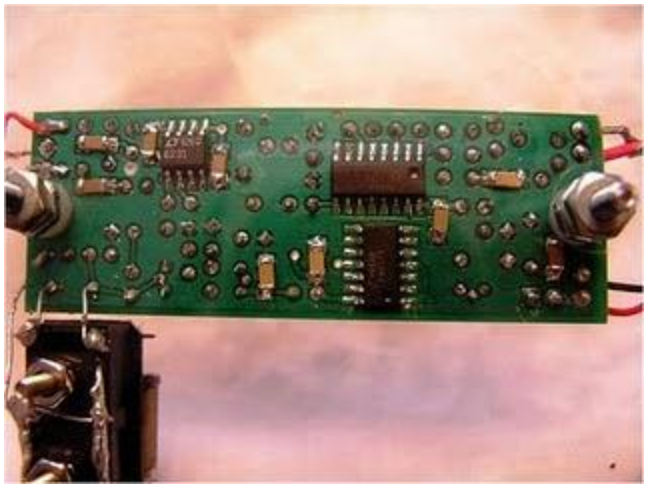
Building my Soft Rock 20M Lite II

I mounted the PCB on a piece of Plexiglas because I keep breaking the leads and it is hard to solder them back without damaging something. I broke the leads on my crystal (it was a plastic IC) during testing. Just too much handling. My solution to the crystal mechanical support was to add a 16 Pin IC socket to hold the IC on a 16 Pin Header plug. This way I can change frequency without damage. If you are not planning on changing frequency epoxy would work.

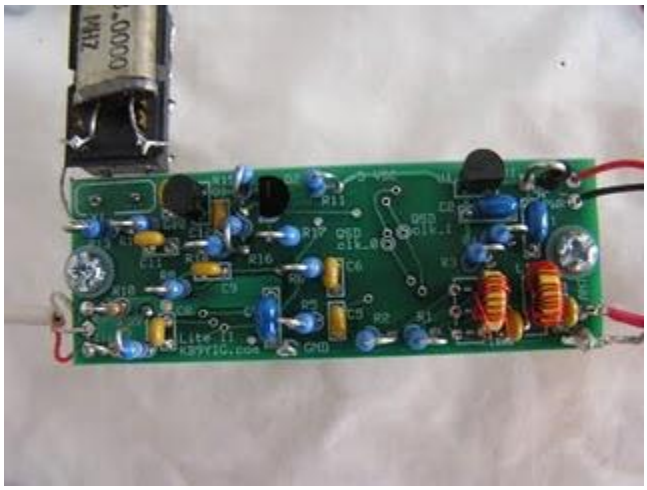
Side view of Xtal Socket

You may wish to bring the I and Q out to terminals. This would make reversing I & Q less painful. Power SDR requires correct I & Q for the frequency to be correct. Rocky has a setup to reverse the I & Q and this is not an issue.
If I was going to make another Soft Rock I would mount all the SMTs first before doing anything. With the PCB flat it would be easier. If you use an oven to reflow the SMTs all go on at the same time.To solder with an iron you will need a sharp pointed tip, just like a #2 pencil tip. Fat tips will drive you nuts with bridging between leads.



Soft Rock 20M Lite II (bottom)
Actual Size ~ 1 X 3 Inches

I had the best results by put the string solder over the top of the IC lead (pointing out just like the IC lead) and place the iron tip at the end of the IC lead (pointing directly into the IC lead). Touch the string solder to the iron tip just as the tip contacts the lead, meter the “right” amount of solder (very little) as you pull the iron away from the IC. The solder will flow up without bridging, when you pull the iron away the excess solder will stay with the iron.
The voltage and current in the test steps agreed with the instructions in every case except the mixer test. On U3 I had 2.66 V on pins 2 &14 instead of the 2.5 V listed. This is 4.6 MHz on both pins not DC so it could be my DVM.



Soft Rock 20M Lite II (top)

You can put the string solder perpendicular to the IC lead (between the iron and IC lead) and push the iron tip (almost perpendicular) into the lead walking the tip up the lead leg. The solder will flow up without bridging. This is like the You Tube video.

I hope you have a can of flux cleaner, you will need it to inspect your work.

Measure the resistors with a meter the colors are hard to see, i.e. brown or red…

I found a lighted magnifier ring better than a loop or hand held magnifier.

Be careful winding L1 and T1. Measuring L1 after winding I had over 10 uH instead of the 2.5 uH specified. I checked my meter against a known inductor… the meter was good. I had to remove 5 turns to get under 3 uH, so I left it at 2.7 uH. I do not think I wound 35 turns.. OK maybe 32, but not 5 over. I was extra careful on T1, but at 8 and 4 turns it is easy to count.