

## User manual for RATS SE550 MK3 Transceiver

### General Notes

Originally designed for use in a trunk radio system, the units supplied by the Rugby Amateur Transmitting Society are supplied programmed and tuned to work in the 4m (70MHz) amateur radio band.

The MK3 version has a new system EPROM giving greater functionality than previous versions supplied by the RATS.

This documentation is a brief getting started guide to the equipment; further information (circuit diagrams, service information etc.) Is available via the clubs web site: <http://www.rugby-ats.co.uk/> or alternatively via <http://www.blob.demon.co.uk>

### Specification

Frequency range	68-88 MHz Direct frequency entry and 7 banks of 100 user programmable channels.
Channel spacing	12.5KHz
Mode	PM/FM (selectable)
Antenna	BNC 50Ω
TX Power	25W (adjustable)
Deviation	2.5 KHz
DC Power	Nominal 13.2V (10.8-15.6V) (RX approx 1A, TX 6.5A/25W)

N.B. No DTMF, 5-TVO or CTCSS functions are implemented in the versions of the transceivers supplied by the RATS



**Second Function (after ↵)**

<b>Keys:</b>	<b>Function:</b>
1	Change transmitter power. The power can be adjusted with ↓ and ↑ .keys. The display indicates the selected power level. --- 25W -- 12.5W - 2.5W 2W
2	Change squelch level. The sensitivity can be adjusted with the with ↓ and ↑ .keys. The display indicates the selected squelch and sensitivity level. Maximum sensitivity. - Squelch level increase. -- Receiver sensitivity reduction. --- Receiver sensitivity reduction and squelch level increase.
3	Choose CTCSS tone (TQ) – (Not applicable).
4	Activate MENU Lots of options...
5	Activate status menu.
6	Show name of memory channel.
8	Choose channel spacing. Select required channel spacing with ↓ and ↑ .keys.
*	Don't scan this memory channel.
0	Call with 5-TVO – (Not applicable).
#	Select Repeater shift + / - / none.
△	Choose tone-squelch code (Not Applicable).
△	Delete/store call channel.
S	Delete/store memory channel. 7 banks of 100 channels can be programmed. Select channel bank with ↑ . Select channel numbers with ↓ and ↑ .keys.

## Connections

### Power & Loudspeaker (15 way D on back panel)

N.B. An adaptor with power and loudspeaker connections is normally supplied.

Pin	Use
1	+VE power
2	+VE power
3	Loudspeaker +ve 4Ω
4	
5	
6	AF Earpiece 600Ω
7	GROUND
8	GROUND
9	Ground for 10dB RF Power reduction (use resistor for variable power)
10	Loudspeaker -ve 4Ω
11	PTT active=L – ground to TX. (approx 0,5mA at 5V)
12	AF in 600mv
13	
14	+9V out
15	Microphone 100mv

### Code Plug Socket (upper front panel)

Use	Pin	Pin	Use
	1	2	
	3	4	
	5	6	
Jumper to pin 8	7	8	Jumper to pin 7

A code plug (EEPROM) is not required for the units supplied by the Rugby Amateur Transmitting Society, but the rig will not power up without a jumper between the bottom two pins of this socket.

### Microphone (lower front panel)

Use	Pin	Pin	Use
Microphone B~ 1mV	1	2	Not used
+9V	3	4	PTT
Earphone	5	6	Microphone Ground
General Ground	7	8	Earphone Ground