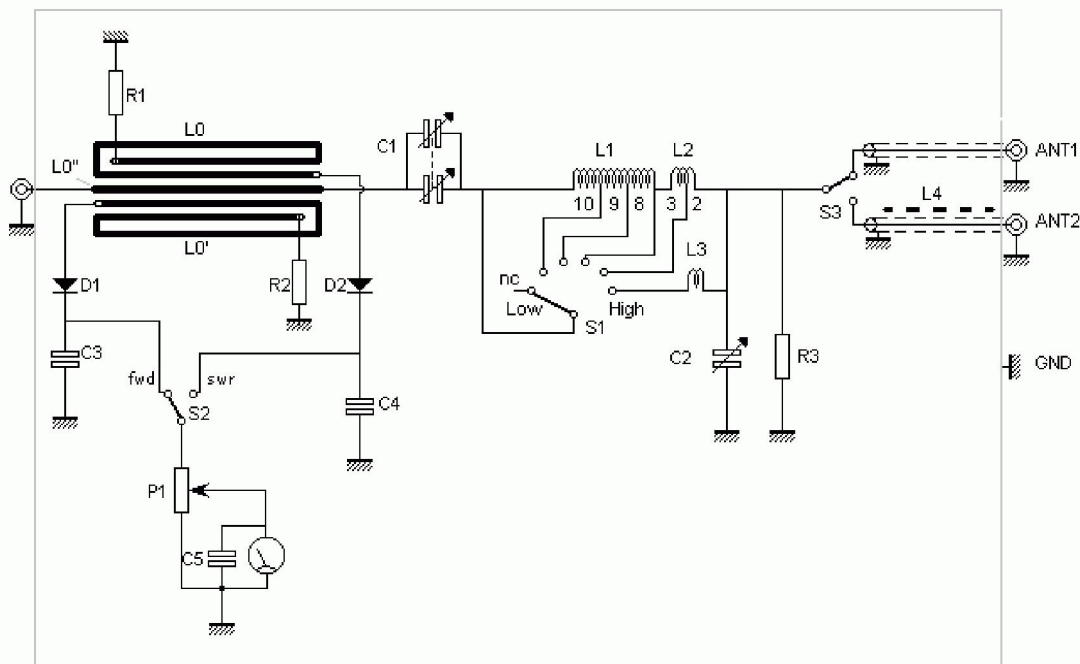


## HF/6M Antenna Tuner Preselector and Antenna Switcher By ON6MU



By Guy, de ON6MU  
revision 3

### Schematic fig1



**By Guy, de ON6MU**  
<http://www.qsl.net/on6mu>

### Parts list

- | alu box of 200mm X 130mm X 70mm
- | 3 female PL 259 chassis
- | Analog Meter (as sensitive as possible and calibrate the scale with a good SWR meter)
- | C1 = variable capacitor of 2 x 500 pF (air spaced)(1kv). C1 isolated from the ground!
- | C2 = variable capacitor 280pF (air spaced)
- | S1 = 6 pos. switch
- | S2 = mini toggle switch
- | S3 = solid 380v/10A toggle switch
- | P1 = 10k log variable resistor

- | D1, D2 = 2 germanium diodes AA15,AA109 etc.
- | R1, R2 = 50 Ohm (2 x 1/4watt 100 Ohm parallel)
- | R3 = 4k7 1watt carbon
- | C3,C4 = 4n7
- | C5 = 22nF
- | L1 = 1,5mm insulated copper wire, 27 turns close together, 19mm outside diameter (16mm inside) taps at 10, 9 and 8
- | L2 = 1,5mm insulated copper wire, 5 turns with 1mm space, 19mm outside diameter (16mm inside) tap at turn 3
- | L3 = 1 mm insulated copper wire, 4 turns no space, 9mm outside diameter (7mm inside)
- | L4 = RG-58 coax wound around a 8 cm long carbon rode and fixed with tape
- | L0 & L0' = 1,5 turns approx. 6 cm as long as the centre part L0" which is 1 mm separated
- | L0" = 6 cm long copper wire (or copper line of 5 mm wide if you use a PCB)  
(L0, L0' and L0" makes out the SWR meter which is laid out as in the schematic fig1)

#### Specifications

- | long wave, medium wave and shortwave preselector tuner lets you boost your favorite stations while rejecting images, intermod and other phantom signals on your shortwave receiver.
- | frequency range: 2Mc..52Mc  
180m band depending on the mismatch of the antenna used
- | 150 Watt +-
- | switchable between two antenna's
- | shoke antenna output
- | band-pass type (harmonic filter)
- | pre-selector
- | SWR meter (if needed, else you can simply leave it out HI)

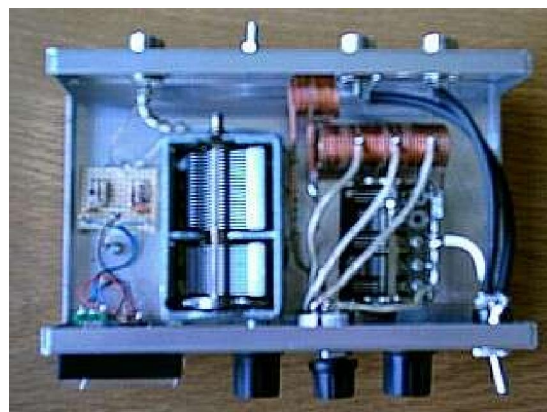
#### Revision 2 notes:

- | improved SWR bridge
- | R3: to drain any possible static build-up on your antenna

#### Revision 3 notes:

- | L3 added and last of L1 tap changed to allow tuning up to 52MHz!
- | L1 changed (was at 9, 9, 9 and 4) for better bandsread and higher top frequency range  
L2 (was 1mm, 10 turns close together, 18mm outside diameter) removed in revision 3 (click on the link for [revision 2](#)).
- | Shoke antenna output added to prevent HF-currents on the transmission cables (to improve immunity when using badly tuned antenna's)  
Can be used on good antenna's too of course.

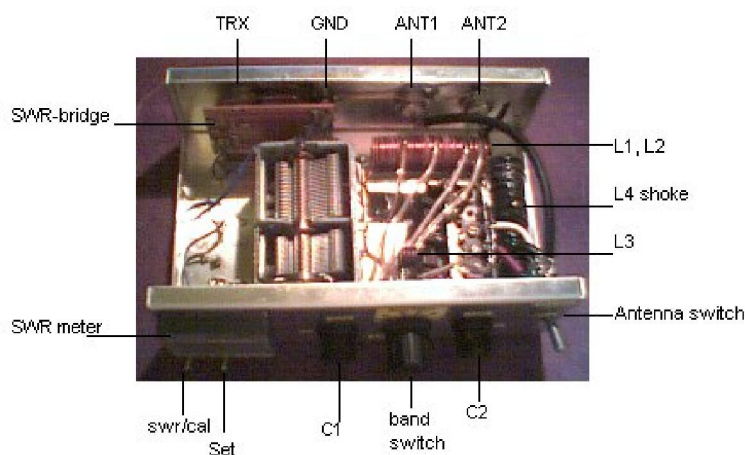
#### Pictures



original prototype



revision 2



All revisions

**Don't forget to check these out:**

[.ON6MU Homebrew projects](#)  
 .Radioamateaur related projects

[.ON6MU Ham mods](#)  
 .Modifications of transceivers

73"