



11-54-0000

25-Watt VHF Power Amplifier



# PRODUCT MANUAL

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## 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](http://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 11-54 power amplifier operates over the frequency range 138-162MHz and with 4-5 watts input it will deliver 25 Watts. It has a switching bandwidth of  $\pm 5$ MHz with 20 Watts minimum output.

The power sense operates with a minimum of 3 watts input and switches both the power and aerial relays. The 11-54 will operate satisfactorily with down to 400mW drive but the PTT connection must be grounded to operate the receive to transmit changeover.

A 2dB 50 $\Omega$  input matching pad allows for connection to a wide range of driving devices and mis-tuning without the risk of instability.

In the receive mode it will pass a receive signal with less than 1dB attenuation.

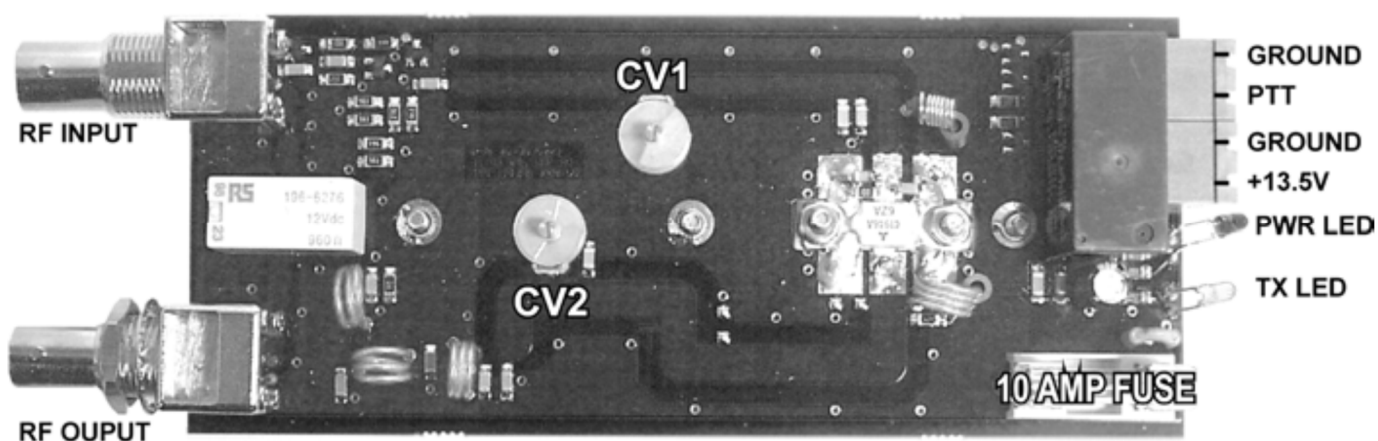
The 3-stage aerial filter attenuates all spurious emissions to less than -30dBm.

The 11-54 is protected against accidental power connection reversal.


The green Power LED operates at all times with power connected and the red Transmit LED operates only when the 11-54 is switched to the transmit mode (PTT activated).

## Tuning, Installation and Connections

1. Connect +13.5V supply to the 11-54 but leave the PTT connection unconnected.
2. Connect the 11-54 input to a 4W driving device and the output to a power meter or aerial.
3. With 4 Watts input drive, tune CV1 and CV2 for maximum output using a plastic, metal tipped flat bladed screwdriver.
4. Alternatively, with 400mW minimum input drive, ground the PTT connection and tune CV1 & CV2 for maximum output to give 10 Watts typical output. The PTT connection can sometimes be connected straight to the driving device PTT but a steering diode may be needed in series with the driver PTT if it returns to a voltage lower than +13.5V.
5. Tuning can be effected through the two holes in the top of the case by removing the plastic plugs.



## Technical Specification

<b>Technical Specification</b> <b>11-54-0000 – 25-Watt VHF Power Amplifier</b>		
Frequency Range	138-162MHz - VHF	
Frequency Selection	Factory preset	
Power Supply	+13.8V typical (11 to 15 VDC range)	
Power Consumption	Standby: 4mA Normal Operation: 4A Maximum: 5A @ 25W output	
Transmit Power	25W @ 5W input	
Transmit Duty Cycle	50% at 25 Watts	
Power Input	PA Receiver Switching = 3W min PA Only = 0.4W min for 10W output typical	
Switching Bandwidth	PA Receiver Switching = $\pm 5$ MHz, 20W min with 4W input PA Only = $\pm 5$ MHz, 20W min with 4W input	
Transmit Enable	PA Receiver Switching = Power sense circuit operates relay PA Only = Ground PTT, 3mA source	
Connectors	PTT - 2 way plug & socket, screw connections (supplied)	
Power Connector	2-way plug & socket, screw connections (supplied)	
RF Connector	50 $\Omega$ BNC (both Input and Output)	
Environmental Protection	Not suitable for outdoor use and should be protected from adverse environmental conditions	
Operating Temperature	-10°C to +60°C (+14°F to +140°F)	
Indicators	Power LED (Green) - Solid On = Normal Operation Status LED (Red) - Solid On = Active Signal Present	
Weight	400g	
Enclosure Dimensions	100mm x 130mm x 30mm (WxDxH)	
Enclosure Material	Extruded aluminium	
Colour	Matt black	
Type Approvals	AS 4295: 1995 (RF)	

## How to Contact Us

Sea Air and Land Communications (Salcom) Ltd

10 Vanadium Place

Addington

Christchurch 8024

New Zealand

T: +64 (0)3 379 2298

W: [www.salcom.com](http://www.salcom.com)

E: [support@salcom.com](mailto:support@salcom.com)

E: [sales@salcom.com](mailto:sales@salcom.com)