

L MATCH ATU FOR QRP

by Sean 2E0BAX (Formerly M3FVB)

This is phase one of my portable qrp setup where I will be operating from the car in the local hills using the FT 817.

Phase two is the antenna....well that is soon but before I finish the antenna I wanted something to match it with, something that will match 160m - 10m. I already own a very good ATU but its big with a built in SWR meter and it's commercial so its time for something smaller and being used for qrp. I decided to have a go and build one myself.

My construction skills are limited but I will have a go and enjoy the experimentation side of the hobby. So in this project I have to use readily available materials and my small collection of tools with lots of imagination.

The L match is designed for the matching of random and long wires and should not be mounted in a metallic box/case. I used a small plastic food container which was the most expensive part of the project. That set me back one pound for 3 or 33.3p for one! The coil was formed around a small length waste water pipe (off cut) and the variable capacitors were robbed from a CB swr meter and matcher...thanks Bernard G3SHF.

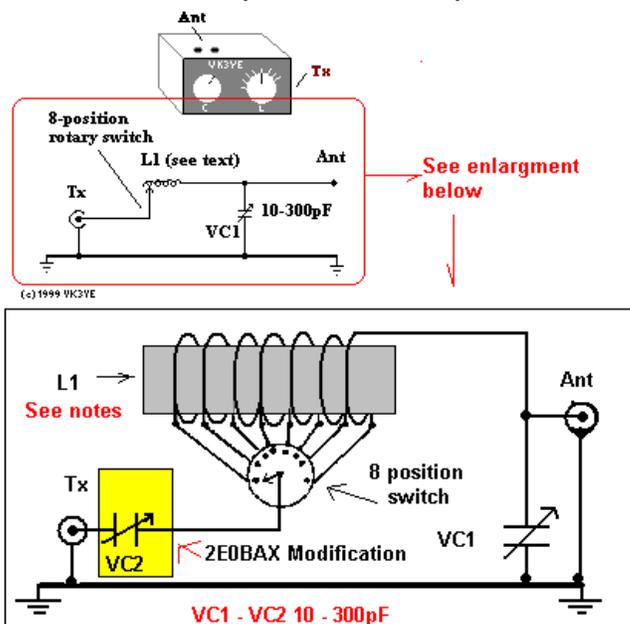
Heres the circuit and the pictures below provided with permission by VK3YE. Be sure to check his site out.

He writes articles and enjoys his QRP. Click this link to go there

<http://www.alphalink.com.au/~parkerp/>

I made a slight change to the original circuit by adding an extra capacitor to the TX side, yellow shaded area in diagram above. It just goes between the S0239 and the switch and allows more bands to be matched.

L-match ATU by VK3YE Modified by 2E0BAX



NOTES:

1. This ATU is intended for use with end-fed half wavelength wire antennas. It was designed for 7 MHz but should work on other HF bands.
2. VC1 and VC2 are not critical. Small air-spaced units were used in prototype. Keep all leads short.
3. To use, rotate switch for max received noise, then peak VC1 and VC2 just like any other "tuner" for minimum SWR and maximum output. Use SWR/power meter, resistive bridge, or field strength meter for tune up.

L1 DETAILS:

Position	Turns	(Use 5mm enameled copper wire. Mount on back of 8 position switch.)
1	60	
2	50	
3	40	
4	30	
5	20	
6	15	
7	10	
8	5	



The top view shows the controls which are Left to Right: The inductor tapping switch (thanks to ROY at work who donated this item and will cost me a pint of cider!) which is requiring a knob at this moment and I have the sore fingers to prove it! Moving to the Right are the two air variable caps with the red markers and sitting above and below these caps is two studs, one for the antenna and the lower one for the earth. I use leads fitted with croc clips to attach to the studs...cheap, simple, easy and its low power.



Heres a side view above and as you can see, there are two S0239 sockets and yes, I know this atu is for matching long wires, however this adds more options and I have found I can match a

length coax with a PL259 on it and nothing on the other end. That drooping of the S0239's is caused by the shape of the container, its a design feature HI.

