

QRP 20m Aerial Tuner Unit

I built this ATU to tune my [mini loaded 20m dipole](#) (1.7m long) that I'm using in holiday with my little transceiver CW QRP MFJ CUB (2W on 20m).

You must connect a low impedance antenna (near 50 Ohm) to J2 or high impedance antenna (like a half wavelength wire) to J3.

The tuning range of this ATU is not so large like some other types, the resistive part of impedance of an antenna connected to J2 must be not too far from 50 Ohm, but I was able to tune many antennas connected to J2.

The SWR bridge works like this, if the led is on, there are standing waves, if the led is off, we have a low swr.

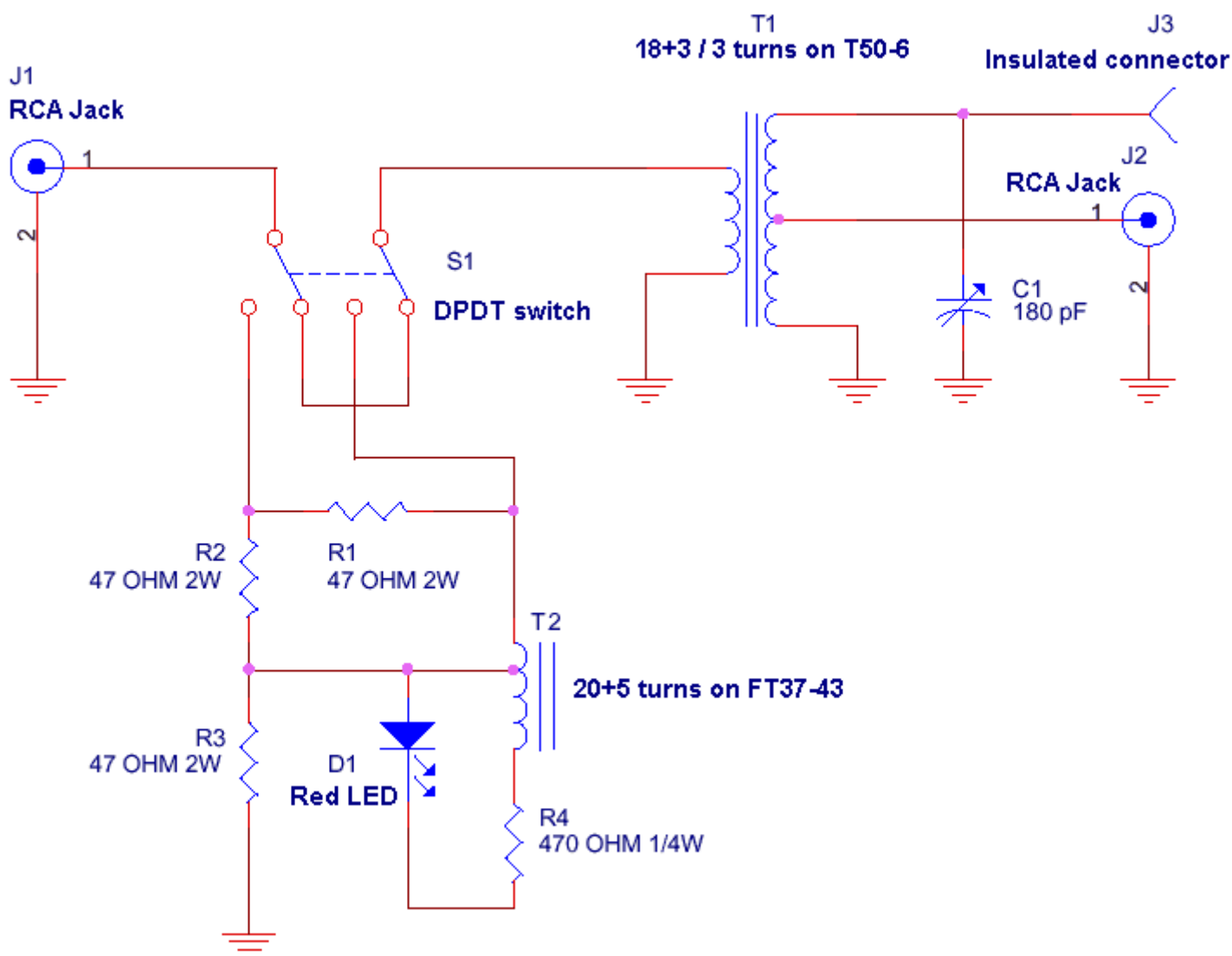
T1 is made of 21 turns of 0.35mm wire on T50-6 toroid with a tap at 3 turns from ground and a link of 3 turns.

T2 is made of 25 turns of 0.25mm wire on FT37-43 toroid with a 5 turns tap.

The box is 53mm x 50mm x 26mm.

With 50 Ohm dummy load, the losses are less than 1dB (about 0.8dB).

I never tried it but I think that this ATU must work also on 30m and 17m.



Schematic diagram

