

## Random building thoughts for the Lil' Squall Kit

Please read before building the kit....

The Lil' Squall was designed to be more than just another version of the quintessential Pixie 2 transceiver. Many Pixies are built, used briefly, and then relegated to the drawer, shelf or junkie bin. The additions made in the Lil' Squall circuit allow it to be used as a platform for experimenting. Notably: placing all the low pass filter components on an easily pluggable module and several components are in sockets to either experiment with their values or to facilitate changing bands. You should find enough machined socket pins for installing sockets for the following parts: crystal, 82pf cap from crystal to ground (@ .001 - see text below), both 100pf oscillator feedback caps, and final transistor Q2.

There was an error in the W1FB circuit as published in *Sprat*, the GQRP Club quarterly magazine. The .001uf and Ct crystal bending caps were mislabeled... and show up on the Lil' Squall also mislabeled. So install the receive frequency trim cap (82pf) in the .001 location and the .001uf cap in the C-T location.

There are a few additional parts included in the kit that don't show up on the silk screen. You might say that they are errors and omissions on the circuit design. I prefer to call them an opportunity to learn about circuit

modifications right from the get-go! They were not on the original W1FB design that I based the Lil' Squall on but enhancements that we added as we debugged the building and operation of the first samples from the production circuit board. I use the RCA connectors for power as they work nicely with my Tuna Power System kit. RCA cables are readily available and are polarized. Others prefer the 2 screw terminal connector for their power connections as they allow hosing up the power in all sorts of ways...unfortunatally, one of them is connecting power up backwards. So you might want to ad a polarity diode in the + power lead to prevent damage to the kit if you should happen to connect up the power backwards. It is pretty easy, simply cut the + trace (lower hole) that comes off the power jack and solder in the 1N5818 diode between the + terminal of the jack and the 'top' pad for the 33K resistor right next to it. Do this mod on the bottom side of the board.

Two additional .1uf caps are included to help reduce the rf floating around in a couple of places. On the backside of the board, solder one .1uf cap across the power input pads to reduce rf coming from & going to the power supply. A second .1uf cap should be soldered from the collector of Q2 to ground. A picture is included in the documentation section or folder to show how and where these caps can be easily added.

I accidentally 'turned around' the low pass filter module when I laid out the board. If you look at the pcb traces, the rf input is on the right side of the filter module and the output is on the left side. Not a 'real' problem as the filter is symmetrical so it simply means the designators for the parts are 'different'. If you should happen to want to use the filter elsewhere, like on a little solderless breadboard project, just remember the proper filter orientation. Or turn the module around so that you are looking at the solder side...then the filtration is from left to right!

Speaking of the filter board, all the traces and solder 'points' are on the side of the filter adjacent to the output transistor Q3. You should make sure that the solder side of the board does NOT come in contact with the transistor case. Hot glue a piece of insulating material to the back side of the filter board to prevent accidental shorting between the two.

Well, that is all I can think of right now; but, if you should have any additional comments or suggestions, please let me know. I welcome all ideas.

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