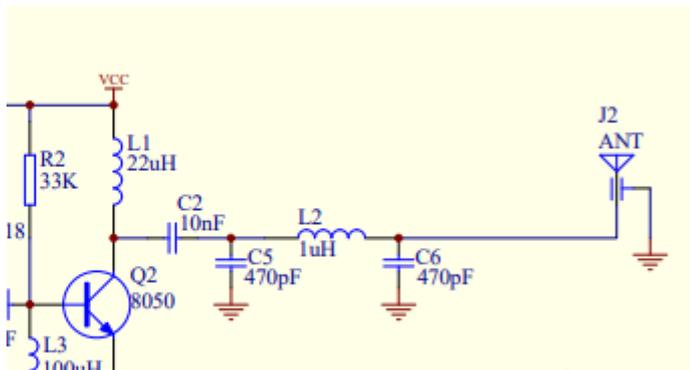


Making The Pixie Worthwhile

The Pixie is almost a right of passage for the newly license radio ham, if you build stuff then your likely to have built at least one of these. If like me you have built them and then wondered if you have got something wrong as the performance is so bad you will be lucky if you ever hear any Morse on it. I live in an area that has a number of local MW radio stations. The Pixie as it comes, works great as a receiver for any number of them!

With a little work and about £1 worth of parts you can modify the pixie to reduce this local AM radio breakthrough virtually disappear and finally you will be able to hear Morse, you never know you may even have a QSO using it. I have for the first time managed that with my modified set.

Lets look at the standard Pixie circuit, not all of it just the Low pass section, that's all we are going to change (in this mod anyway)



Here we can see that the Low Pass Filter (LPF) is using standard values, that's fine for such a simple radio, the cut off seems to be around 7.3Mhz with these values. The problem is that although signals above that 9like harmonics etc are reduced on both RX and TX every thing BELOW that frequency is fed right into the receiver, we only want a CW signal at a few microvolts but we will also get millivolts of signals from strong local AM Radio stations with this circuit.

So if we change the LPF for a Band Pass Filter we will get MUCH better reception (and also the intended circuit will also reduce the harmonic output from the radio too (Win -Win)

Parts you will need for this mod

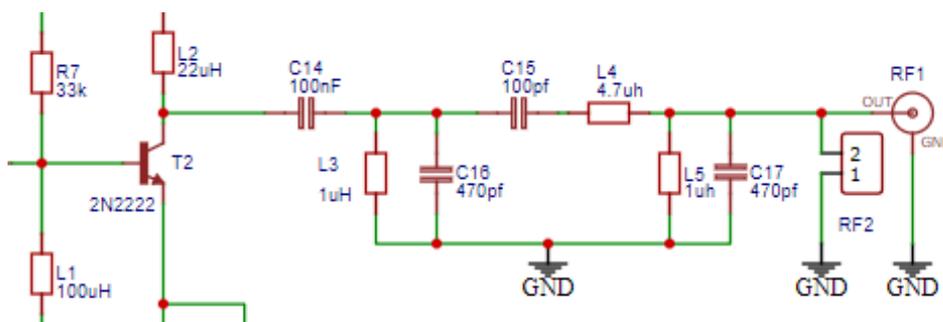
2 x 1uH Axil inductor (the low cost green molded ones see ok (go for 1/2 watt version if you can but you will get away with the 1/4 watt ones if that's all you can get)

1 x 4.7uH Inductor (same spec as above)

2 x new 470pf 50v disk capacitors, (I suggest NPO types) (you could reuse the old ones if not damaged)

1 x 100pf 50v disk capacitor (again NPO if you can)

Lets look at the new circuit we need



Now I start by removing C5, C6, and L2 from the pixie, in place of C5 and C6 fit the two 1uH inductors, these need to be fitted vertically.

Now on the BOTTOM of the PCB trim the two 470 pf capacitors leads and solder them to the same pads as the ends of the inductors, these are then in parallel with the inductors.

Now fit ONE end of the new 4.7uH induct in one of the hole for L2, this should be standing vertically with the one end of the inductor sticking up in the air. In the other hole for L2 put on leg of the new 100pf capacitor, that should leave the other leg sticking up in the air too.

Join the free leads of the capacitor and inductor together as close to the inductors body as you can and trim off the excess wire.

That's it job done. Give it a test and it should be much better, you may notice Hum as these little sets are prone to picking up mains hum so just be aware of that, if you know how to stop the Hum, let us all know. Share the fun!