

70 Watt AM Shortwave Transmitter Circuit

The published diagrams of Station QRP are for educational purposes only. These are offered for the furtherance of one's knowledge regarding radio frequency design and principles

Transmitter: Tube (CV5152 & PL84 & 2 x 807)

Voltage: 525 volt / 300 mA

Frequency: 3.9x kHz

Modulation: AM (High Level Anode and Screen); 100% Mod

Amplifier: Internal 100W/4 Ohms R.M.S. MOSFET amplifier (BUZ900/905)

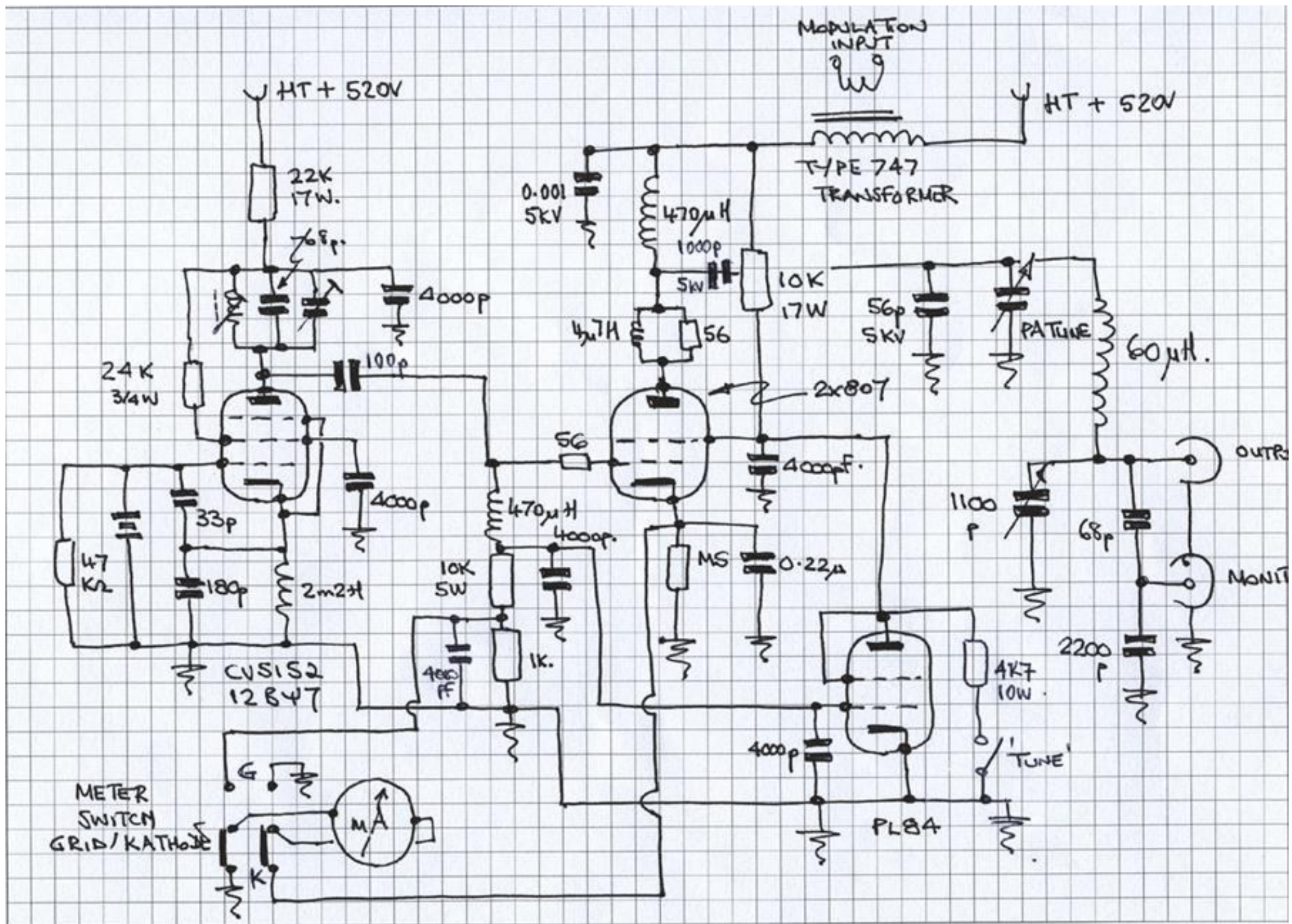
Audio filter: low pass (<220 Hz) & high pass (>5.5 KHz)

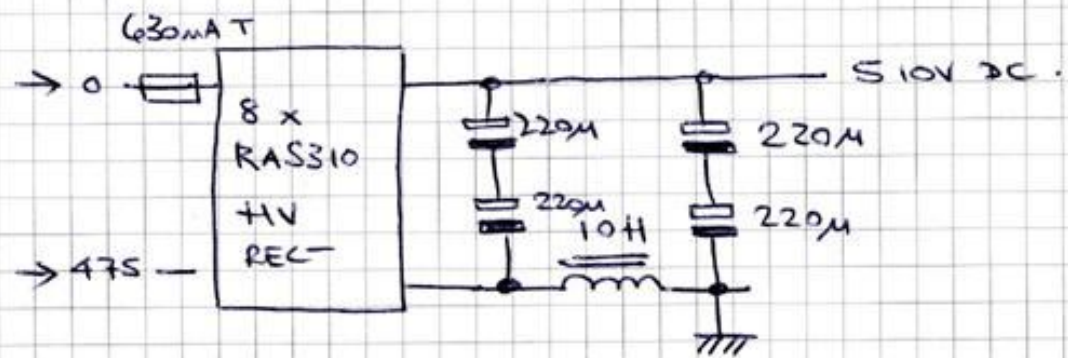
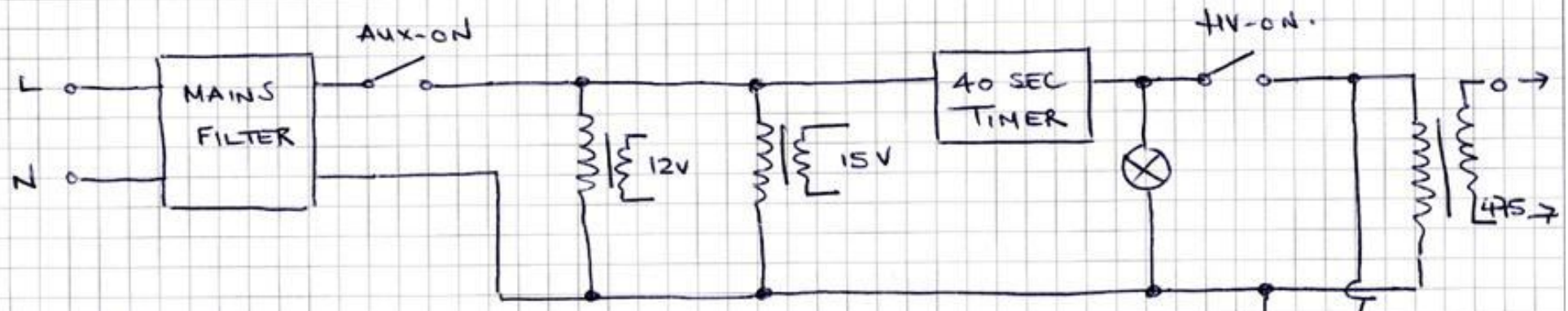
Audio impedance: 47 KOhm

Output Power: 70 Watt carrier (AM PEP well over 100 Watts)



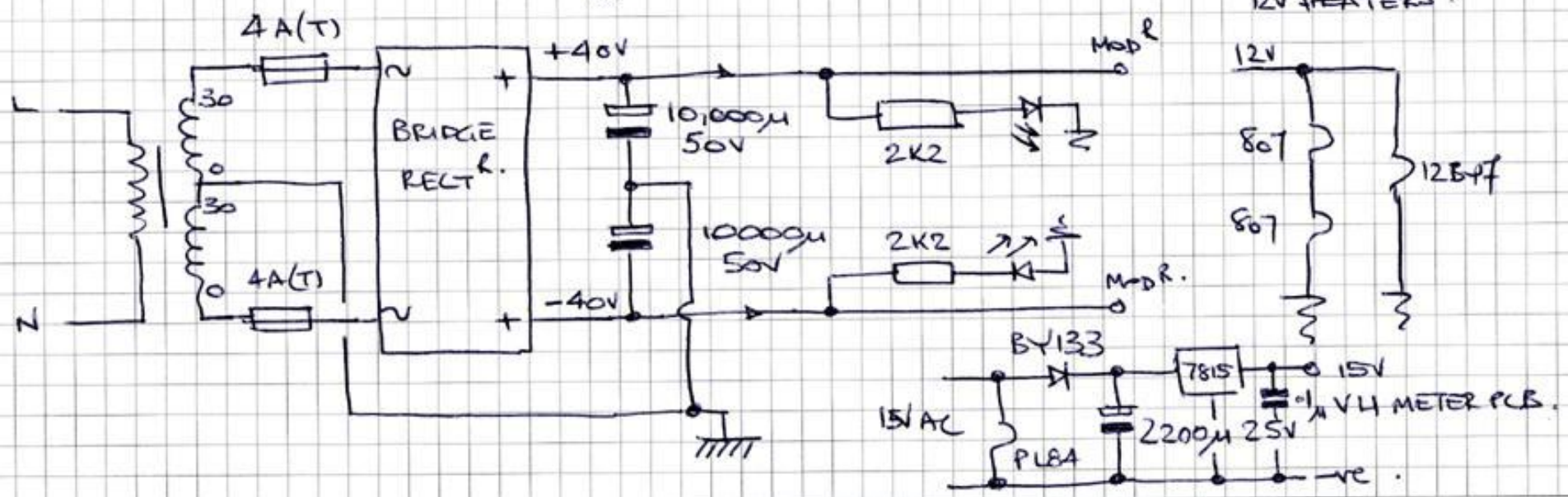
This transmitter was tested to comply with Ofcom standards! (*Independent regulator and competition authority for the UK communications industries*)

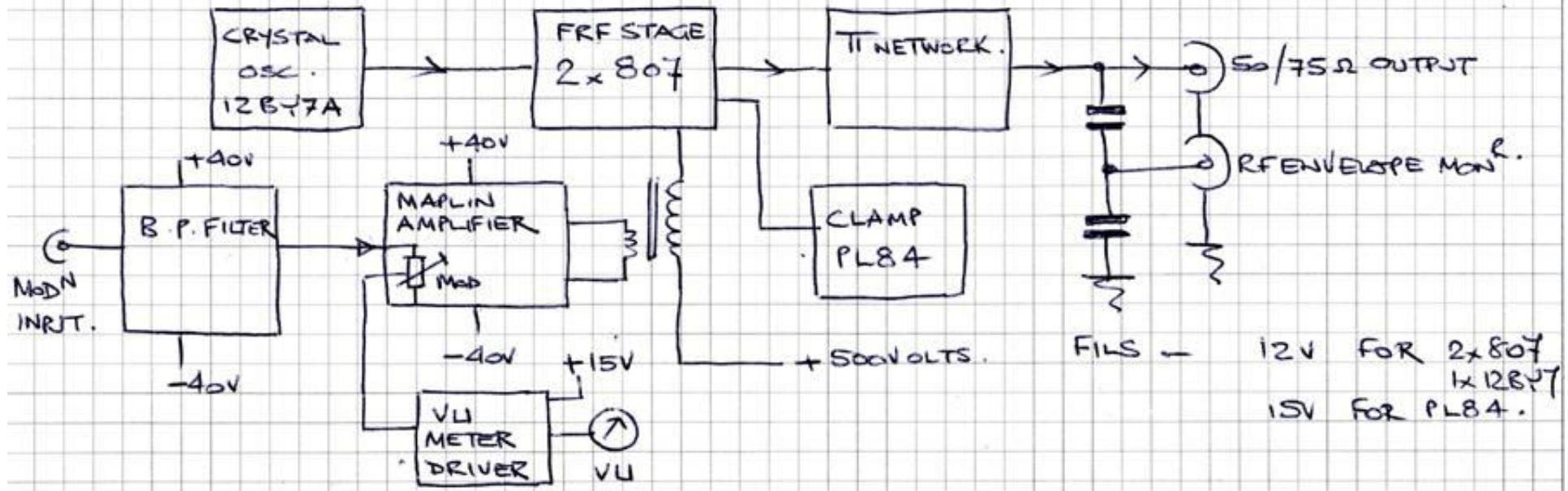
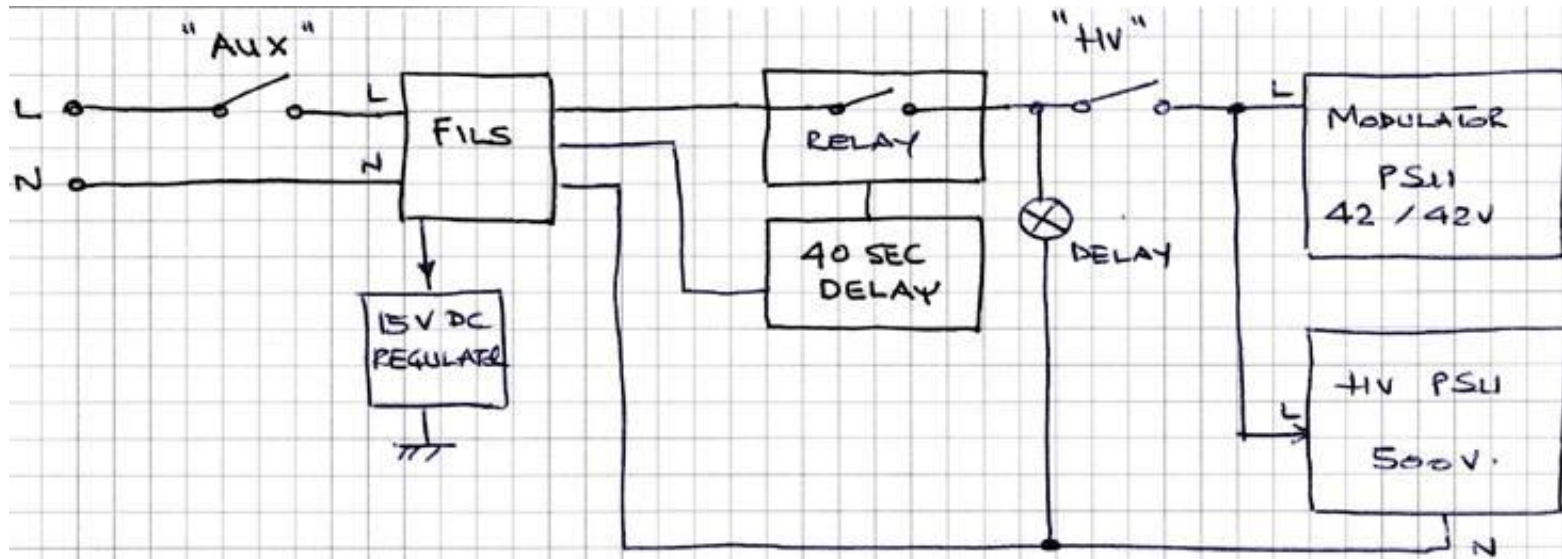


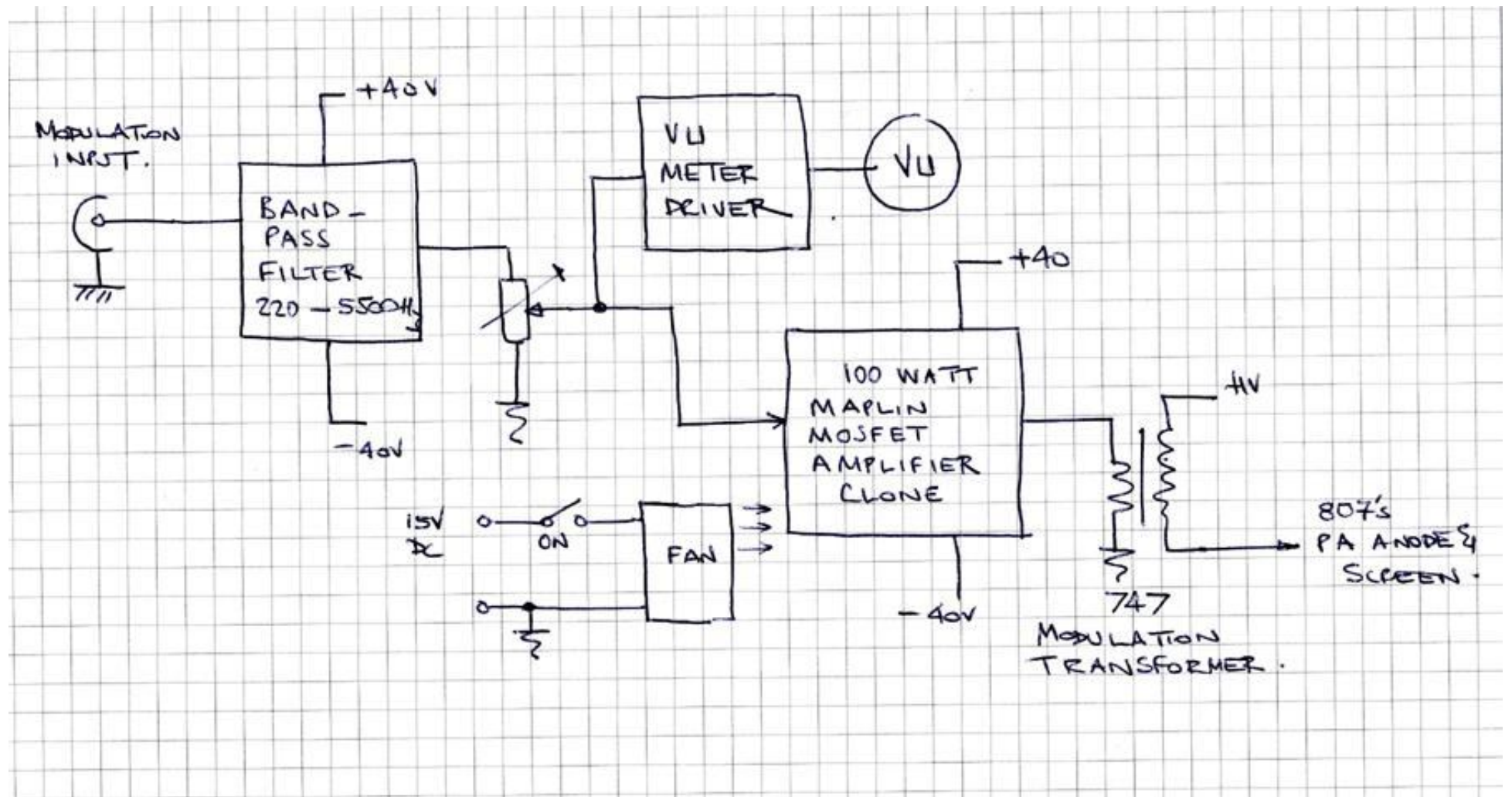


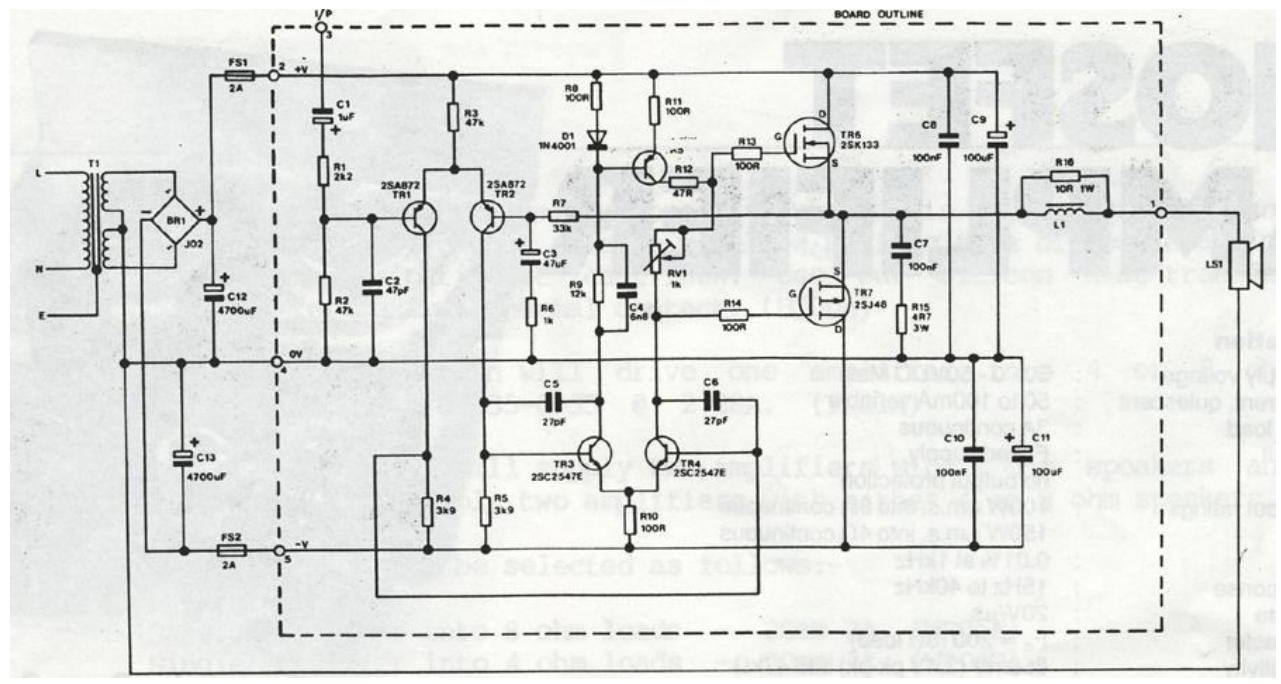
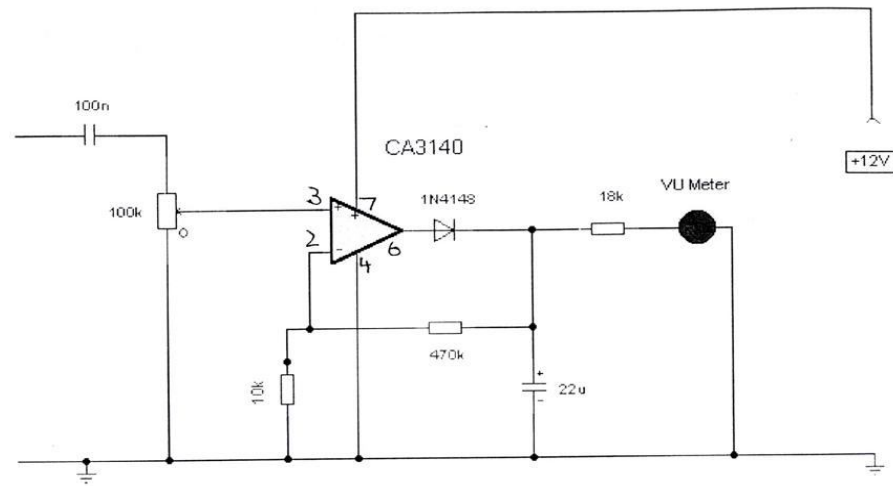
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To MODULATION
TOROIDAL TRANS.

12V HEATERS.







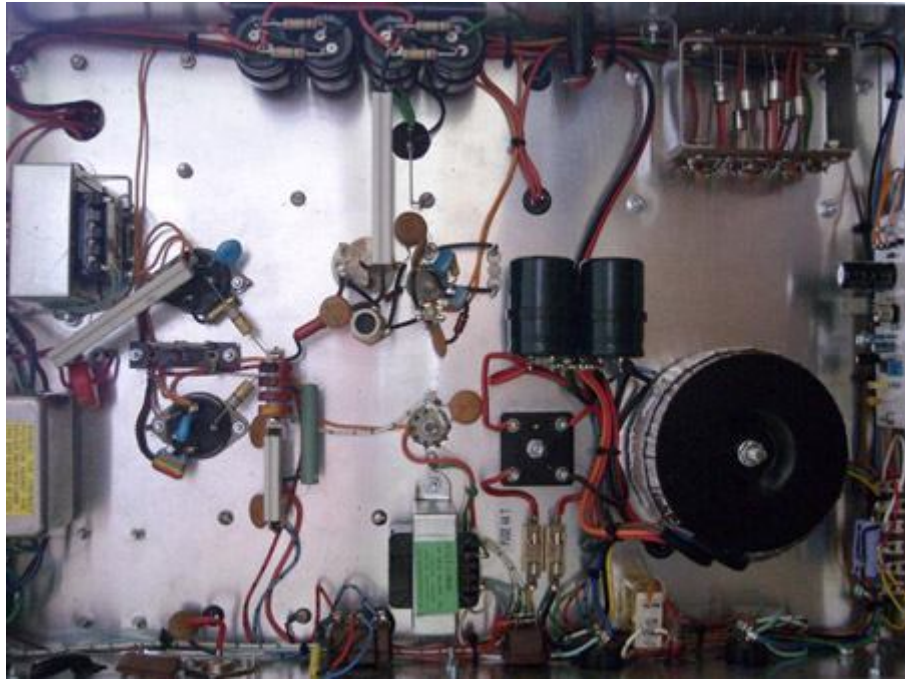




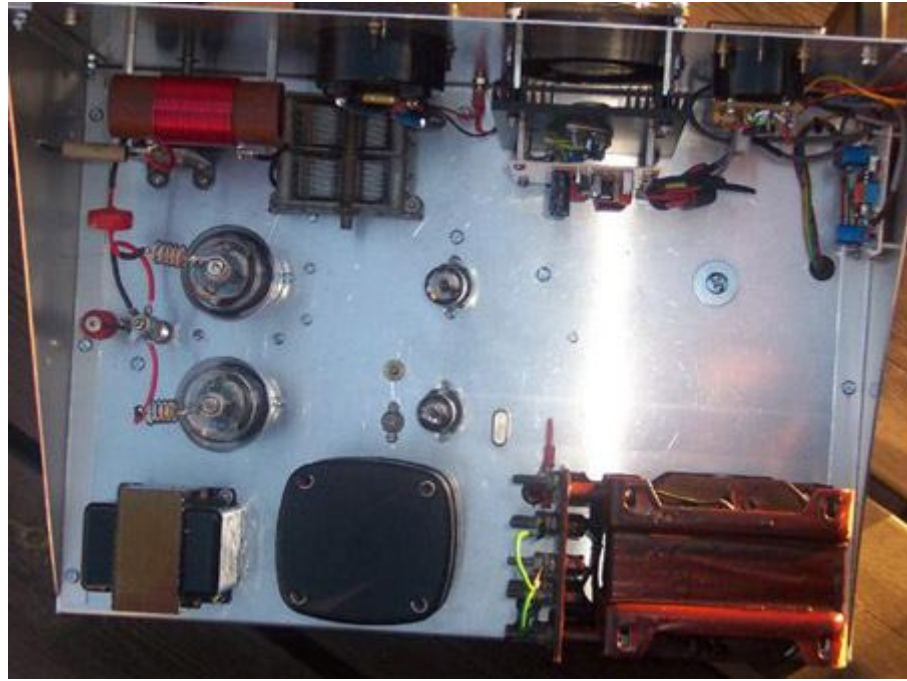
This is truly a 'Rig-in-the-Box'! The rig itself is placed in a well rugged cabinet for field operations. The VU meter (left) is available on the chassis that shows the peak modulation. (0VU = 100% modulation) On the right metering is provided for Grid current and Kathode current on the 807s, I really do like the ex-Marconi front panel meter, very 1960's I thought!



Inside the tube rig; CV5152 Crystal Oscillator, 2 x 807 Power Amplifier, PL84 clamp tube to protect the 807s in case of drive failure. Crystal on the right is the standard HC-6/U type



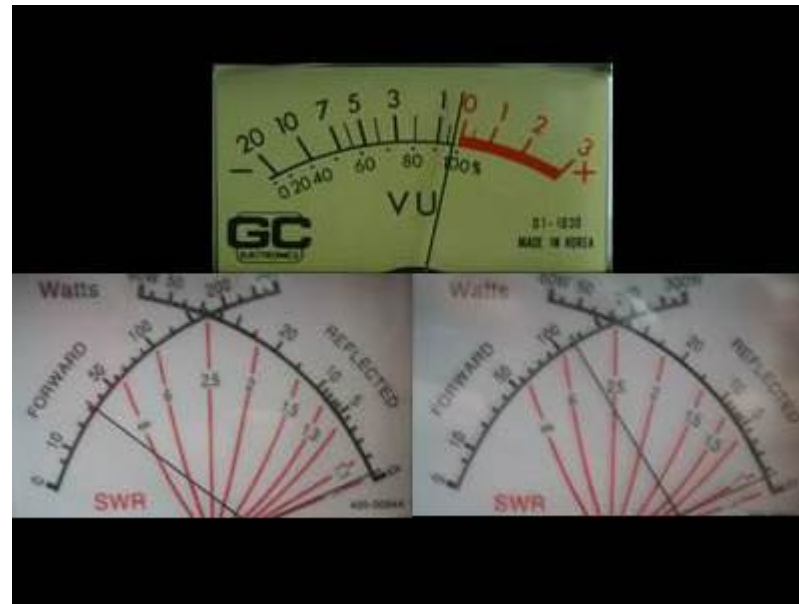
Seen from the bottom.....



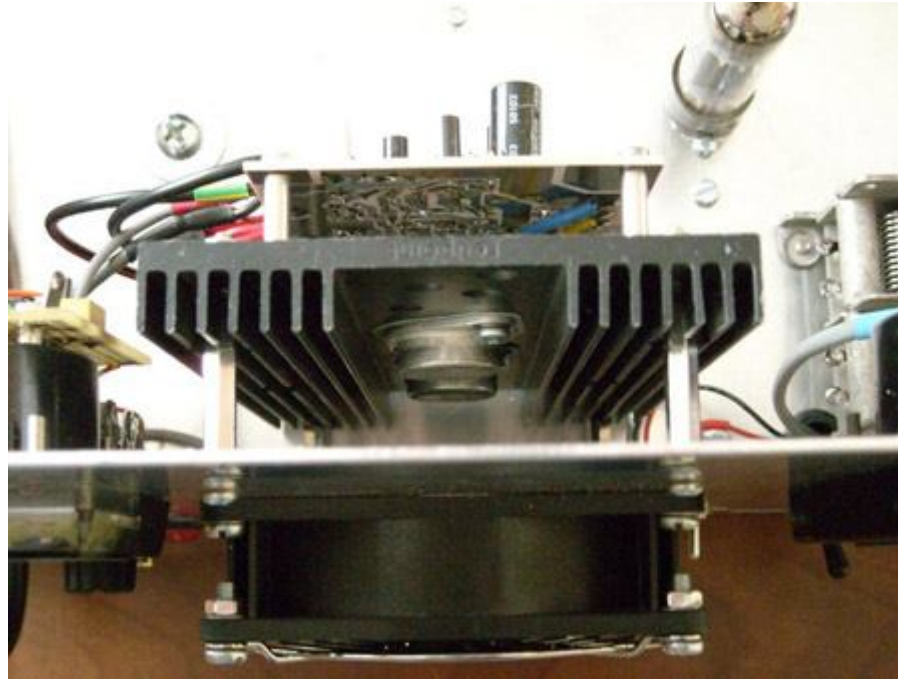
Seen from above.....



Tank circuit and 2 x 807 Power Amplifier, HT Power Supply is 525 volt / 300 mA



35 Watts minimum if desired... maximum 70 Watt carrier and with Anode and Screen AM PEP will be well over 100 Watts



Part of the audio section; the Internal MOSFET (BUZ900/905) 100W RMS into 4 Ohms solid-state Maplin modulator/amplifier. Audio driven by a Band Pass filter; bass cut at 6dB per octave below 200Hz and then flat till 2kHz then rising at 6dB per octave to 5.5kHz then cuts to -40dB by 9 kHz. Of course High Level Anode and Screen Amplitude Modulation with 100% positive and negative peaks available