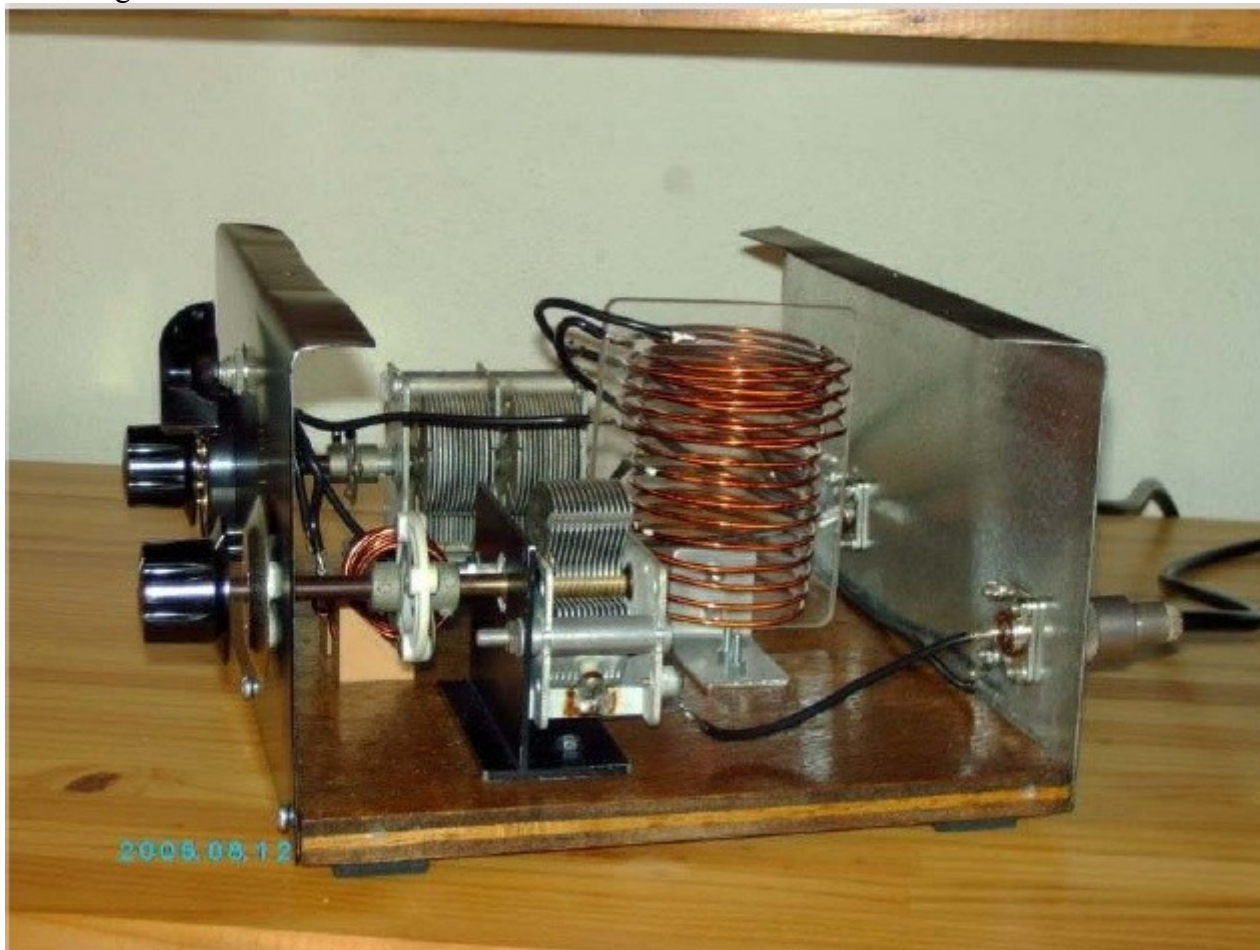


## Z-Match ATU – Single coil



This design of atu will match both balanced and unbalanced loads. There are no tapped or switched inductors. Due to this design both variable capacitors must be fitted with reduction drives(6:1 suggested) and insulated shafts and couplers due to RF present on the variable capacitors and to reduce hand capacity effect. The base must be of an insulating material such as Perspex or as I have used marine plywood (waterproof ply).

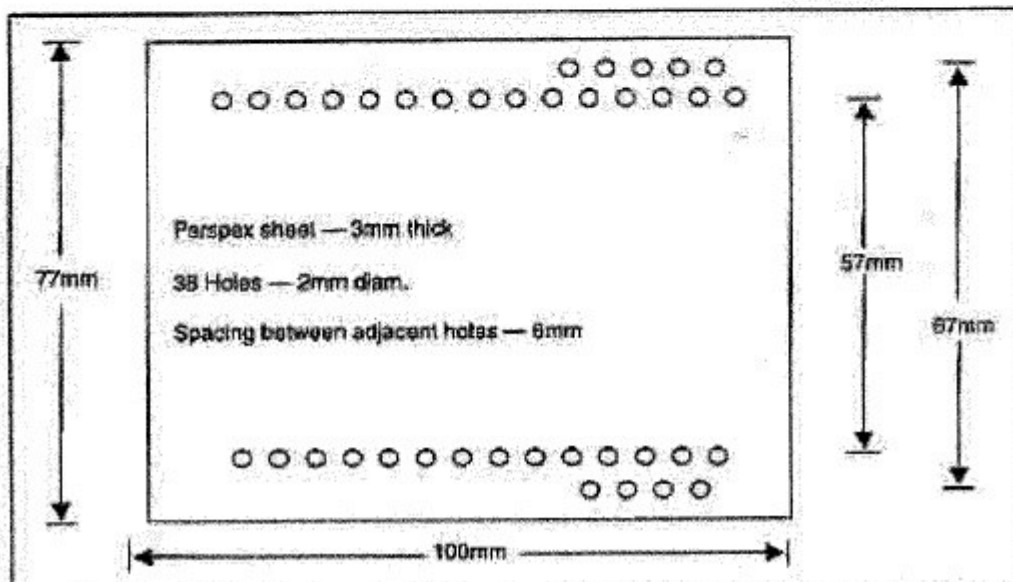
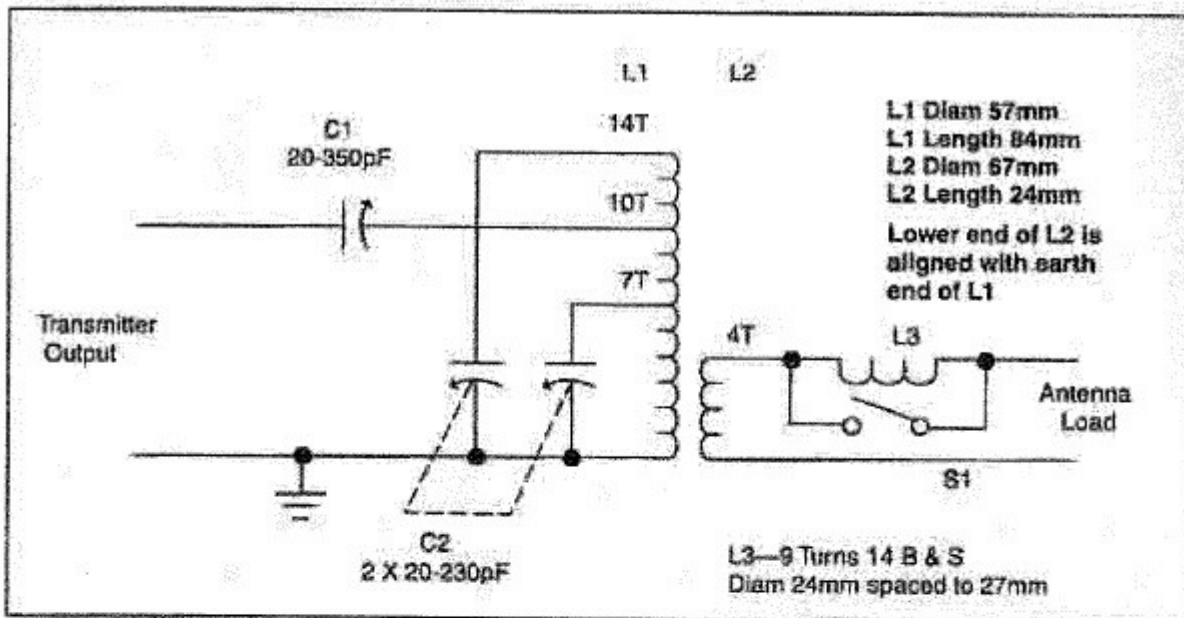
The power handling of the Z-Match is determined by the coil wire size and plate spacing of the variable capacitors. The am radio type capacitors (plate spacing 0.25mm) I have used are good for 70 watts. The double ganged capacitors are of 350pf per section. The single capacitor I have used is 280pf (recommended 350 pf).

The winding details of the coil are described in the circuit diagram which has a Template of the Perspex coil former with all dimensions. Note that there are two coils a 14 turn inner and a link coupling outer coil of 4 turns.

The wire used was 1.6mm enamelled copper wire (16SWG).

The tuning is very sharp with SWR fluctuating widely so use both hands on the tuning knobs as the tuning is interlocking and tune using low power output.

The connections between the coil and variable capacitors need to be of heavy copper strapping or large diameter wire (2.5mm house wire).



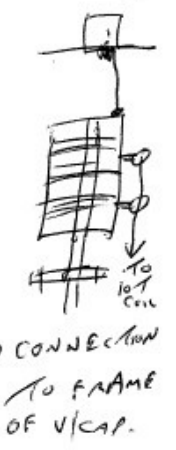
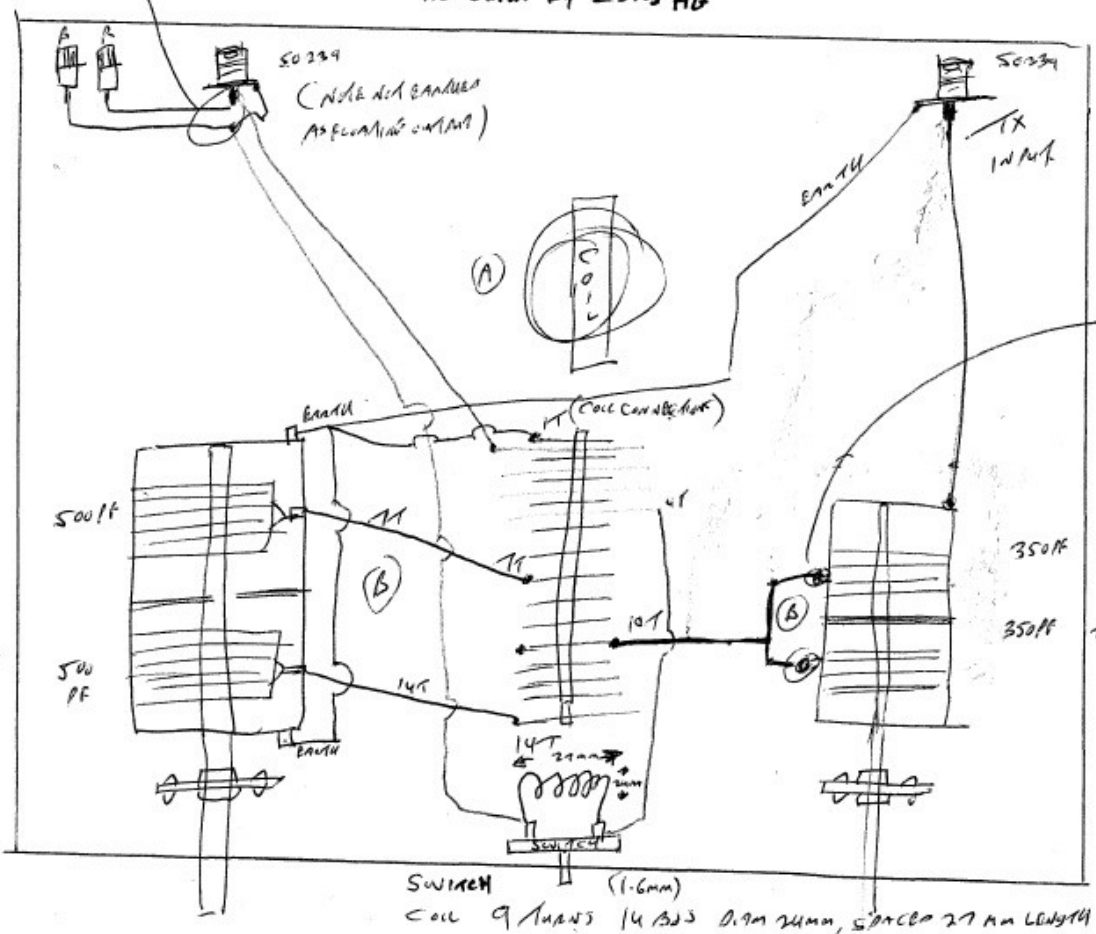
The coil needs to be spaced away from the variable capacitors as it is hot with RF and note that the double coil section (Earth End) is mounted at the top.

Circuit diagram (VK5BR) of the Z-Match single coil ATU  
The Template for the Coil Former using Perspex

No Bal Line Posts  
 Solder to SO239  
 VIA PL 239 Plug + coax  
 OR use SW, Adh.

**- MATCH TUNER - VK5BR**  
**AS BUILT BY ZS1JHG**

SO239



(A) NB  
 COIL MOUNTED  
 WITH DOUBLE  
 COIL SECTION AT  
 TOP.

(B)  
 USE HEAVY  
 BUS CONNECTOR  
 (WIRE) BETWEEN  
 COIL & V/CAP.

465 PF  
 280 PF  
 SW  
 Vertical

SWITCH (1.6mm)  
 COIL 9 TURNS 1.4mm DIA 27mm LENGTH

The coil attached to the switch is to cover dropout on certain impedance ranges due to using only one coil.