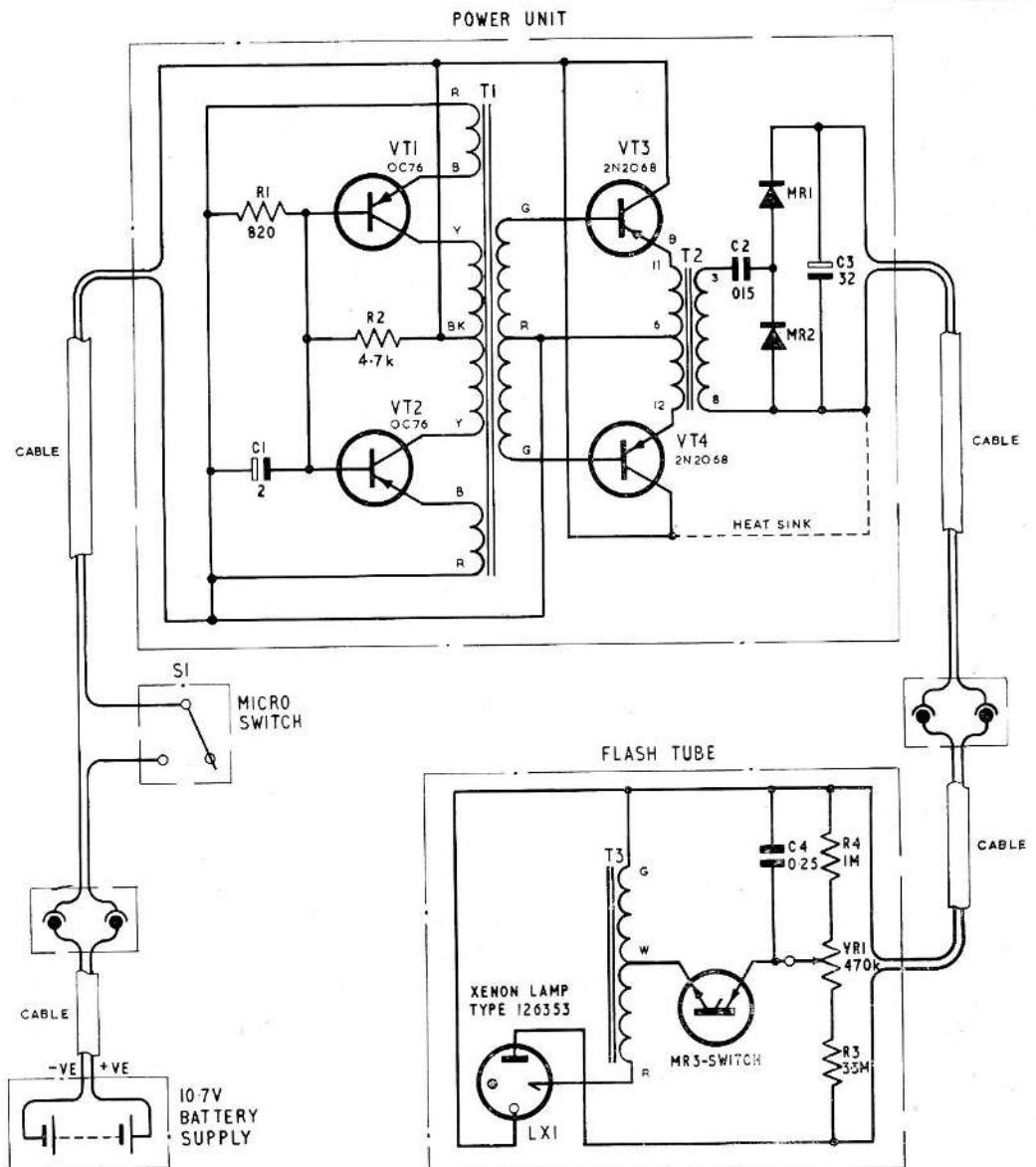


Fig. 2. Circuit diagram

### SERVICING

#### General

9. Examine all plugs, sockets, cables and the micro switch for signs of damage and deterioration and check that the weatherproof joints are effective. In the event of any item or its associated connections being unserviceable, the complete item must be replaced.

10. Instructions on fitting the equipment to the liferaft are contained in A.P.1182C, Vol. 1, Bk. 1.

#### Battery

11. Full instructions for servicing are contained in A.P.1168-0901-1.

#### Flashing rate

12. It is important that the flashing rate is correct. This can be checked by noting the number of flashes occurring over a period of time, i.e. 10 flashes should occur between 13 to 15 seconds. Should this not be so the flashing rate can be altered by adjustment to VR1, which is accessible through a hole in the base of the flash tube.

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