



11-99-0000

*25-Watt UHF Power Amplifier*



# PRODUCT MANUAL

Version 1.04

March 2020

## 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 11-99 power amplifier has two variants to cover the UHF frequency bands. 11-99-1000 covers 400-440MHz & 11-99-2000 covers 450-500MHz and with 4-5 watts input both are designed to deliver 25 Watts output. Both cover the full switching bandwidth without retuning with 20 Watts minimum output.

The power sense operates with a minimum of 1 watt input and switches both the power and aerial relays. The 11-99 will operate satisfactorily with down to 1W input power and will give approximately 10 Watts out.

A 2dB 50S input matching pad allows for connection to a wide range of driving devices without the risk of instability.

In the receive mode it will pass a receive signal with less than 2dB attenuation. The high pass filter is in circuit in the receive mode.

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


The 11-99 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 11-99 is switched to the transmit mode (PTT activated).

## Installation and Connections

1. Connect +13.8V supply to the 11-99.
2. Connect the 11-99 input to a 4W driving device and the output to a power meter or aerial.
3. No tuning is necessary. The transmitter quiescent current has been factory pre-set to 600mA.
4. If the 11-99 power output is above 25W reduce the driving transmitter power output so that the 11-99 gives 25W power output.
5. **Important:** The 11-99 will generate 30-40 Watts when transmitting and should be mounted where it can dissipate the maximum amount of heat. A metal rack or large metal bin is ideal.  
Avoid mounting in high temperature positions especially with high duty cycle applications.

## Technical Specification

<b>Technical Specification</b> <b>11-99-0000 – 25-Watt UHF Power Amplifier</b>		
Frequency Range	450-500MHz	
Frequency Selection	Factory preset	
Power Supply	+13.8V typical (11 to 15 VDC range)	
Power Consumption	Standby: 4mA Normal Operation: 4.5A Maximum: 6A @ 25W output	
Transmit Power	25W @ 4W input; 18W @ 2W Input; 10W @ 1W Input approx.	
Transmit Duty Cycle	50% at 25 Watts; Maximum 1 minutes on time	
Switching Bandwidth	50MHz, 20 Watts minimum with 4 Watts input	
Transmit Enable	Power sense circuit operates relay (1W min)	
Receive Mode	<2dB loss between Input and Output connectors	
Power Connector	2-way pluggable terminal block (supplied)	
RF Connector	50Ω 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) FCC CFR47 Part 90 (RF), Part 2 (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: [sales@salcom.com](mailto:sales@salcom.com)

Salcom is pleased to confirm that it is a New Zealand FernMark Licensee. The FernMark Licence Programme is the Government's official 'country of origin' accreditation programme, designed to protect and promote New Zealand products to the world.

- From now on, you should see the 'FernMark' (the Government's trademarked Silver Fern) appear on some or all of our products. The FernMark acts as a 'tick of approval' from the New Zealand Government.
- This 'tick of approval' means we've met all the New Zealand Government's eligibility criteria, which should give you huge amounts of confidence in what you're buying.
- The Programme employs a global monitoring service, Yellow Brand Protection, that trawls the web for illegitimate use of the FernMark. This means that when you see the FernMark on a product, you know it's an authentic New Zealand product.

