

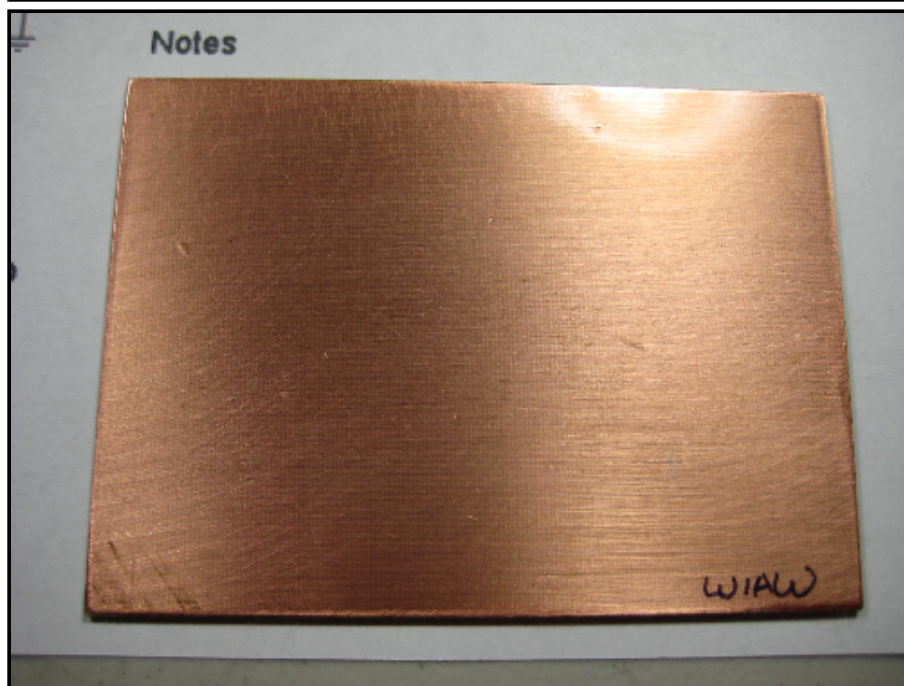
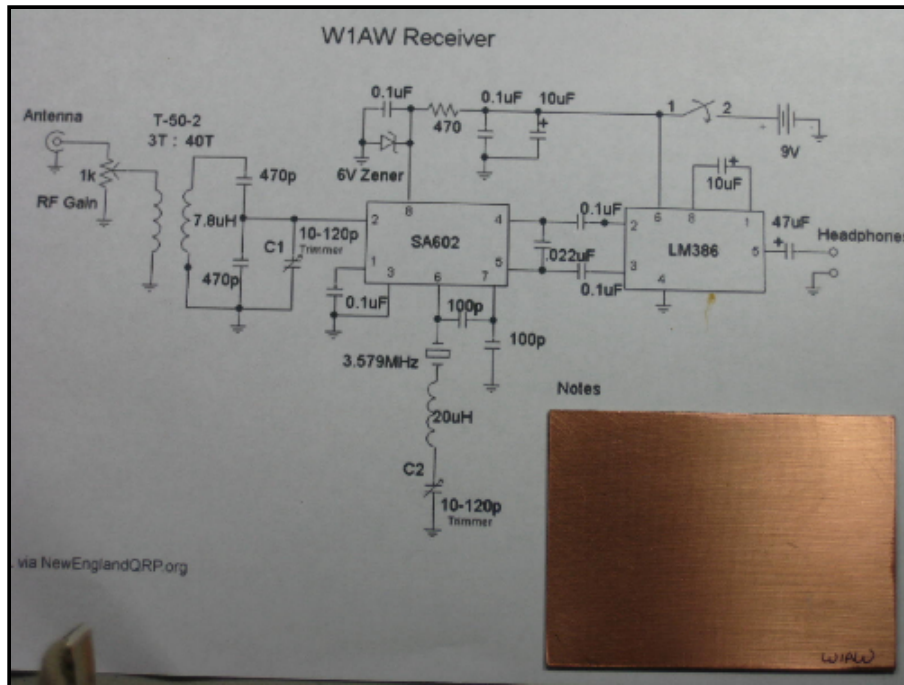
THE W1AW Receiver

A design by K1CL and The NEQRP

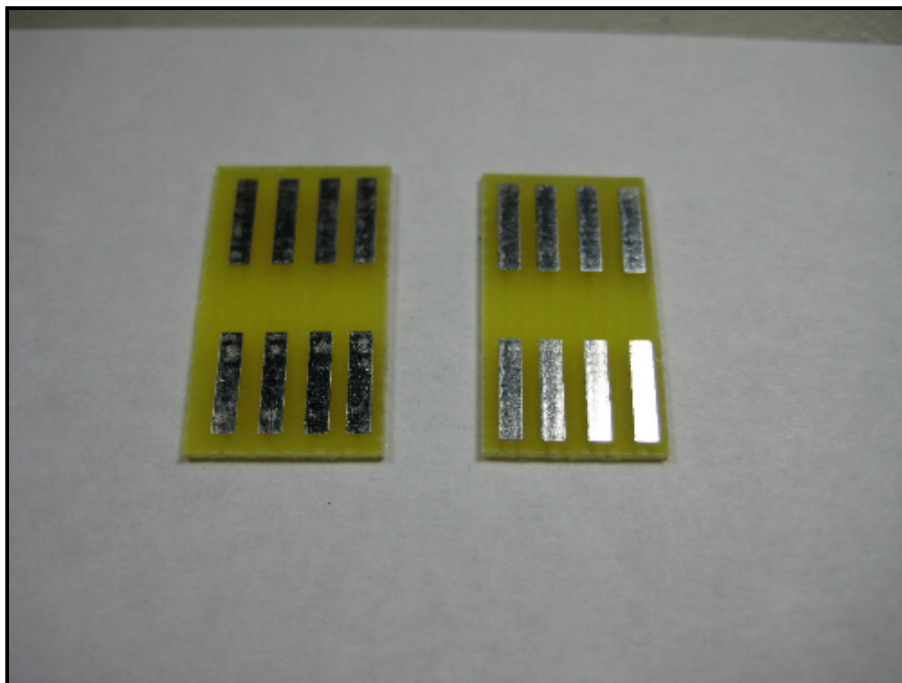
When I saw this little receiver I just had to build it.

Imagine a two IC receiver that could also be used as part of a RX/TX set because W1AW does not broadcast all the time.

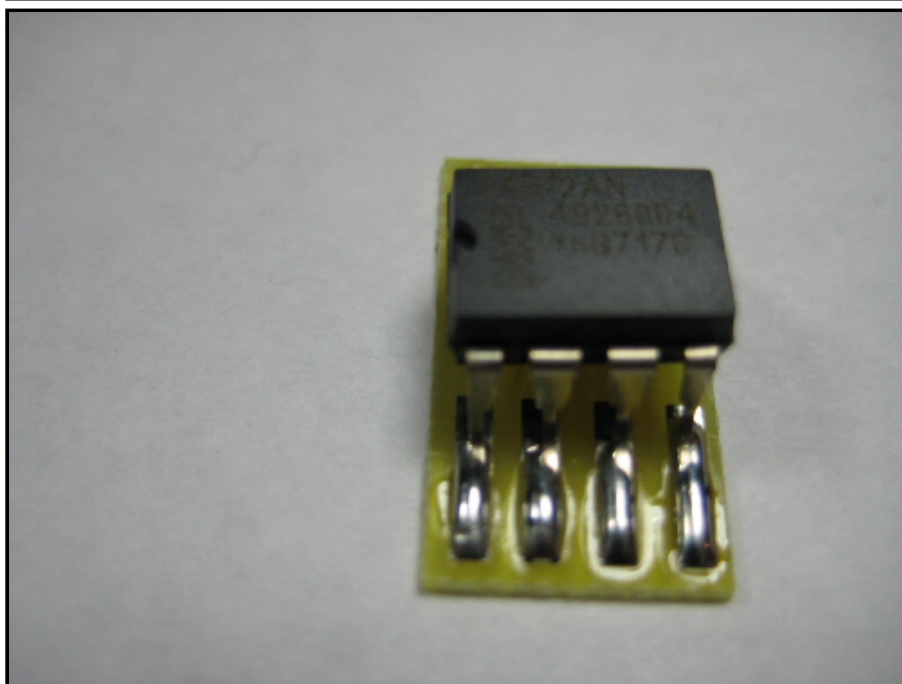
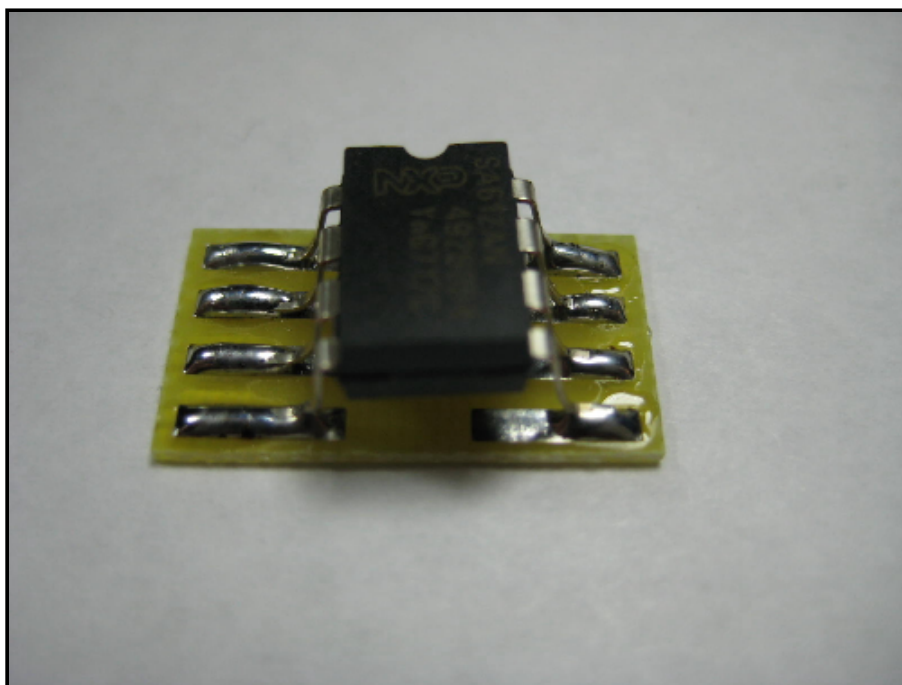
Now to build a 3.957mhz TX.



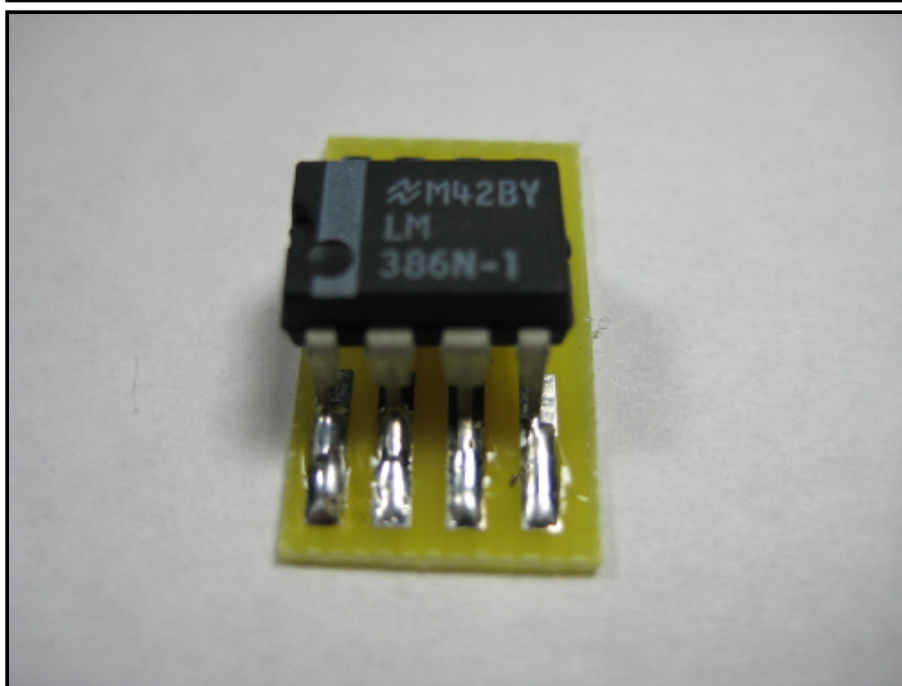
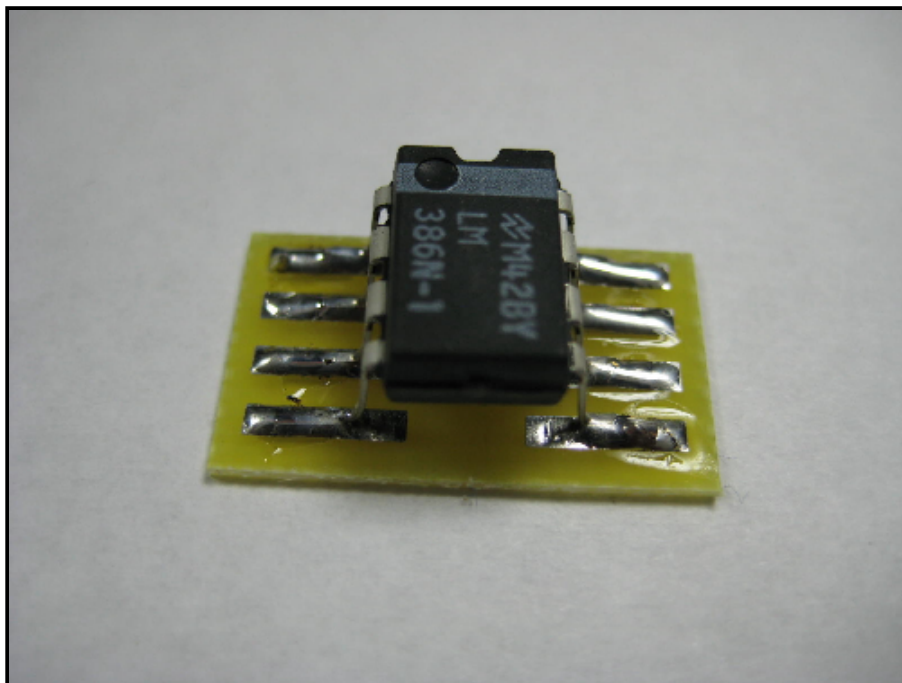
Here is the schematic for the W1AW Receiver and the substrate I want to use. The substrate is 95mm x 66 mm.



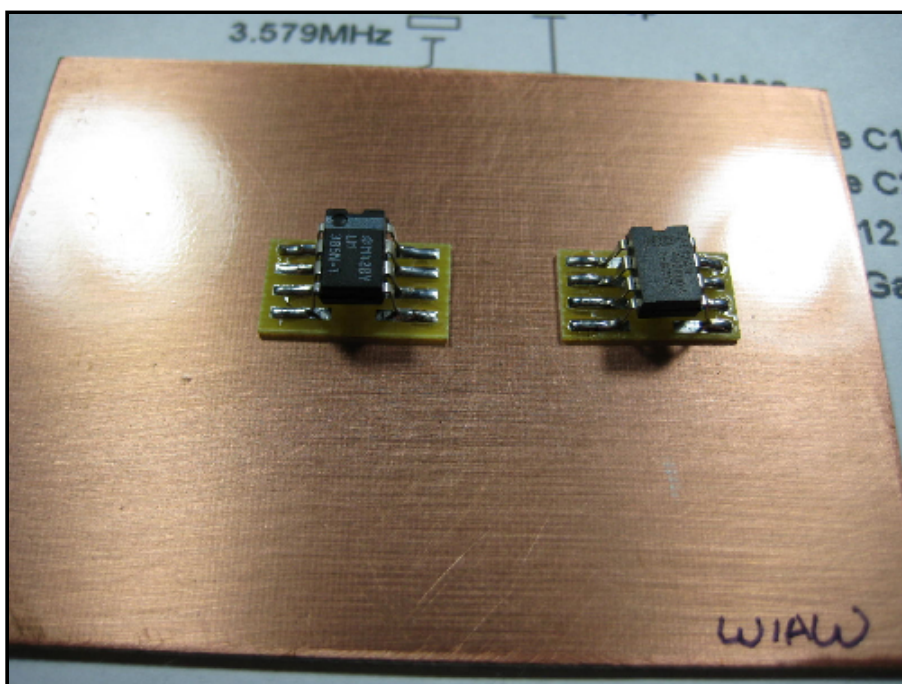
The "IC'S" are soldered to PCB pads available from [FAR CIRCUITS](#)



A Gilbert Cell "SA602AN" is used here, a NE602, NE612 or SA612 are interchangeable.

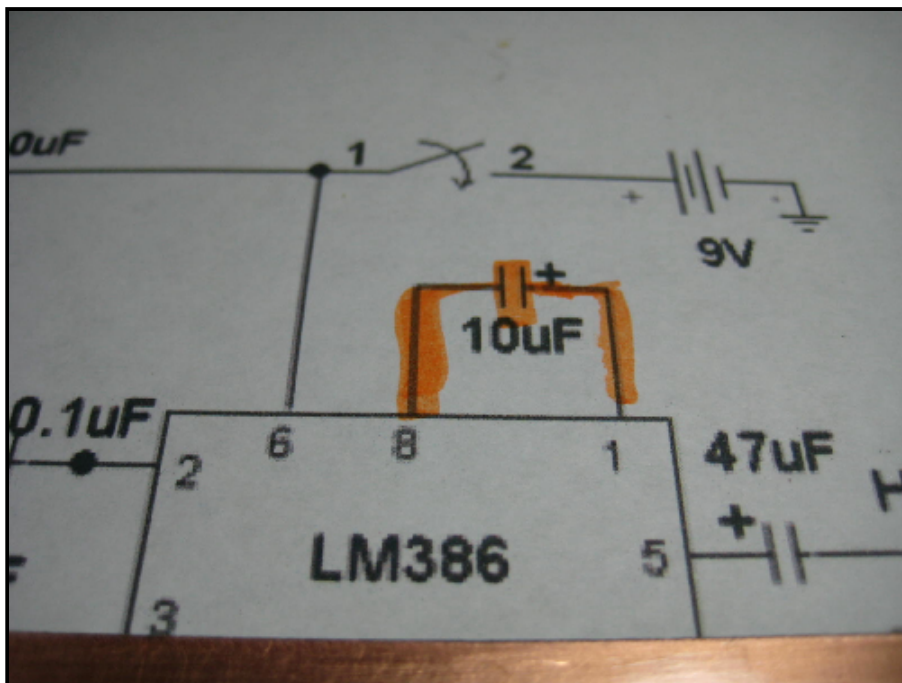
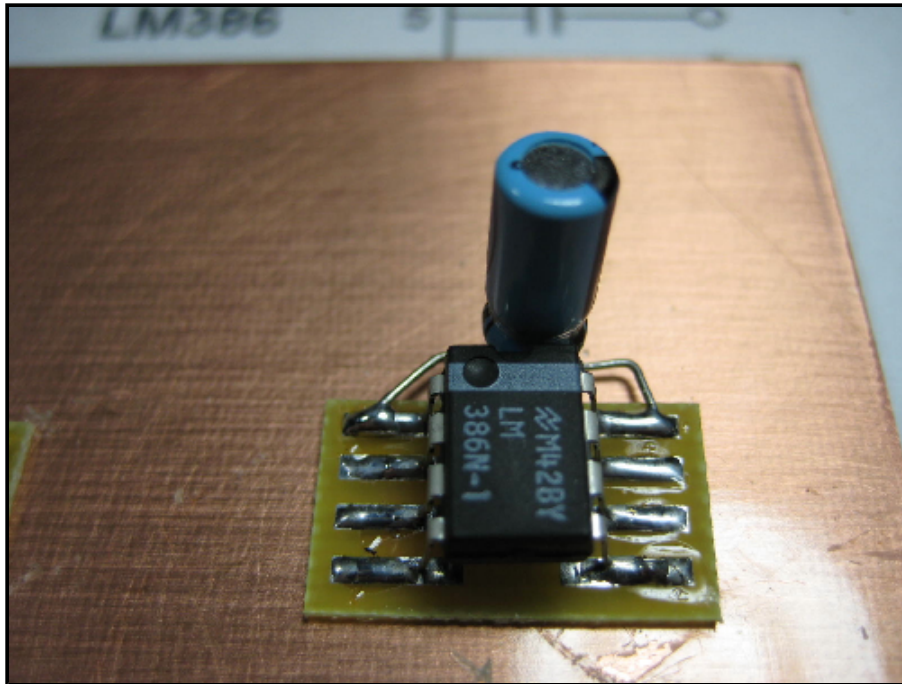


An "LM386-N" Audio amplifier is also used.

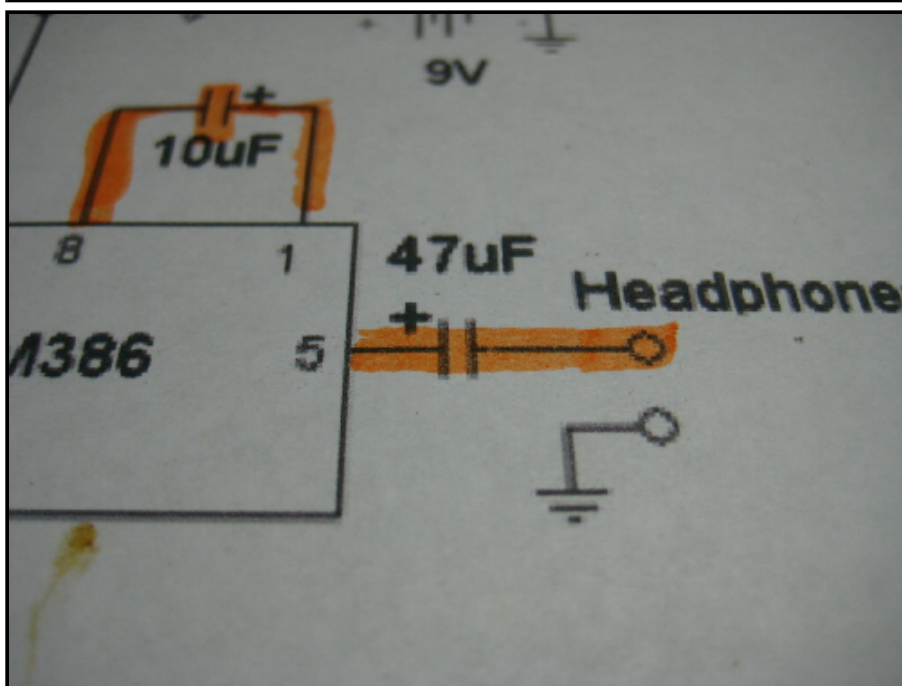
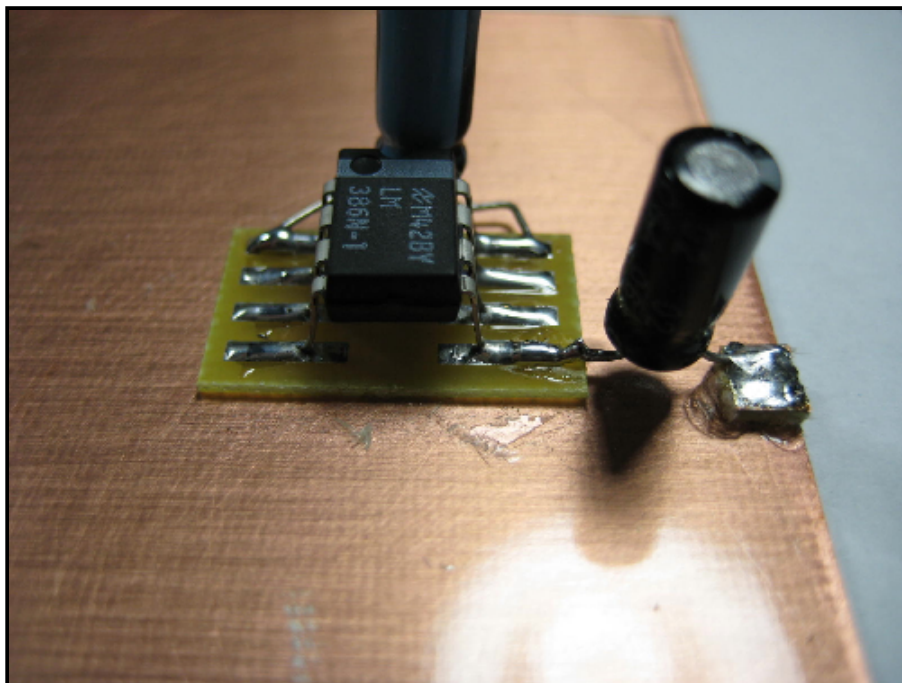


"IC's" mounted on PCB's and glued to substrate. Yes! I did mout them incorrectly. However it was

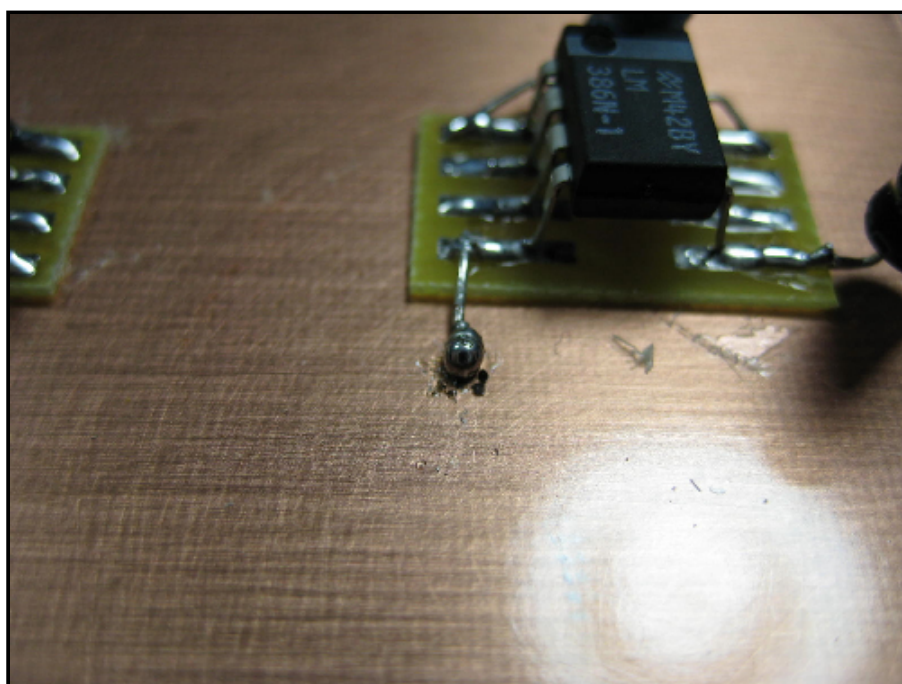
easy to correct.

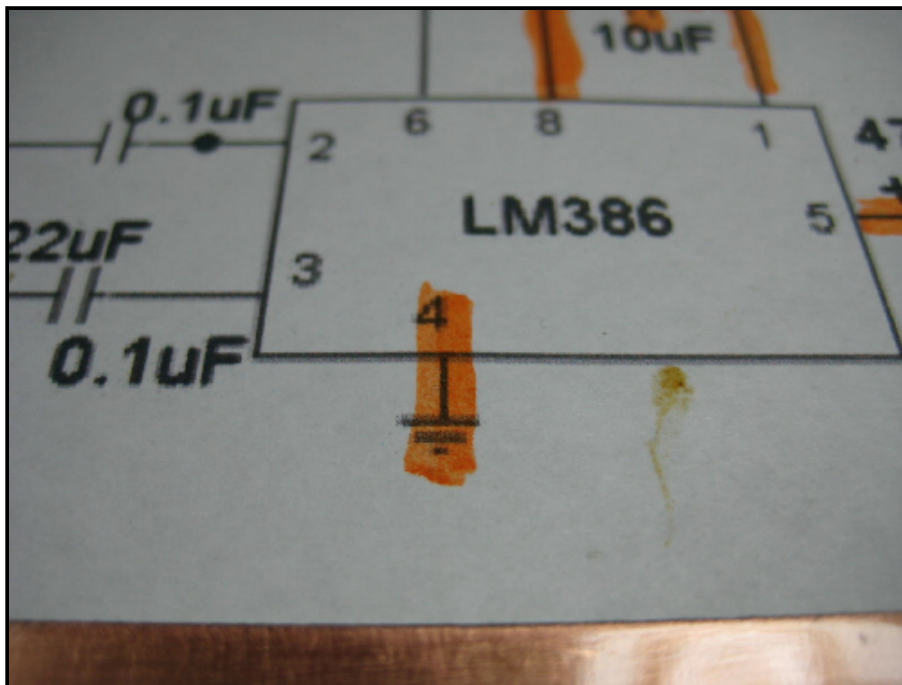


Pins 1 & 8 of the LM38-n are conected using a 10uf electrolytic capacitor.

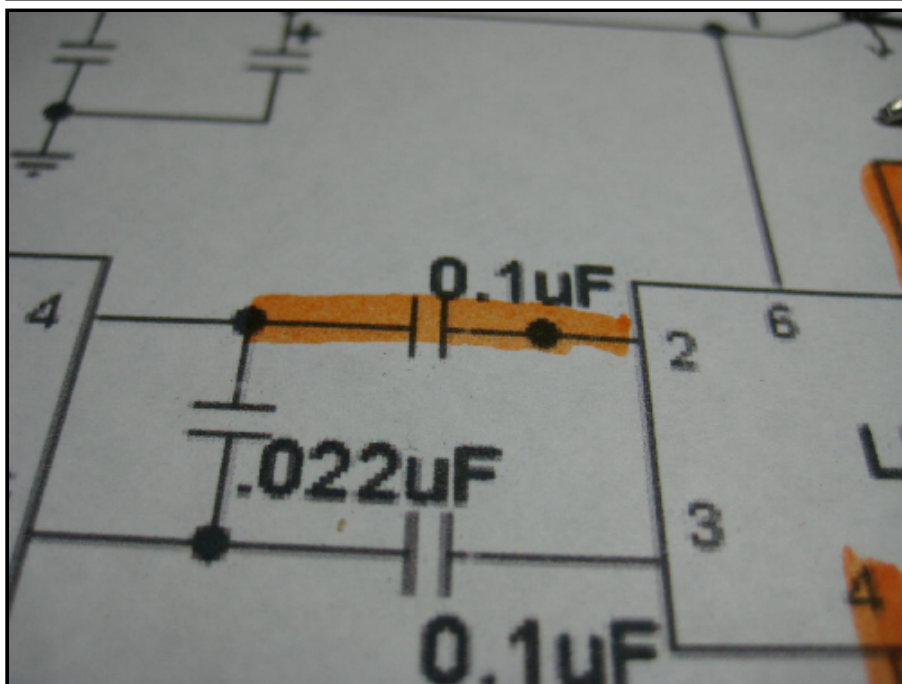
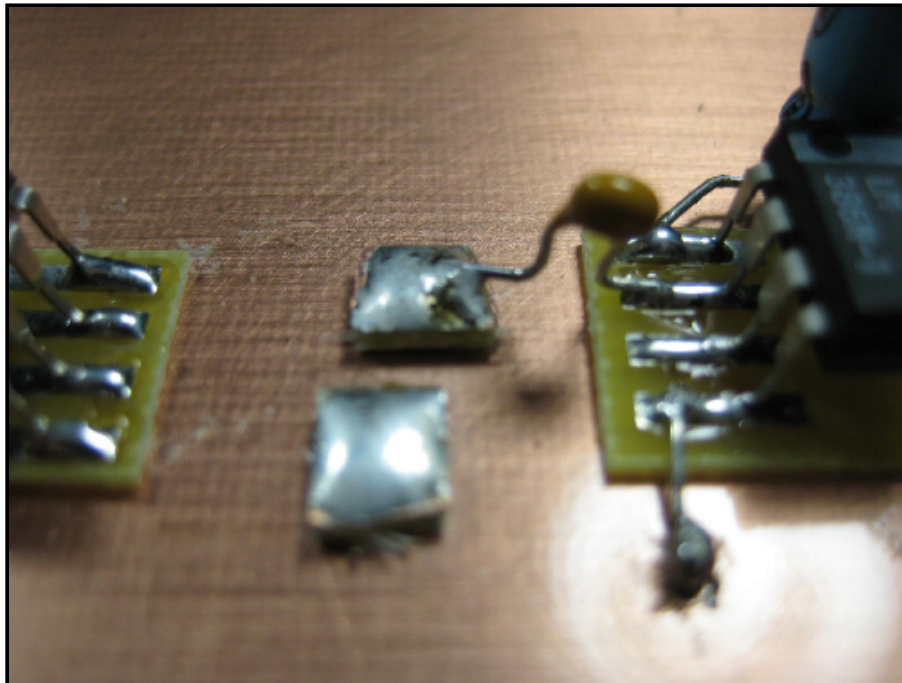


A 47uf electrolytic capacitor connects pin 5 of LM386-n to headphone jack

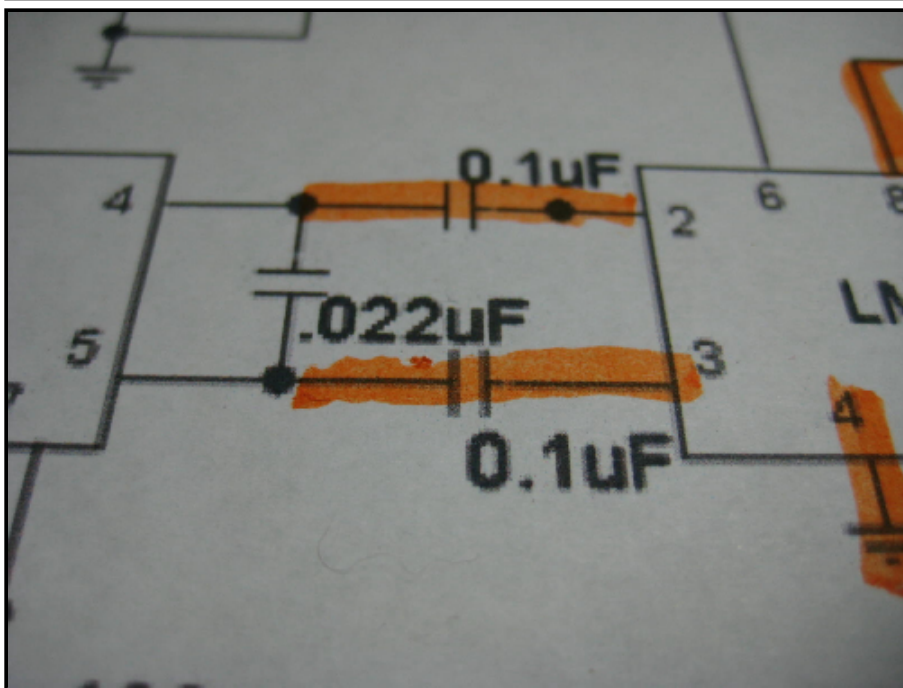
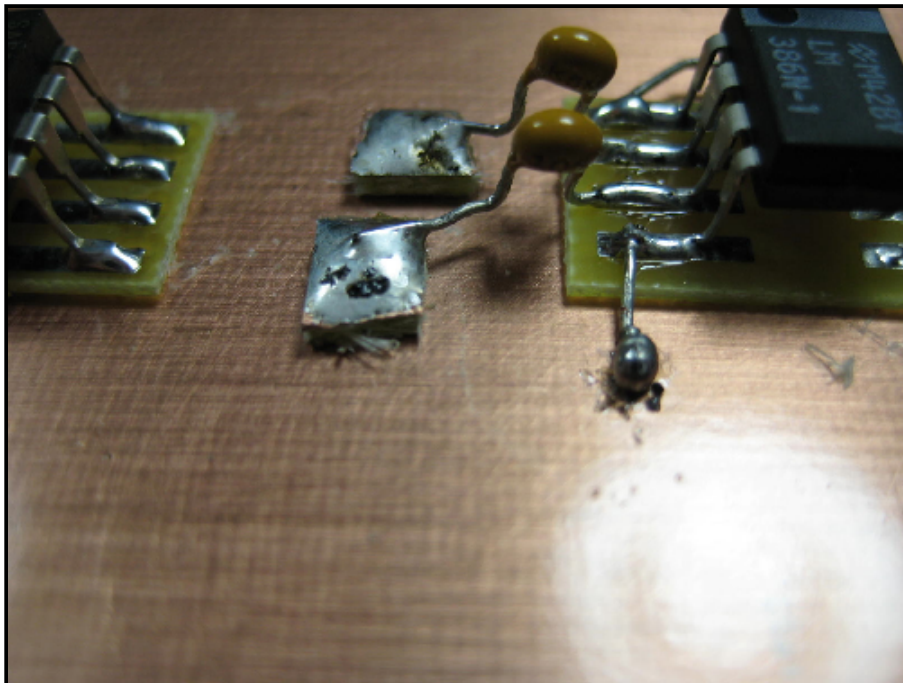




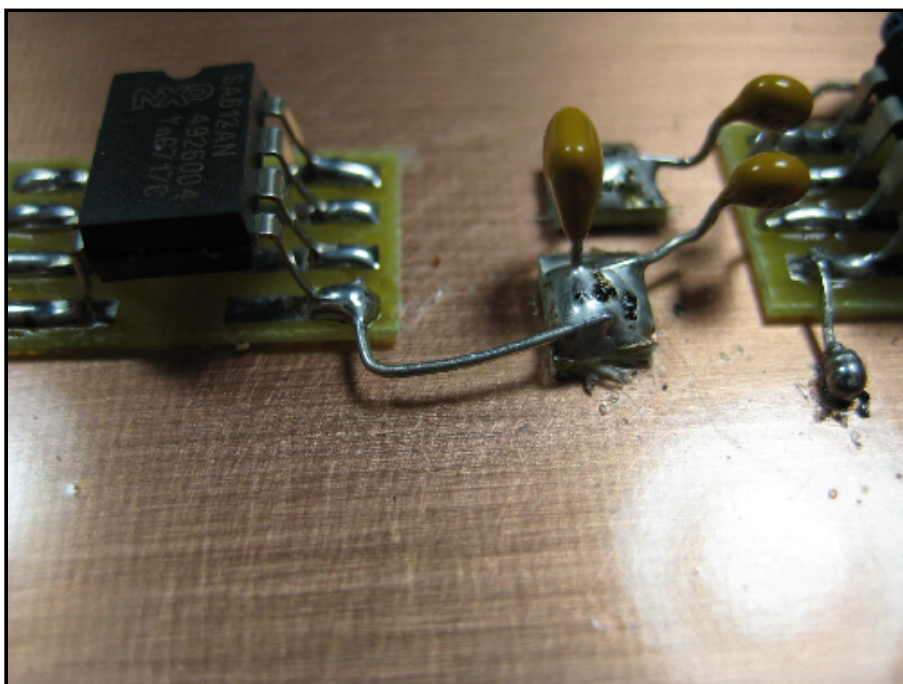
Pin 4 of LM386-n goes to ground.

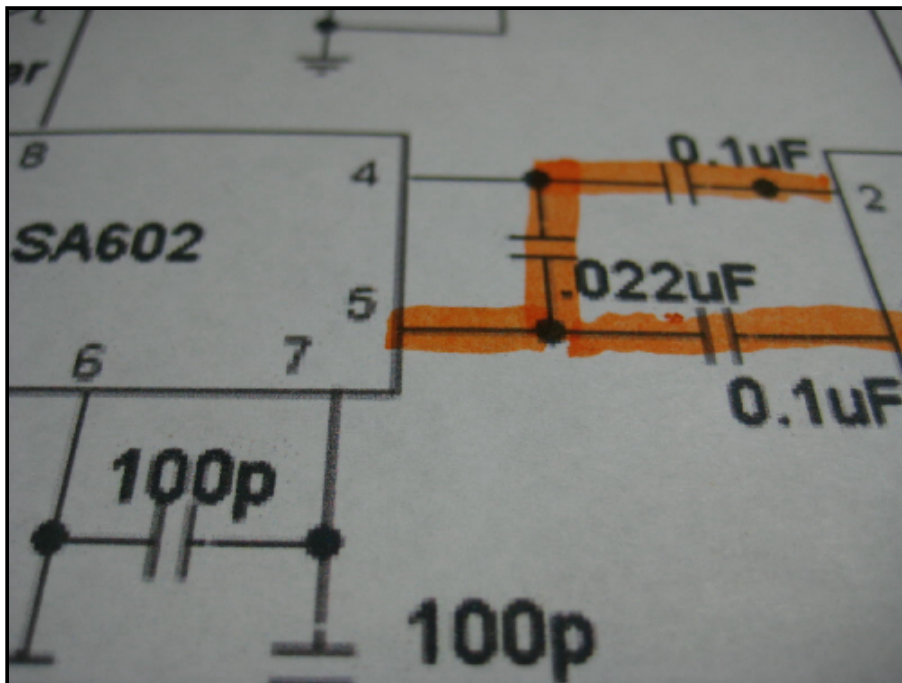


A 0.1uf capacitor for pin 2 of LM386-n.

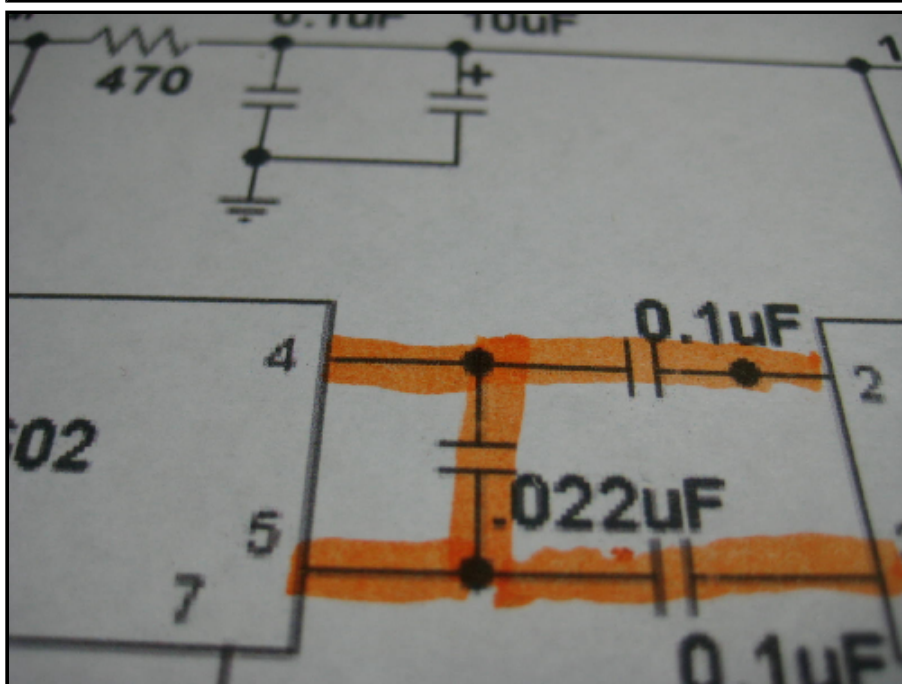
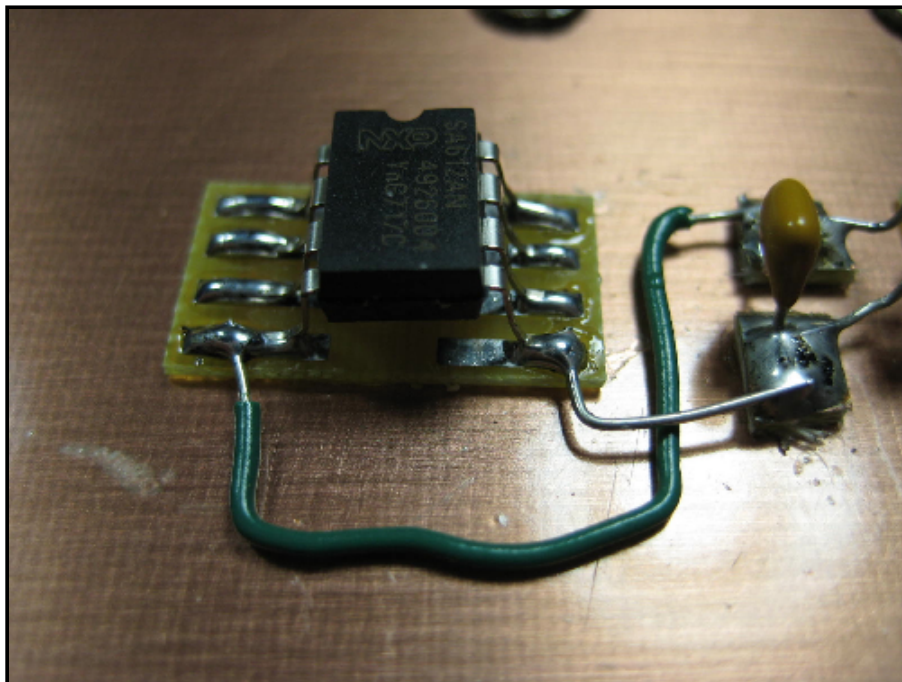


A 0.1uf capacitor for pin 3 of LM386-n also.

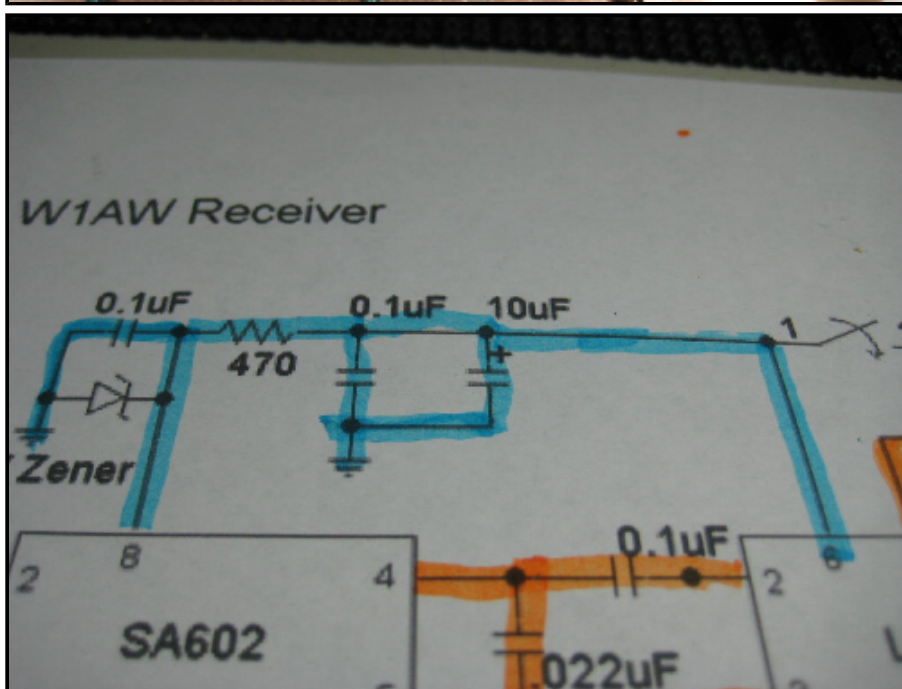
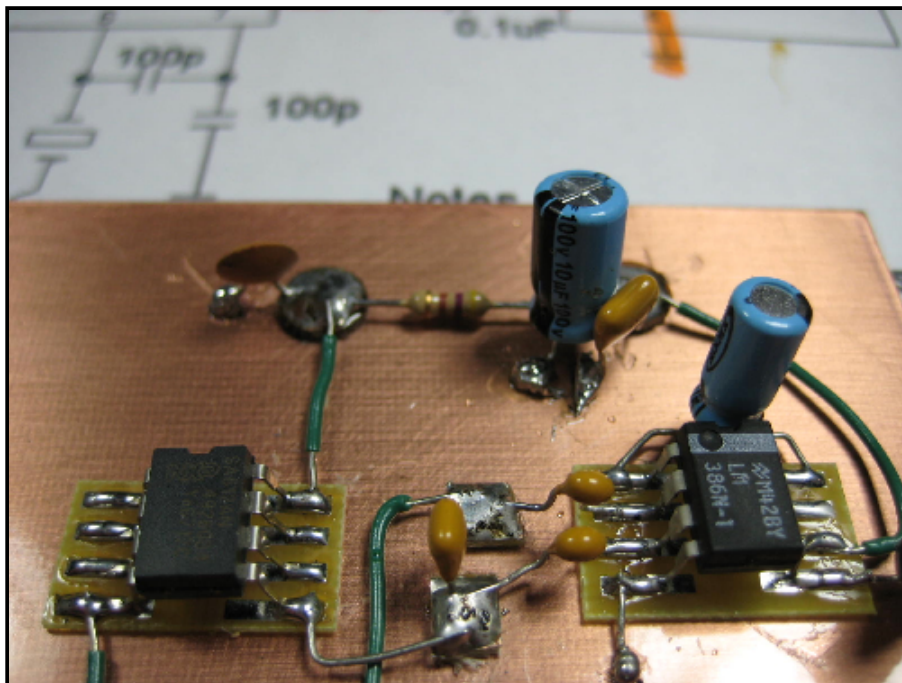




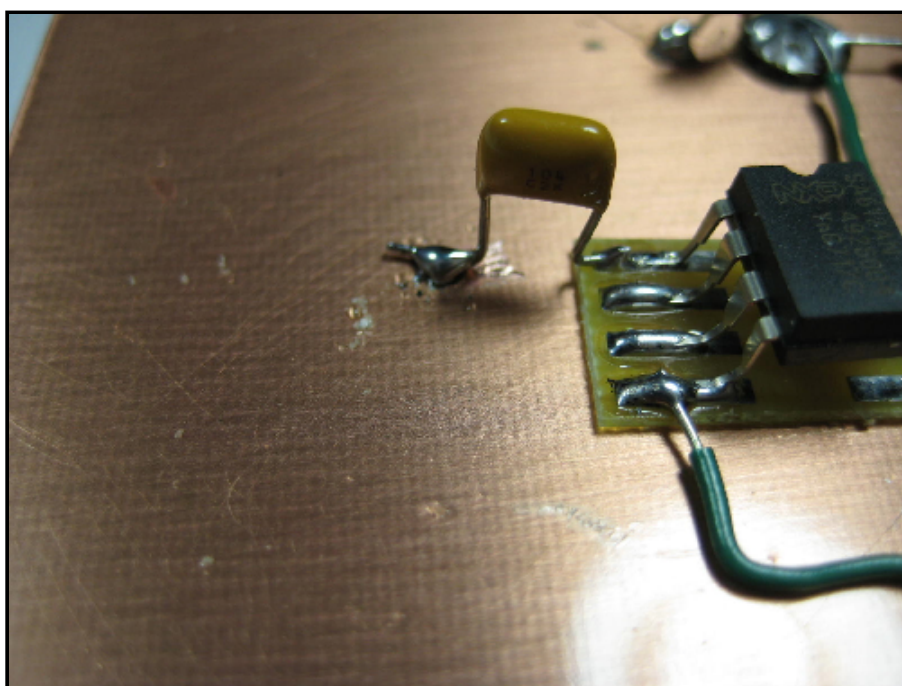
Now we'll tie them together with a 0.022uf capacitor then to pin 5 of the SA602.

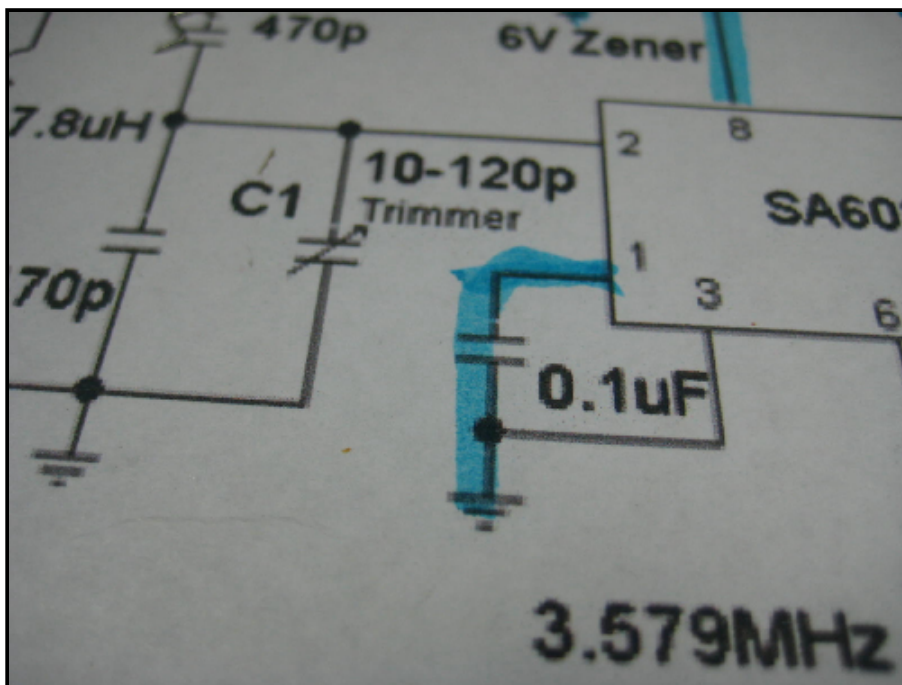


and to pin 4 of the SA602.

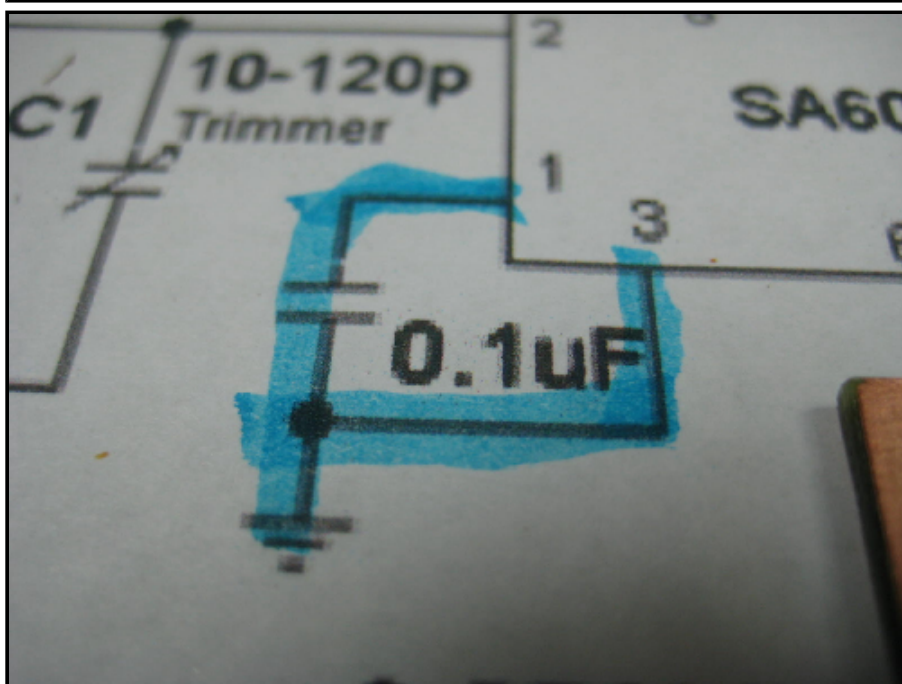
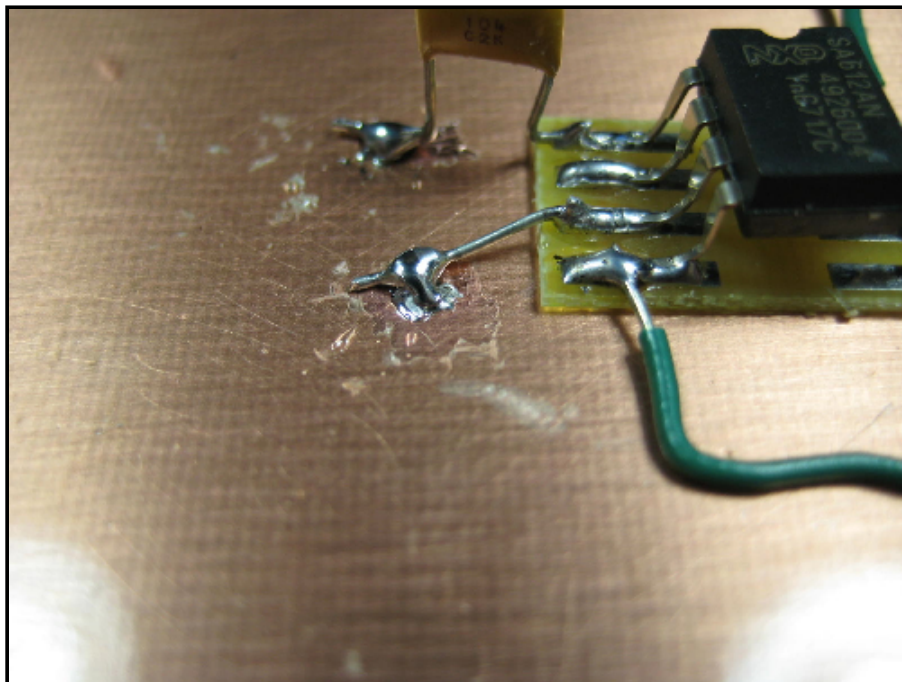


Here to B+ voltage is applied to pin 6 of LM386-nand pin 8 of the SA602.

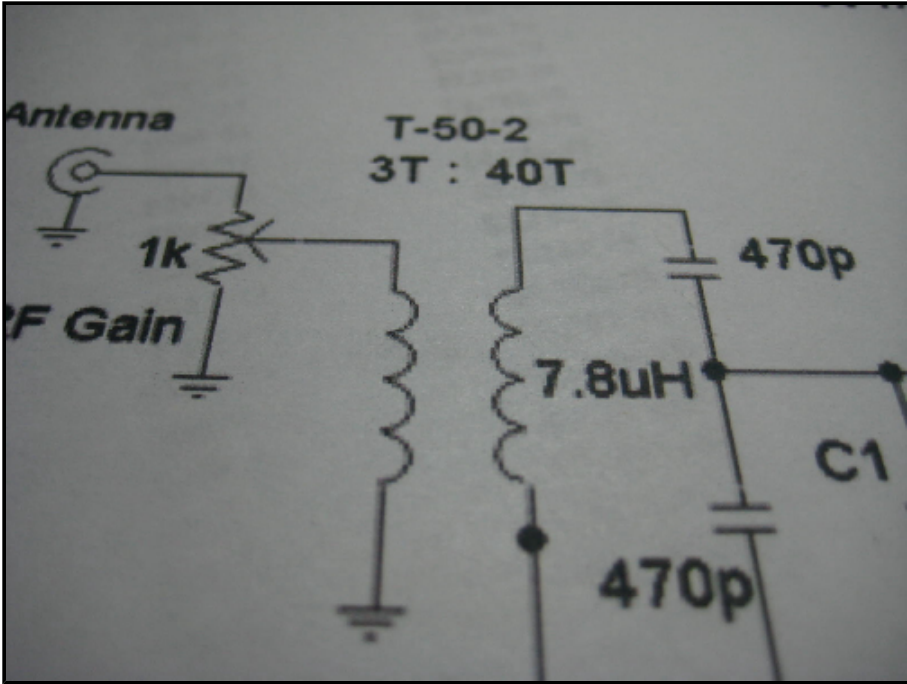
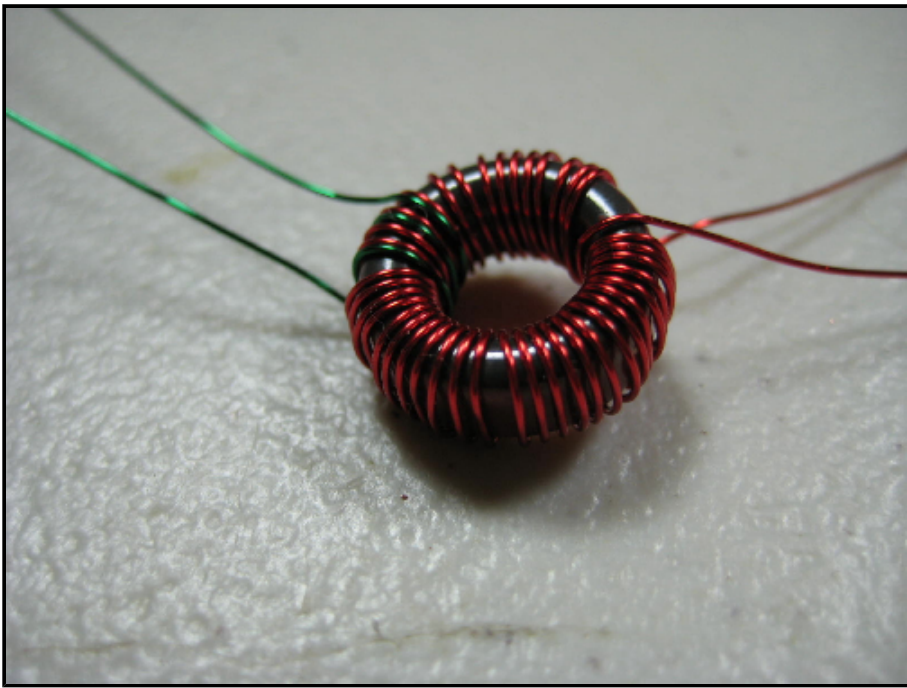




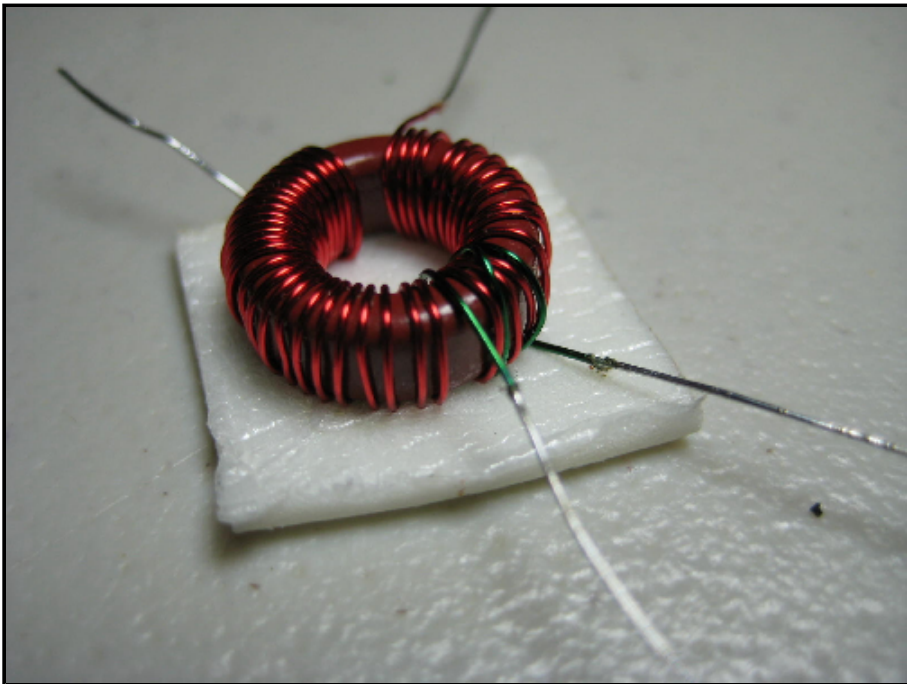
A 0.1uf capacitor for pin 1 of the SA602 going to ground.

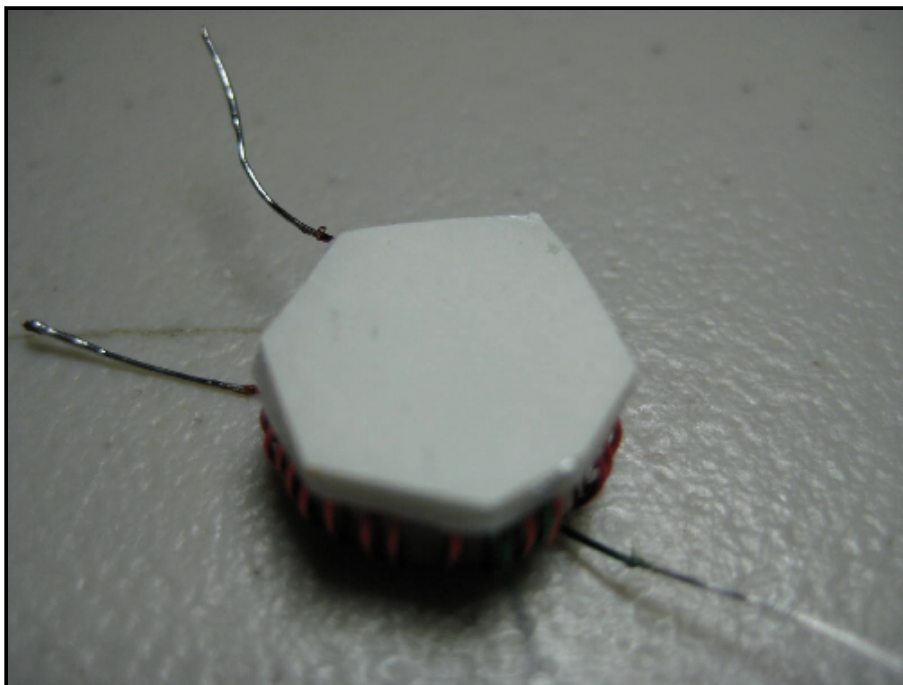


While pin 3 is tied to ground.

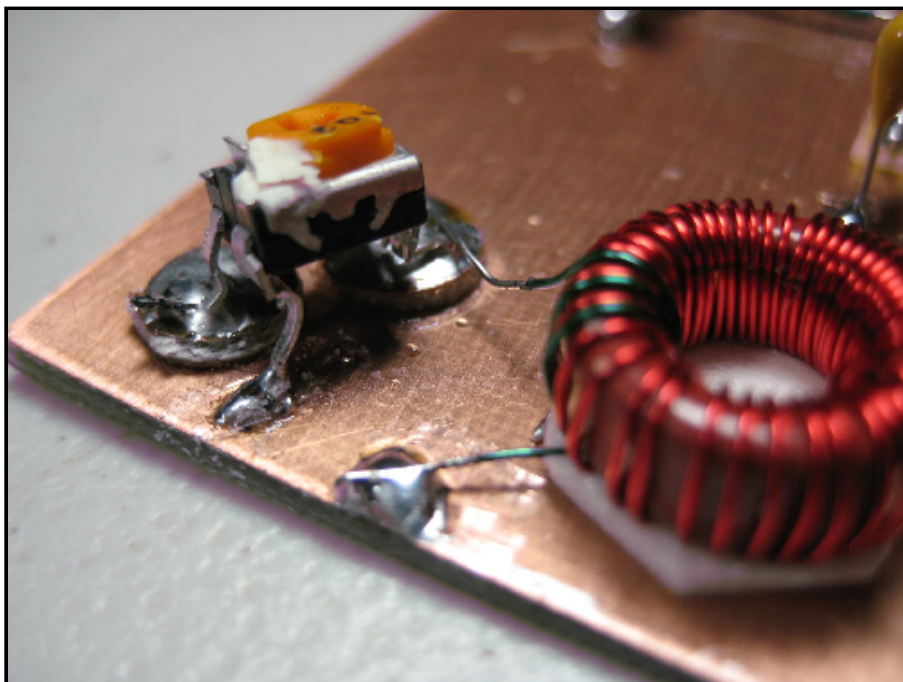
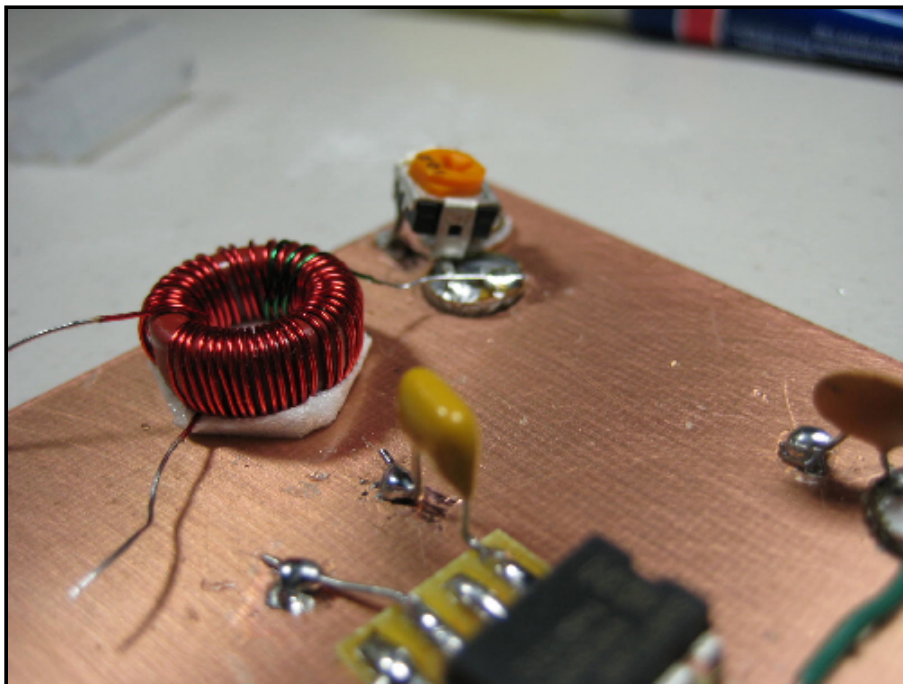


Wound the antenna 3:40 input toroid transformer on a T50-2 toroid core.

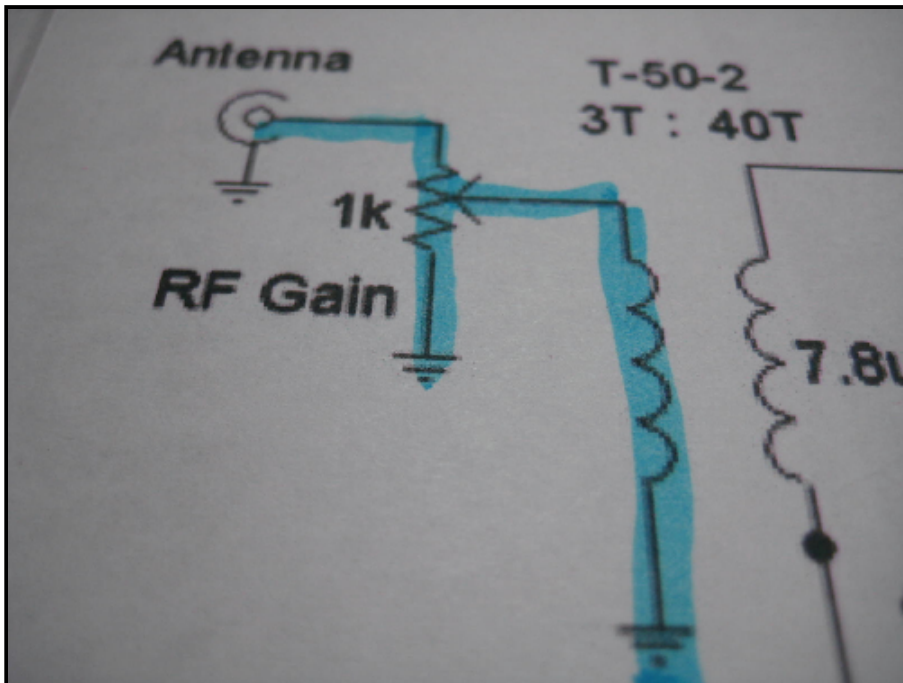
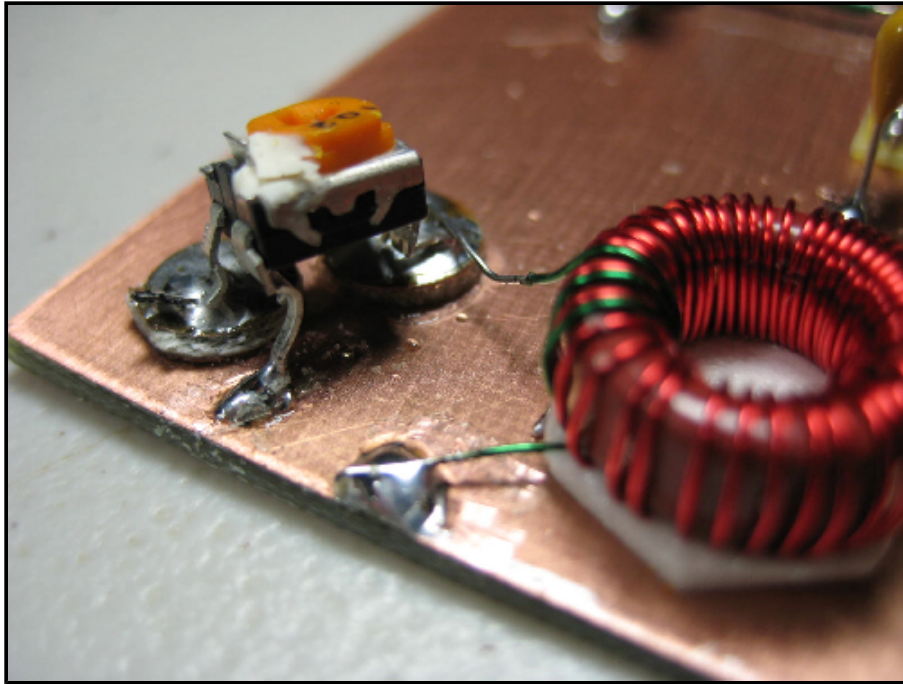




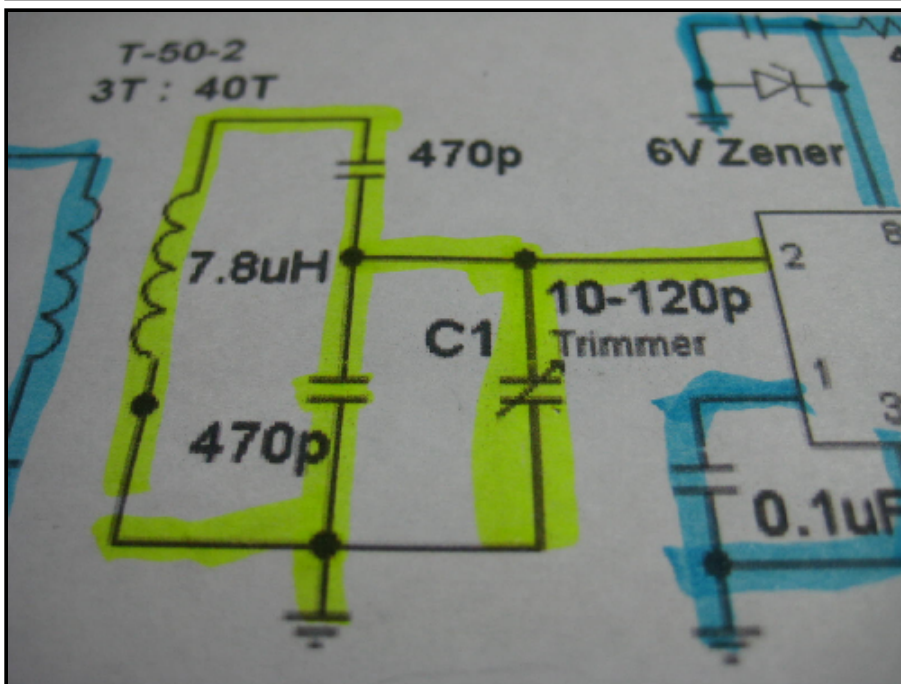
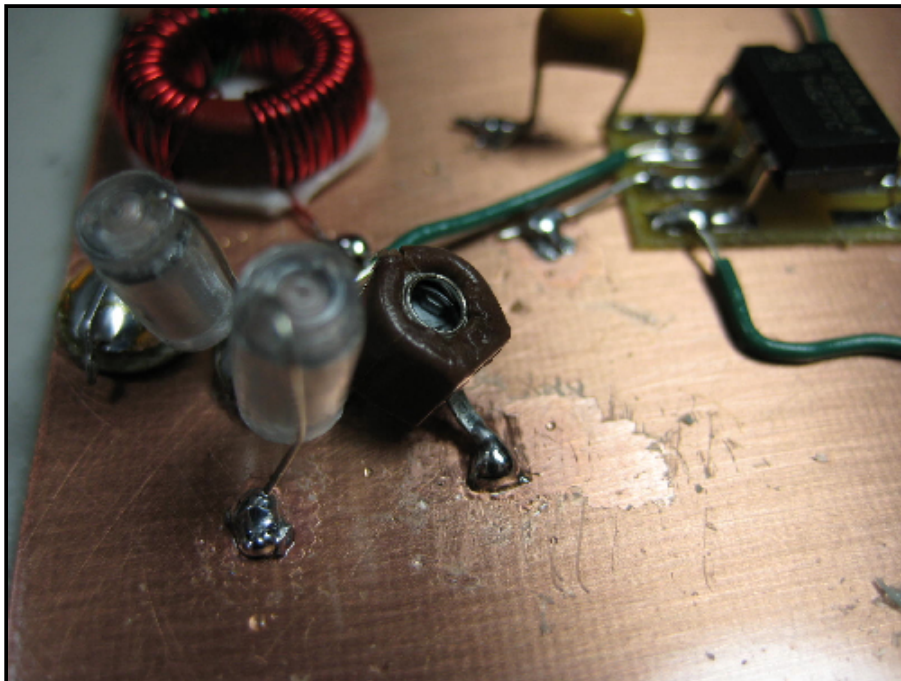
Here's a little trick I picked up somewhere. Mount the toroid on foam double sided stick tape then trim the excess.



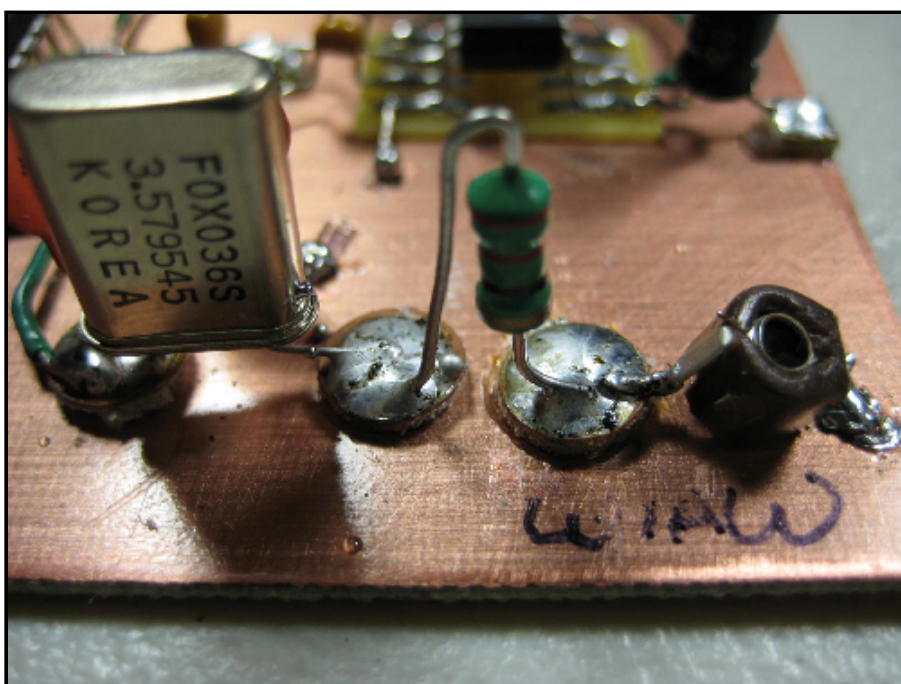
It holds everything nicely in place without "springs"

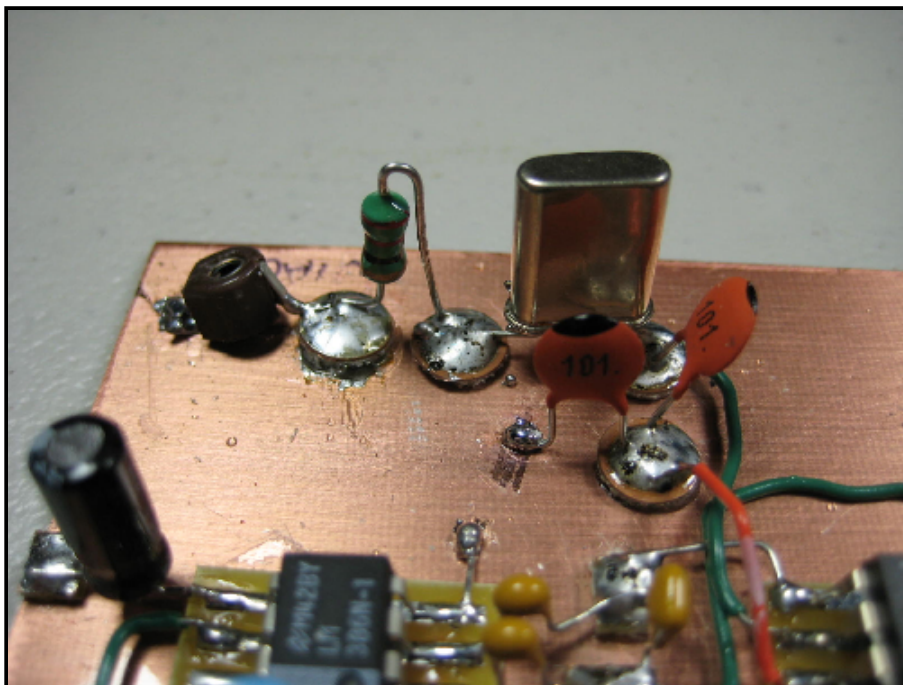


Antenna input side of the transformer is complete

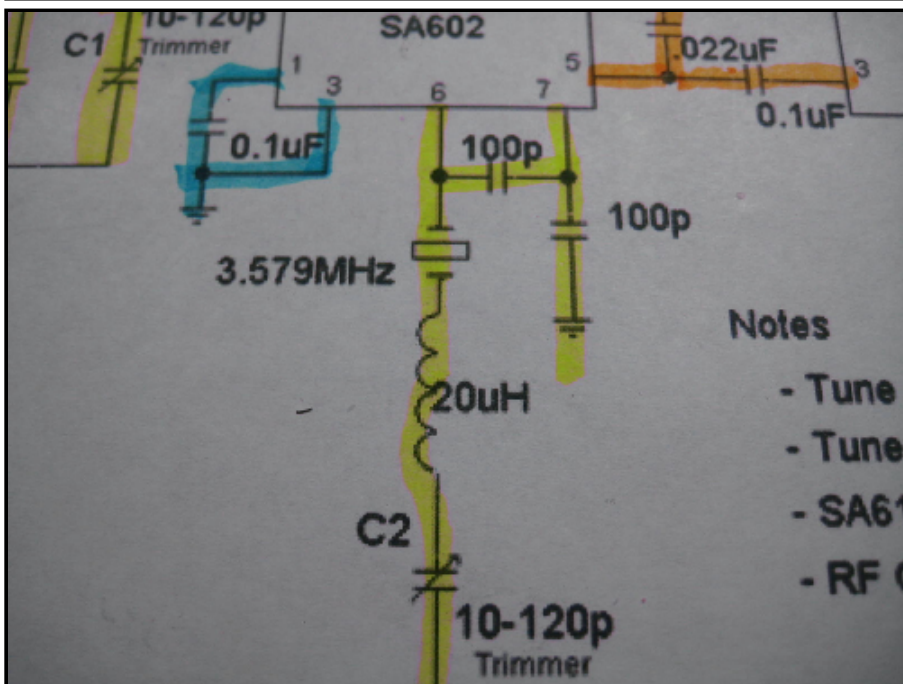


Now the other side of the toroid transformer to pin 2 of the SA602 mixer.

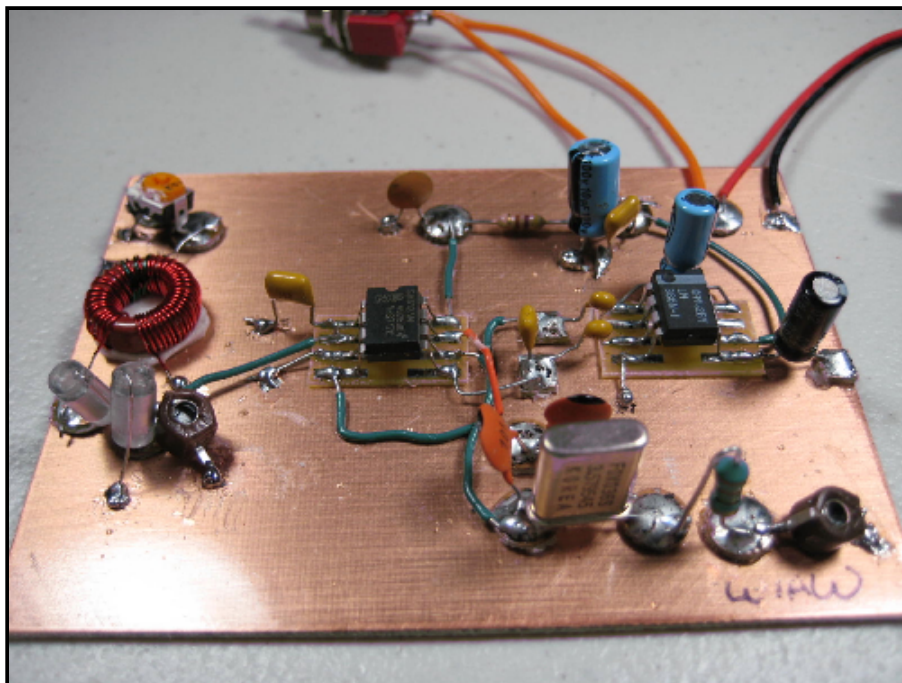




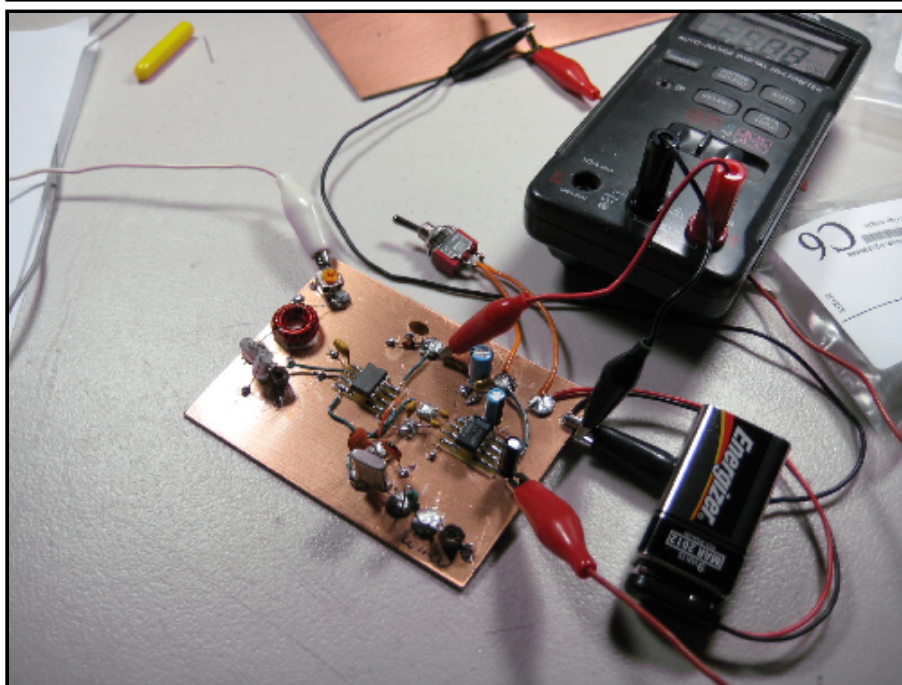
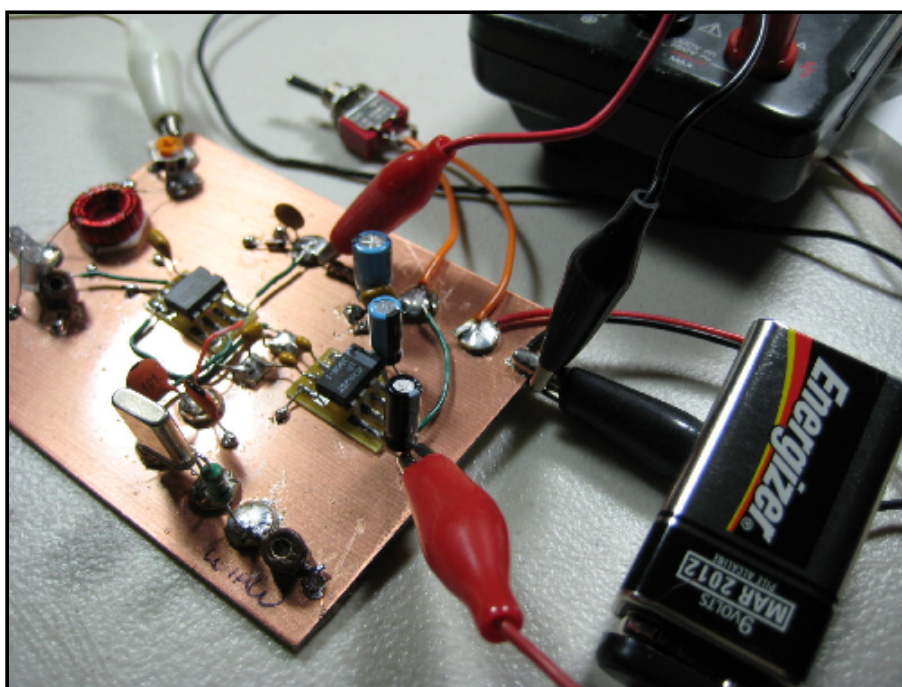
The crystal frequency is needed on pins 6 & 7 of the SA602 mixer.



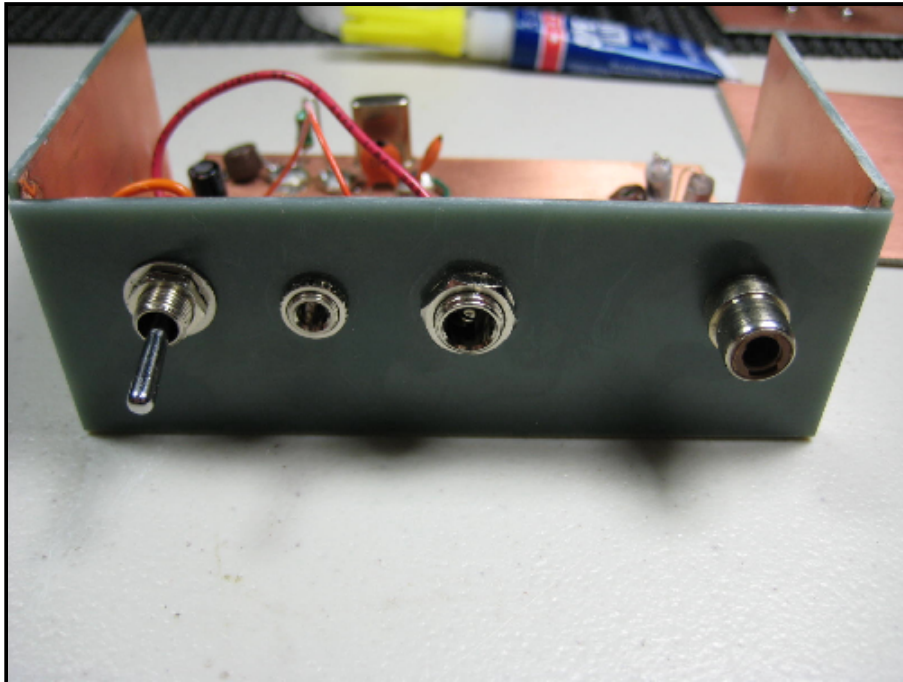
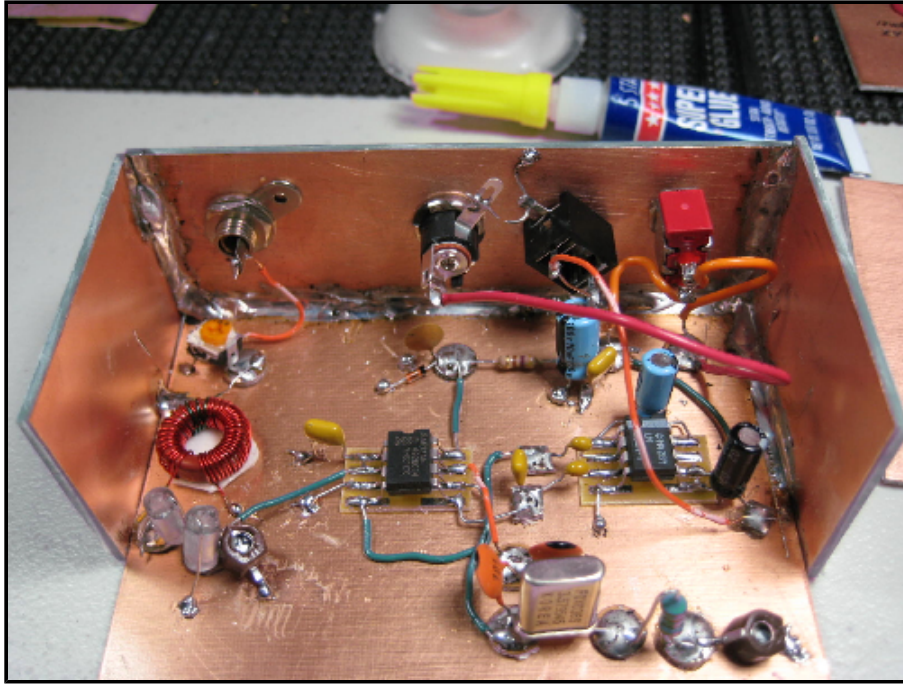
The completed "W1AW" receiver. The "Smoke" test will be done tomorrow.



**What Ham can resist wiring up a completed project with clip leads for a smoke test?
So power was applied and voltage was checked and it is correct and No smoke was released.**



**R1 peaked for maximum signal as were the trimmer caps. Outstanding!
I can hear the receiver's oscillator in my "K2" right where it is supposed to be.
When I pushed the "K2" tune function. I thought the receiver was going to crawl off the bench**



A little case to hold it all. power switch, headphones, power jack and antenna

~ ~ ~

NOW! For a QRPp Transmitter?