

SPECTRUM COMMUNICATIONS 4M TRANSVERTER

MICK M0GWD

1 July 2024



Spectrum Communications TRC4-10sl 4m Transverter

This kit is the Spectrum Communications TRC4-10sl 4m Transverter, designed to transvert a 10m (28MHz) signal to 4m (70MHz).

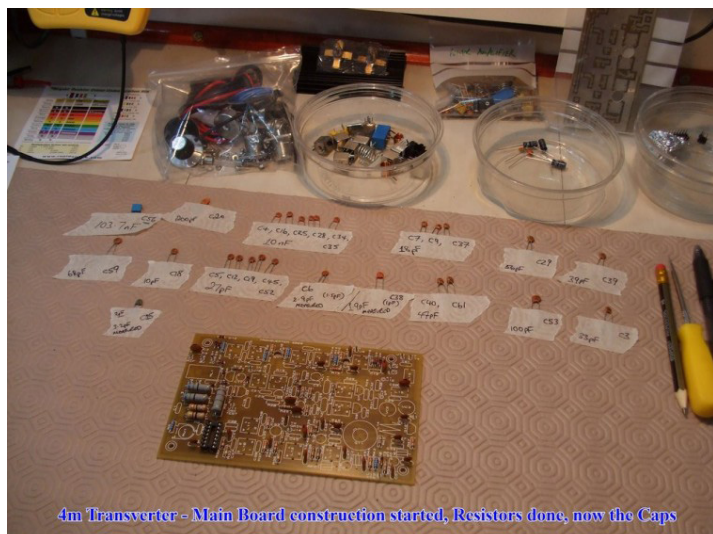
It has an output of approximately 25W due to the inclusion of a separate PA board and a maximum input of 5W. Minimum input is 500mW.

This is a really nice kit to build using quality components and preformed coils. There are no toroids to wind. It comes with a black metal enclosure which has a printed front panel, giving a professional finish. The transverter is used with a Yaesu FT-897D, with its output power reduced to 5W. The transverter switches to transmit by sensing the RF power from the FT-897D when the PTT on the microphone is pressed.

The transverter has an output power control and a receive gain control. Normally both LEDs are red, but I changed the PWR LED for a green one—just a personal preference. For final calibration, the completed unit was sent to Spectrum Communications, as I didn't have an accurate enough power meter for 70MHz in order to correctly commission the unit at home.

[Spectrum Communications](#) has further details with current prices, etc.

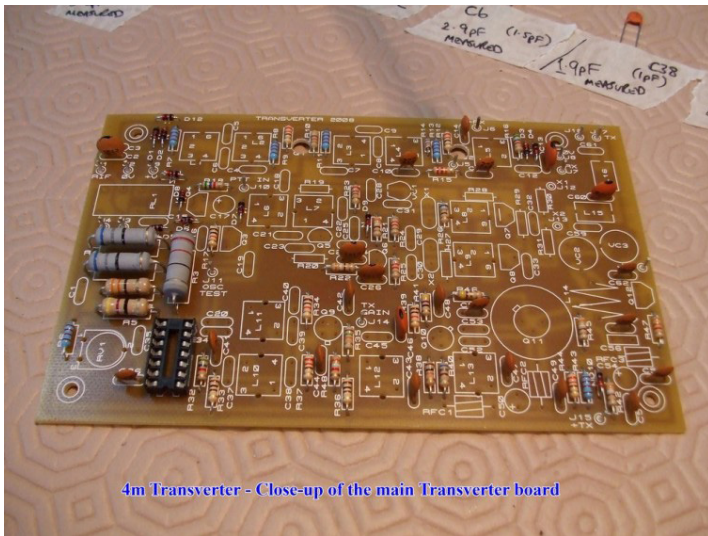
73
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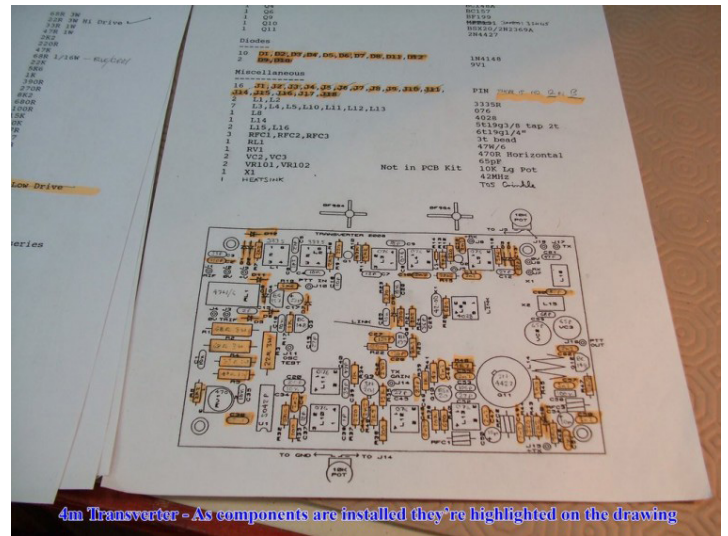
4m Transverter - Main Board construction started, Resistors done, now the Caps

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4m Transverter - Close-up of the main Transverter board



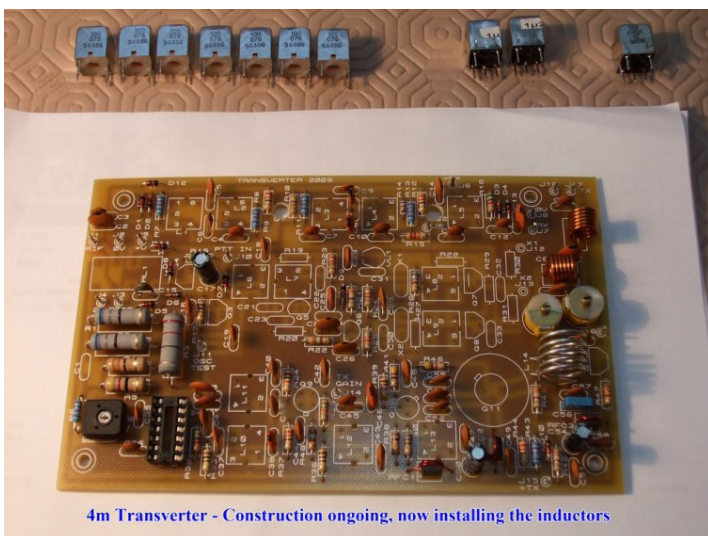
4m Transverter - As components are installed they're highlighted on the drawing



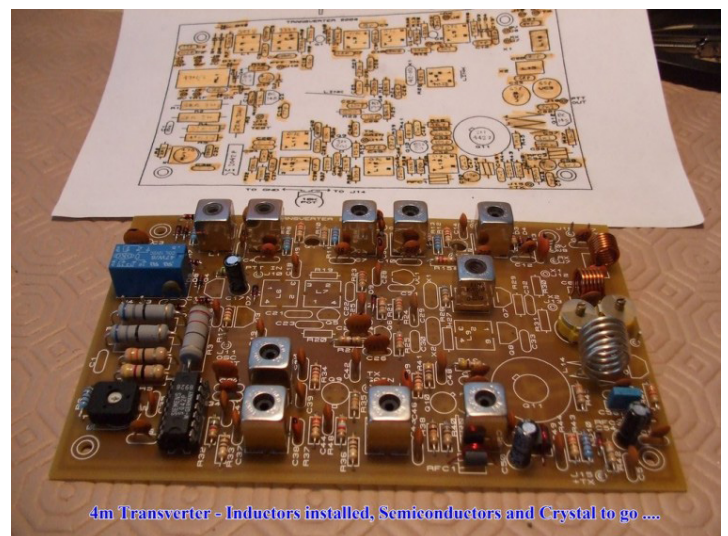
4m Transverter - The supplied aluminium case with printed front panel



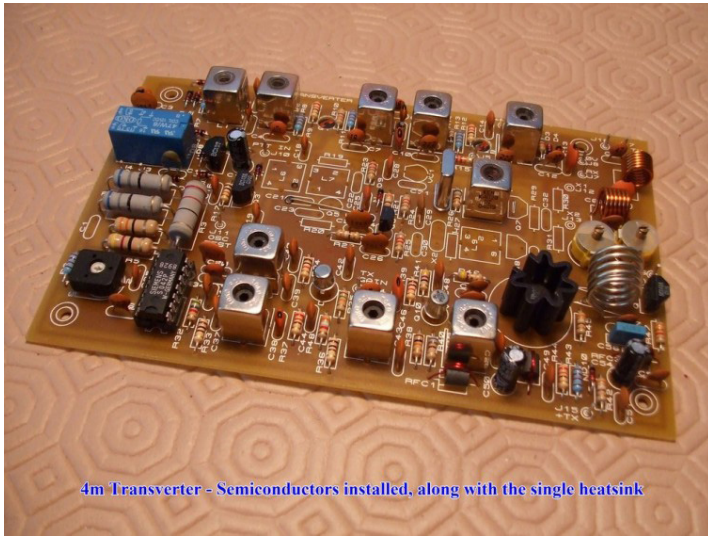
4m Transverter - 25W Power Amplifier components and remaining hardware



4m Transverter - Construction ongoing, now installing the inductors



4m Transverter - Inductors installed, Semiconductors and Crystal to go



4m Transverter - Semiconductors installed, along with the single heatsink



4m Transverter - Commissioning the main board using 5W output of the FT-897D



4m Transverter - Main Board.
Checking the conversion frequency
with a 28MHz input - Spot on !!



4m Transverter - Starting construction of the 25W Power-Amplifier Board



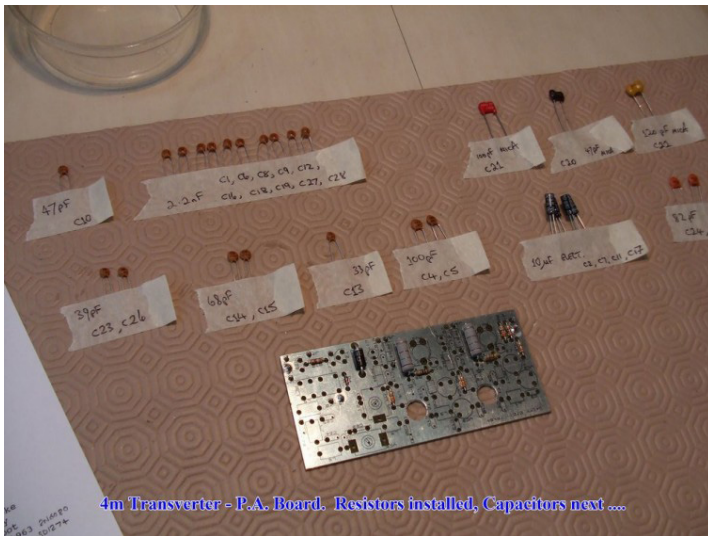
4m Transverter - Starting construction of the 25W Power-Amplifier Board



4m Transverter - P.A. Board. Identifying components for installation

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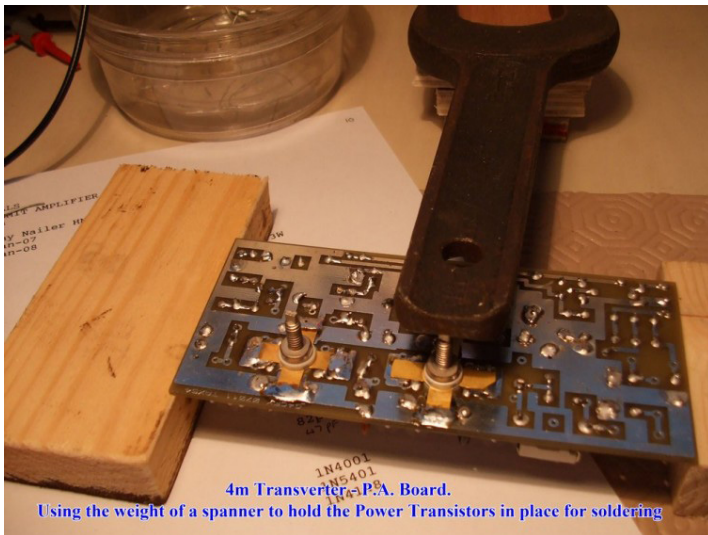
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4m Transverter - P.A. Board. Resistors installed, Capacitors next



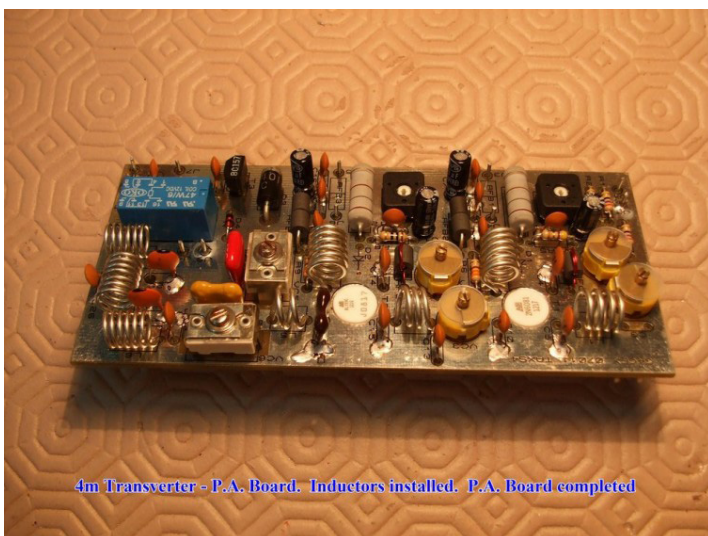
4m Transverter - P.A. Board. Trimmer Pots next



4m Transverter - P.A. Board.
Using the weight of a spanner to hold the Power Transistors in place for soldering



4m Transverter - P.A. Board. Trimmer Caps installed, 8 x Inductors to go



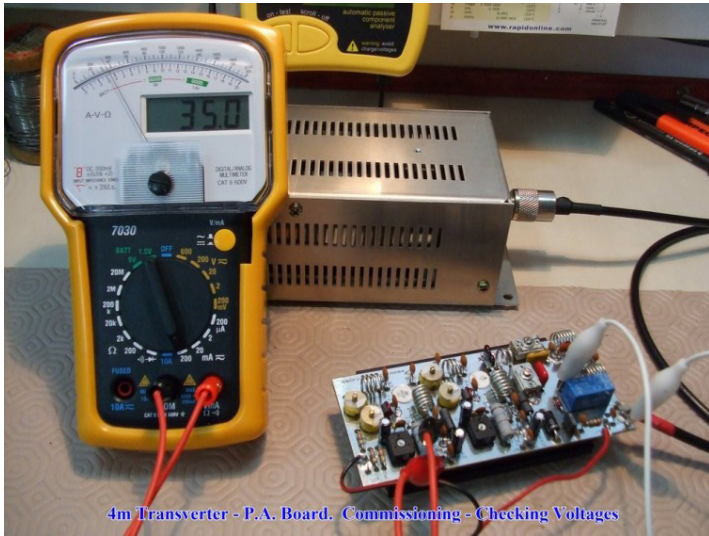
4m Transverter - P.A. Board. Inductors installed. P.A. Board completed



4m Transverter - P.A. Board. 'End-on' view

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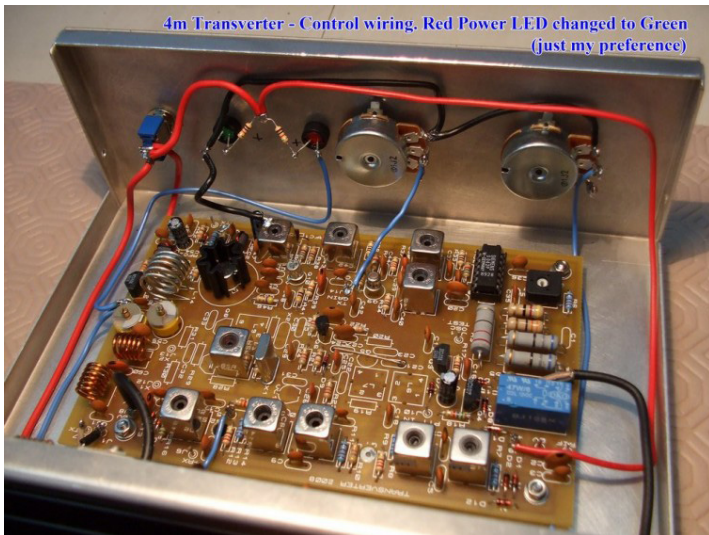
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4m Transverter - P.A. Board, Commissioning - Checking Voltages



4m Transverter - Final assembly. Connecting the Boards, Controls, etc.



4m Transverter - Control wiring. Red Power LED changed to Green (just my preference)



4m Transverter - Rig and Antenna Sockets and P.A. Board connections



4m Transverter - Rear view showing heat sink and the various sockets



RX Gain Adjust
11 - 24dB
TX Power Adjust
3 - 25W

4m Transverter - The completed unit (less cover) commissioned and ready for use