11-35-0000

Search and Rescue Transceiver

PRODUCT MANUAL

Version 1.00

June 2017

Salcom Product Documentation

This document is designed to familiarise you with Salcom products and guide you through the hardware, configuration, installation and overall system management.

Salcom is an environmentally conscious company and in an effort to conserve paper no longer prints manuals with shipped products. All relevant documentation can be downloaded in PDF form from our website www.salcom.com

Warranty and Disclaimer

Salcom products are warranted for a period of 12 months from the date of purchase against faulty materials and workmanship. Should any fault occur the unit should be returned to the vendor, freight pre-paid. Please include a description of the fault to assist with prompt return. Any unauthorised alterations or repairs will invalidate the warranty.

All information provided in this document is carefully prepared and offered in good faith as a guide in the installation, use and servicing of Salcom products. Installers must ensure that the final installation operates satisfactorily within the relevant regulatory requirements. Salcom accept no responsibility for incorrect installation. We reserve the right to change products, specifications and installation data at any time without notice.

Product Overview

The Search and Rescue Communicator (SARC) is a low cost, simple to use, emergency A.M. radio operating on the aviation band. The unit provides communication from aircraft to personnel in distress where they cannot be reached and no alternative communication method exists. Two versions are currently in production.

11-35-1000 (Handheld) Version A

This unit is similar to the original 11-35-00 but now includes some features that have been incorporated in the Headset version. Provision is internally included to provide a variable volume control level as well as a basic carrier operated Squelch. The Squelch is normally finely set on the "A" version which keeps normal background noise to a minimum.

The unit is rugged, fully sealed and can withstand water immersion, making it ideal for use in marine distress situations. Each unit is supplied with a hard fronted pouch for safe storage and protection from accidental activation. It can be secured by a lanyard fitted to the loop on the pouch or case.

The lithium battery supplied has a shelf life of five years and an endurance of approximately fifty hours when the unit is activated.

The unit is simple to operate. Controls are identified on the front panel by English language labels and international symbols. Battery test information is displayed on the back of the unit. Foreign language product identification is displayed on the back of the unit and the front of the pouch.

11-35-2000 (Headset) Version B

This unit uses very similar circuitry as to the "A" version but has been designed to be utilised with a military style headset and microphone. No internal loudspeaker is incorporated and the audio for transmit and receive is routed via a cable extending from the unit which also incorporates a p.t.t. switch. The unit should not be considered waterproof because of the headset plug/socket connections. As well as the squelch function to stop the headset responding to background noise, side-tone is also present on transmit so that the operator may hear their own voice during transmission.

Operation

The SARC radio is stored in a hard fronted PVC pouch to protect the unit from damage and to prevent the accidental operation of the push buttons. The radio should always be replaced with the pouch writing to the front, ensuring the hard front is placed correctly. To remove the radio from the pouch, release the strap and break any seal that may be through the pouch eyelet. Pull out the radio by the aerial and turn on by pressing the ON button. Electrical noise may cause a faint hiss to be heard if it is above the internally set squelch setting. A green light on the front panel will indicate the receiver is operating. *(Note: the green lamp was not present on units prior to serial number 11-35-0125).*

"A" Version: to transmit voice, press the PRESS TO TALK button and speak into the front panel in the area labelled SPEAK HERE. The lamp on the front panel will change to a red colour.

"B" Version For helmet headset operation the transceiver can be fitted to a jacket pocket or by fitting an appropriate cord to an accessible position. The Headset plug should be connected to the extended cable socket. The radio can be turned on by the front panel "On" button. The p.t.t. is operated by the cable switch but note that it can also be activated by the front panel "Press-to-talk" button. The headset microphone should be placed close to the operators mouth to reduce background interference on transmit.

Volume and squelch control levels are only internally accessible and are normally preset by the factory. The squelch circuitry is carrier activated only which means that nearby electrical interference may open the squelch from time to time. This can be reduced or eliminated by the squelch adjustment at the penalty of reduced receiver sensitivity. On transmit, modulator audio should be present in the headset.

To turn the radio off press the OFF button.

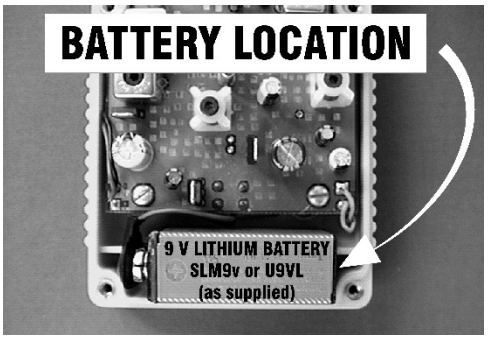
Batteries

Battery Testing

To test the state of the battery, turn the radio on and press the PRESS TO TALK button. The red lamp should illuminate. On very low battery, the receiver will carry on working after the transmitter has grown weak.

Replacement

Although we *strongly* recommend that owners return units to SALCOM for battery replacement, it is recognised there are cases where it is not practical or convenient. To replace the battery, the following procedures should be followed:



The middle two case screws may be sealed as an indicator to show that the unit has not been opened. If this is the case, remove the seal from these two screws. Remove the 6 stainless steel M3 slotted case screws and remove the back cover. Replace the battery with the designated type (see *Battery Type* below) ensuring the battery connector contacts are both tight. Perform the battery test detailed above and check for any ingress of water or humidity into the case. SALCOM recommends the rubber seal be replaced regularly to ensure the unit remains watertight. Seals are routinely replaced by SALCOM as part of the battery replacement procedure. Replacement batteries and seals are available from SALCOM (see "SPARES"). The seal should be eased into the retaining slot taking care not to stretch it, with the join adjacent to the central fixing point. Replace the rear cover using the original screws, taking care not to trap the battery wires in the case join. The Battery Change Date label must be updated to reflect the new shelf life period. If possible, reseal one of the two middle screws.

Battery Type

The SARC radio is designed to run on a nominal 9v PP3 type battery. To realise the shelf life and operational endurance stated in the specification, the battery must be of the same type as supplied new with the unit.

However, other types of batteries may be used, but a change in performance may be experienced.

Type	Type Number	Shelf Life	Operational life
Lithium	SLM9V or U9VL	5 years	approx 50 hours
Alkaline	MN1604 or PP3	2 years	approx 20 hours

Spares

Spares

Spare parts can be ordered from SALCOM. The product identification numbers (IPNs) should be quoted to ensure that the correct part is supplied.

Description	Salcom IPN
Lithium Battery	39-39-0004
Rubber Seal	55-69-0001
Replacement Pouch	56-29-0002

Technical Specification

Receiver	
Nominal frequency (with standard crystal)	123.1MHz
Sensitivity for 6dB SINAD with 30% mod @ 1KHz	-100dBm ±3dB
Spurious emissions	>-47dBm
Spurious response (for 6dB SINAD with 30% mod @ 1KHz)	-63dBm
Bandwidth	±8KHz @ -6dB
IF frequency	10.7MHz
Audio output	50mW max
Typical distortion @ 1KHz 15dB SINAD	9% @ 85% mod
Maximum input for 10% rise in distortion	-13dBm
Transmitter	
Nominal frequency (standard crystal)	123.1MHz
Output into 50ohms	+18dBm ±2dB
Spurious outputs (relative to carrier)	-25dB max
Typical distortion @ 1KHz	1.5% @ 50% mod 6% @ 85% mod
General	
Battery type	9 Volt PP3 case size
Environment protection standard	IP675
Weight	290 grams
Size (not including aerial)	165mm x 70mm x 30mm
Aerial length	153mm

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