

QRP Home-Brew

Methods & Madness

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Home-Brew Methods

“Ugly” Construction Method

Island Cutting Method

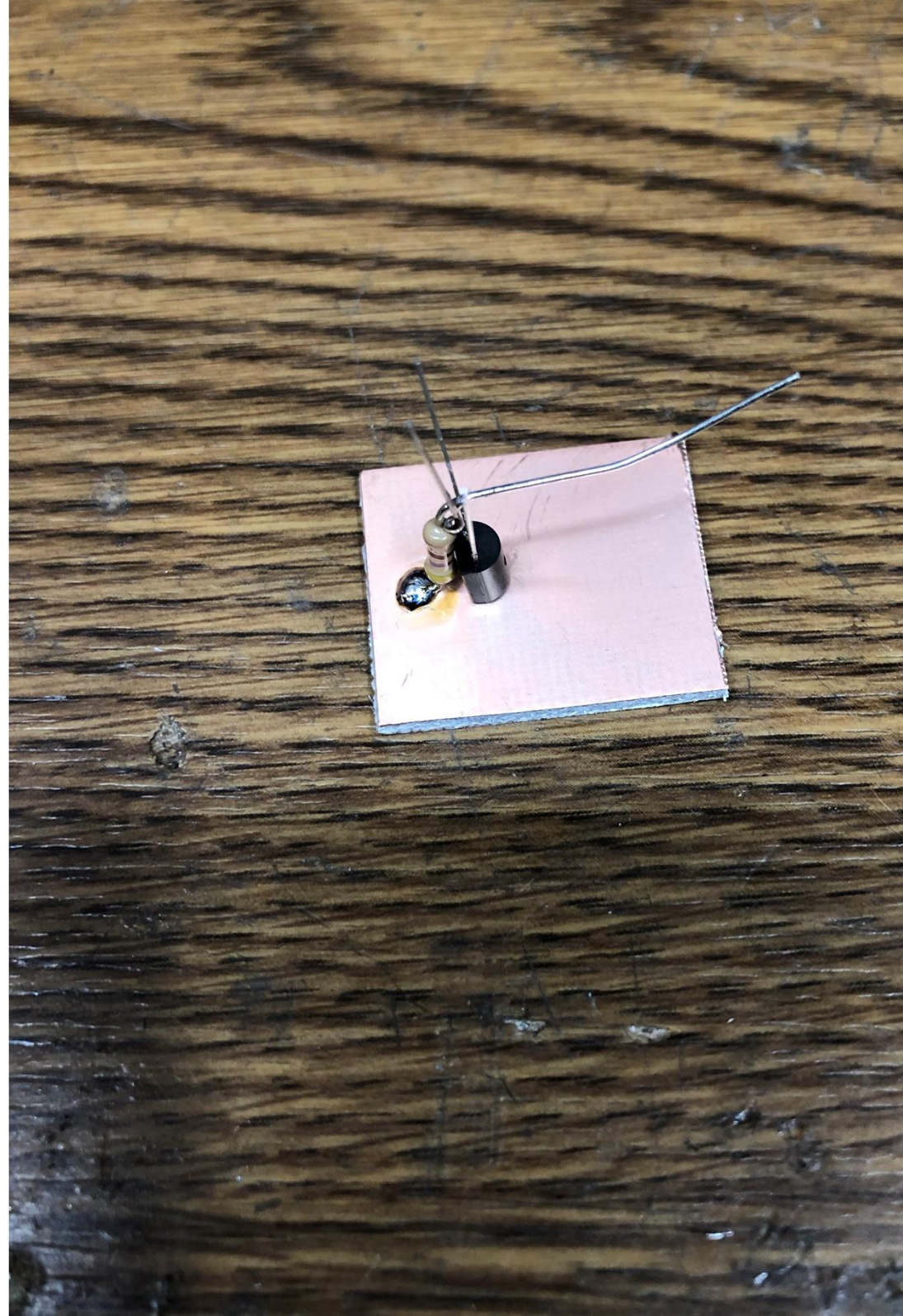
Perf Board Method

“Ugly” Construction

Transistor and Base
Bias Resistor installed

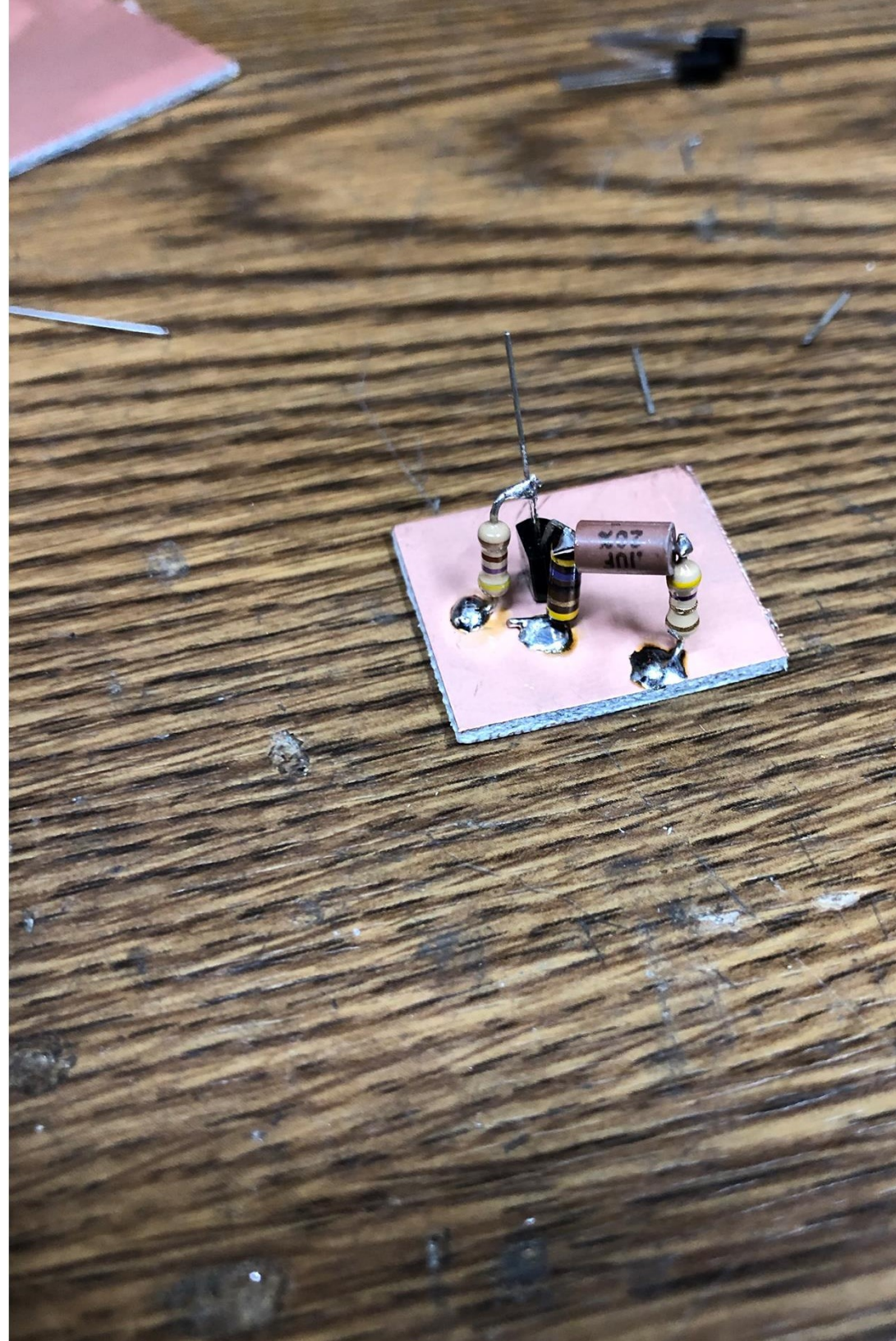
Excellent ground plane

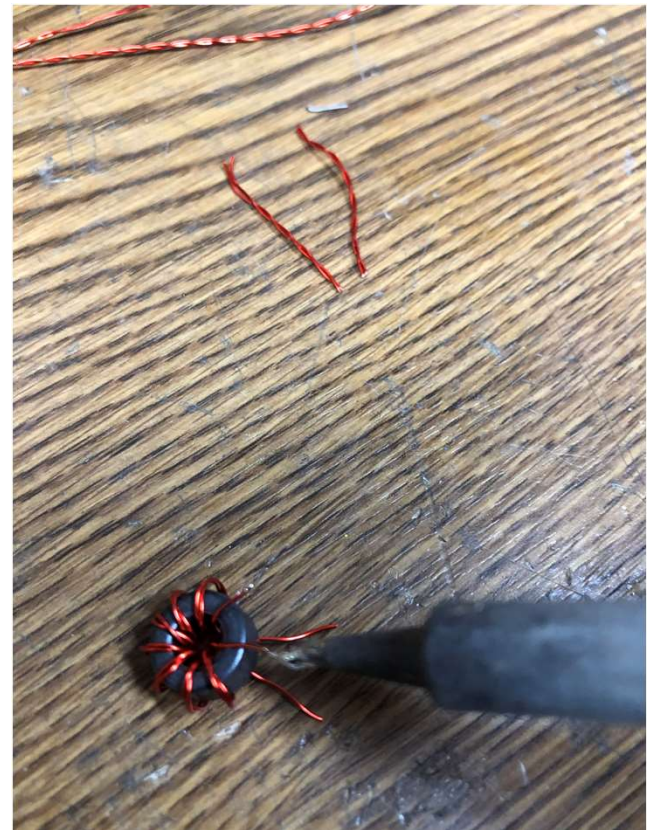
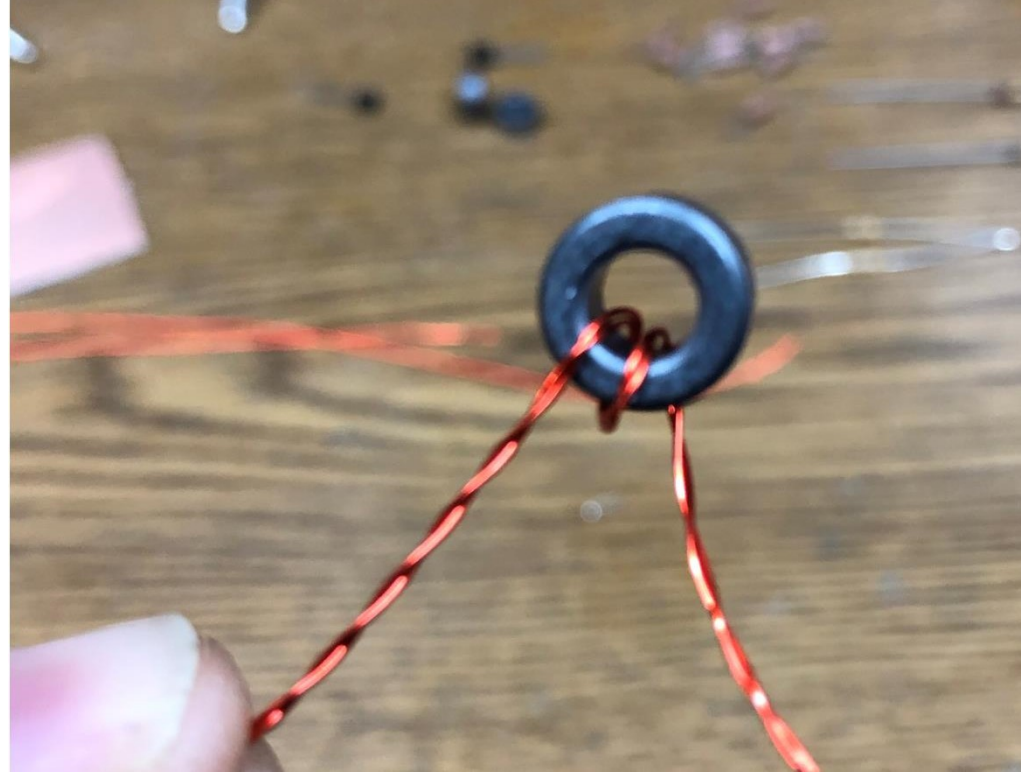
Not great looking



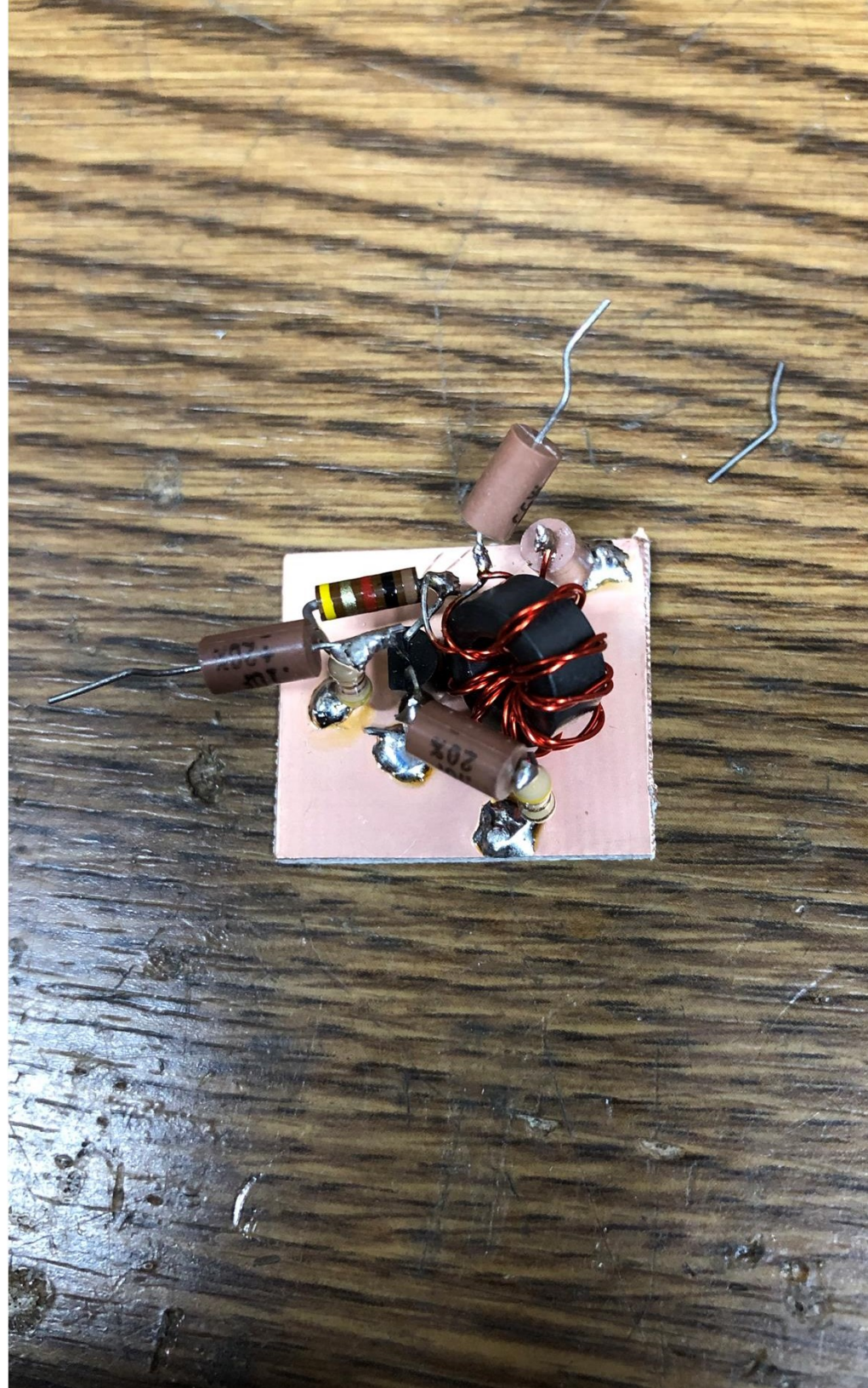
“Ugly” Construction

Emitter resistors
installed





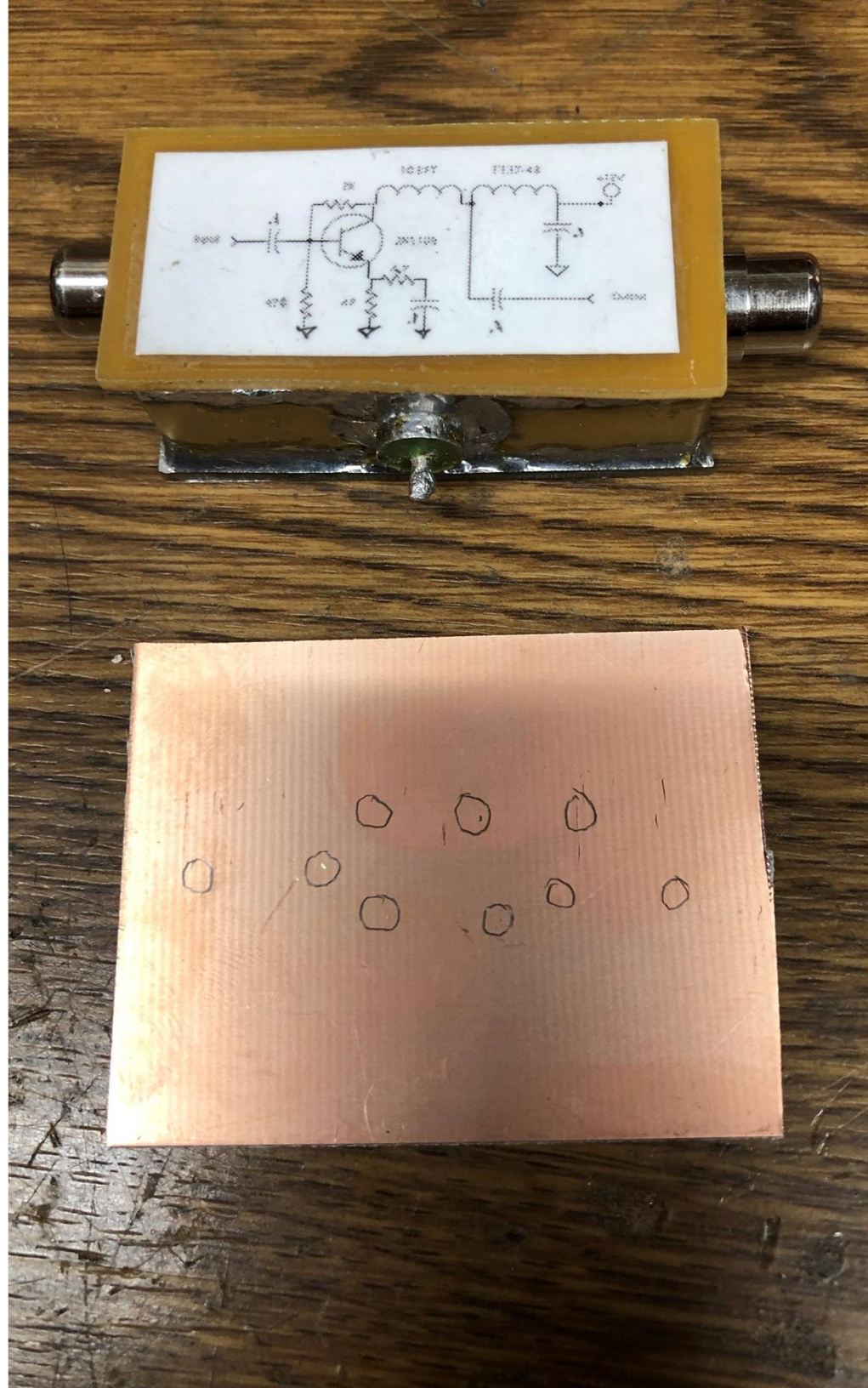
“Ugly” Construction Completed Amplifier

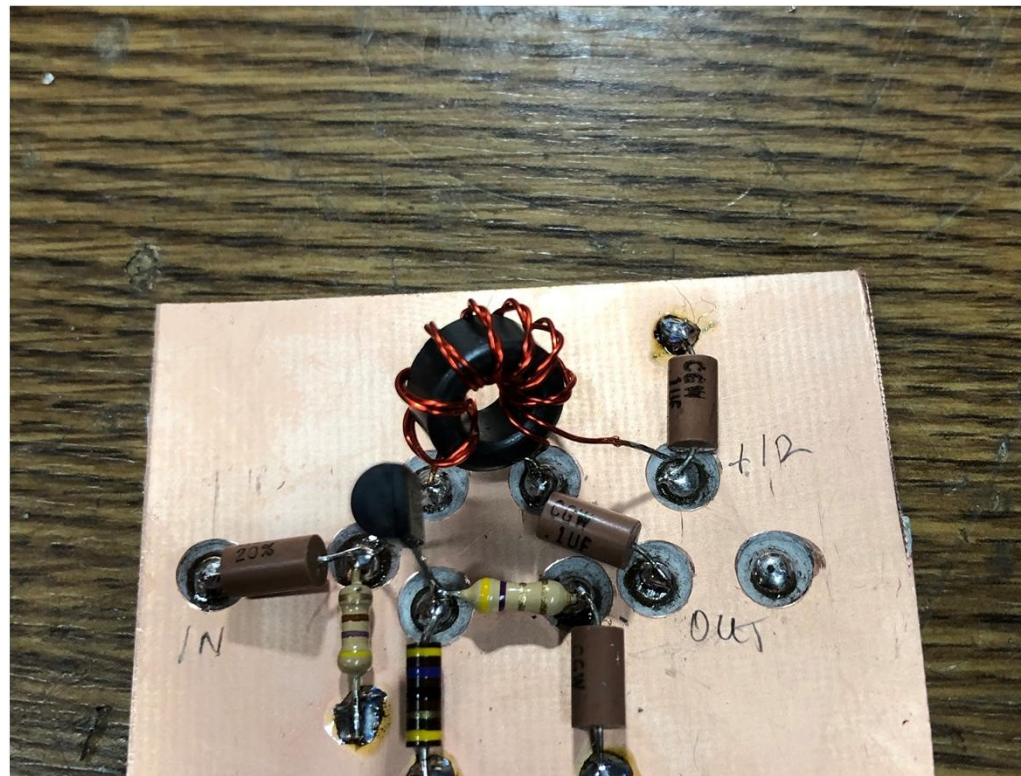
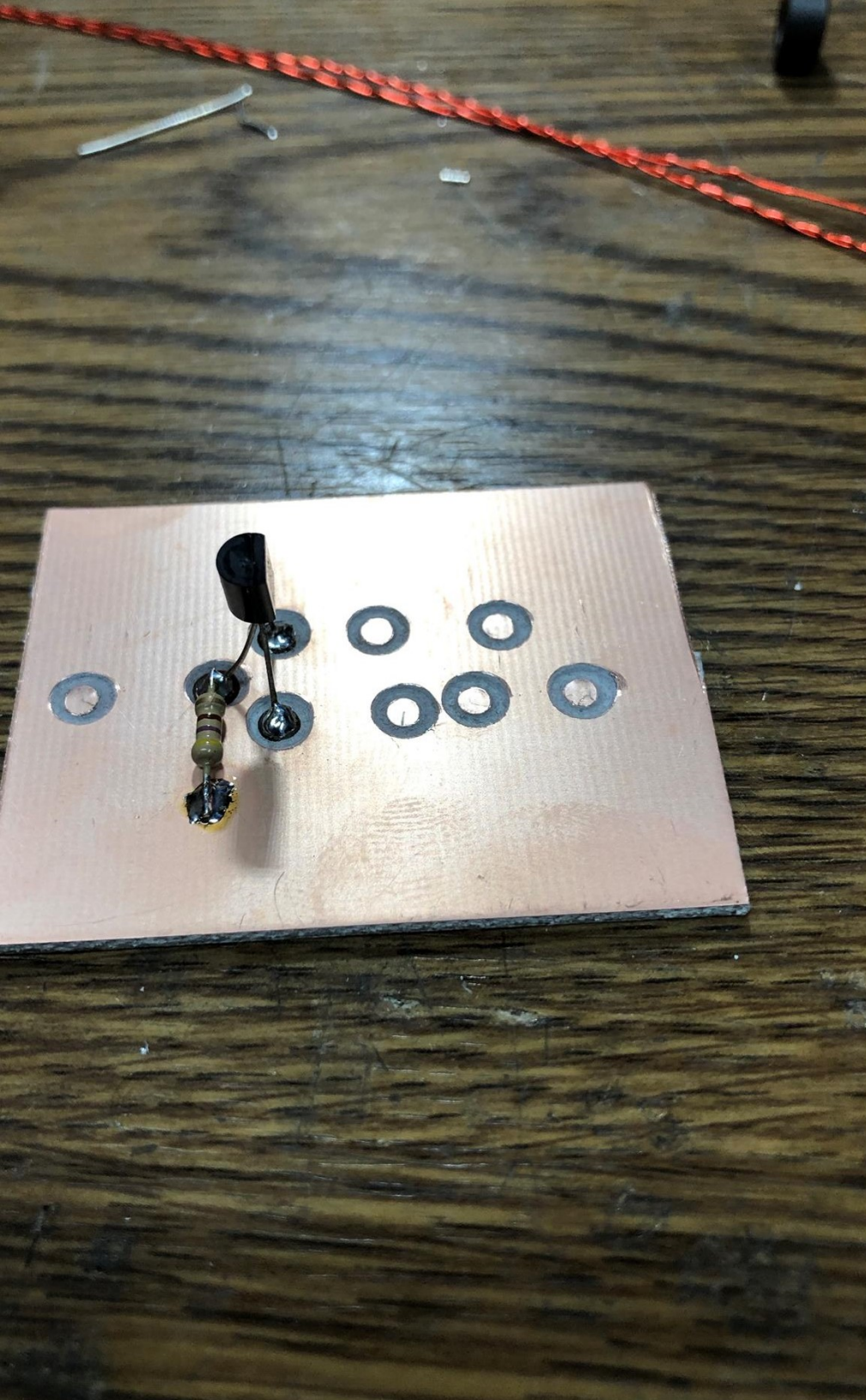


Island Cutting Method

Locate islands from schematic and part sizes, orientations, etc

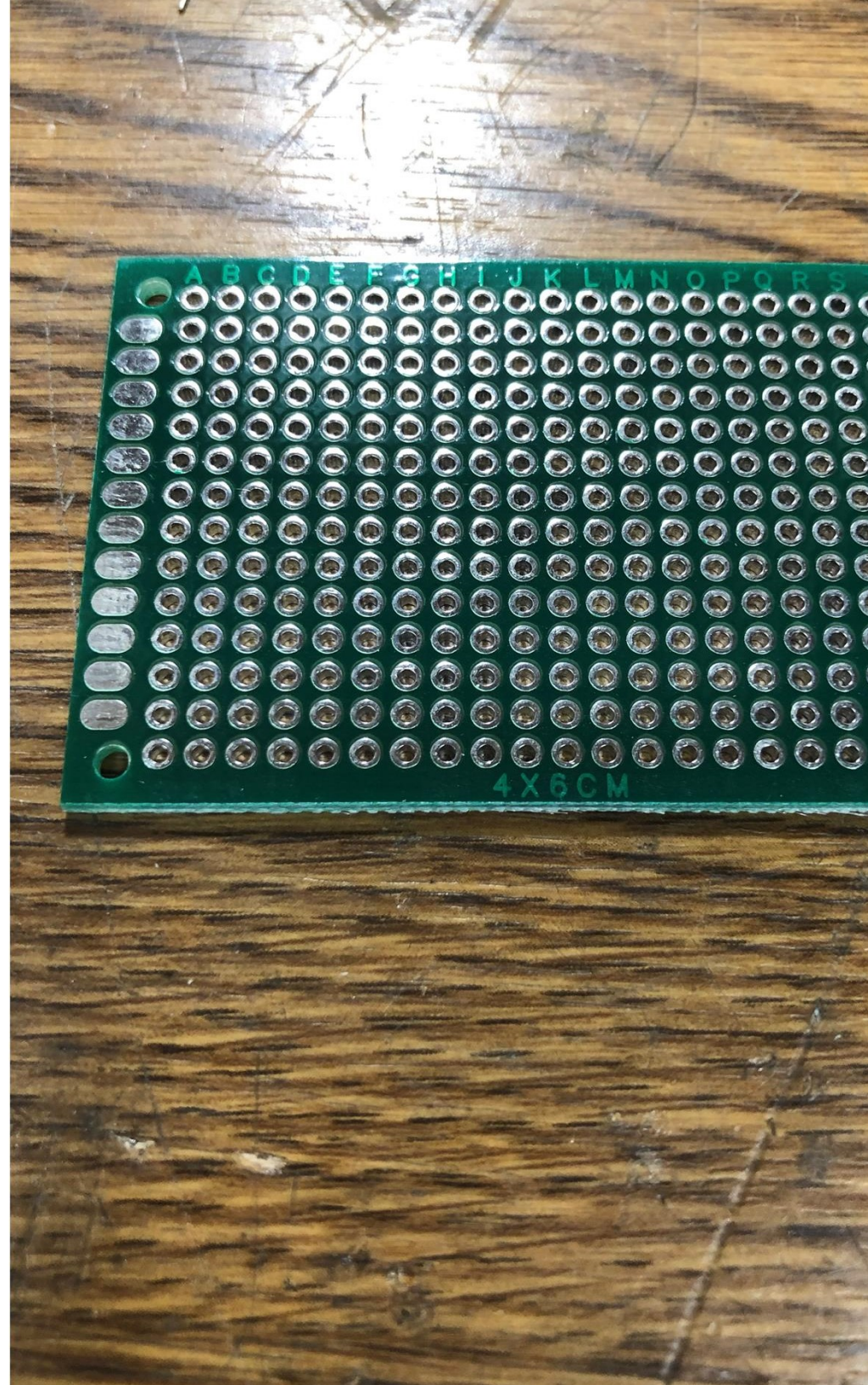
Good ground plane. Some issues with capacitance changes in RF circuits

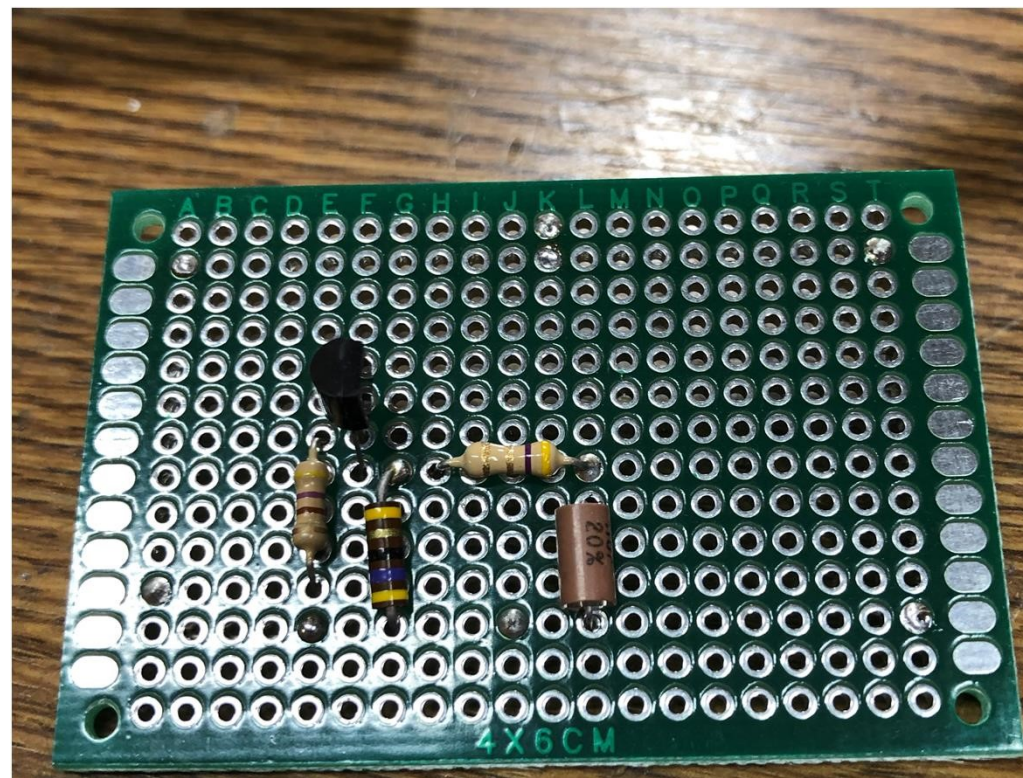
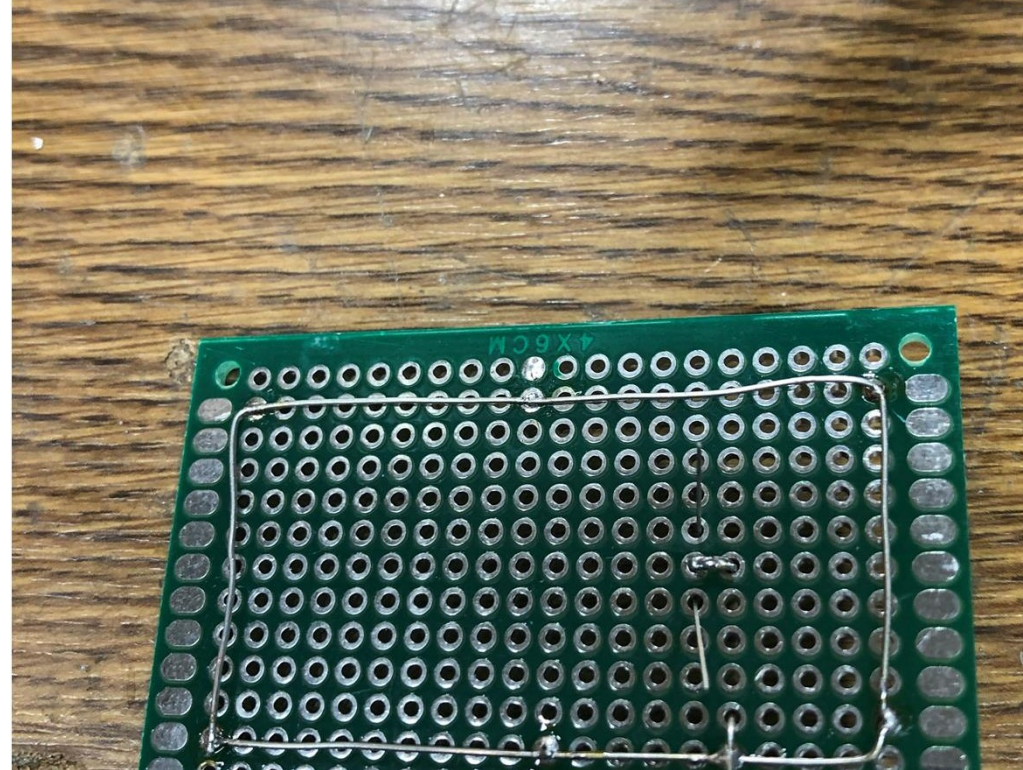
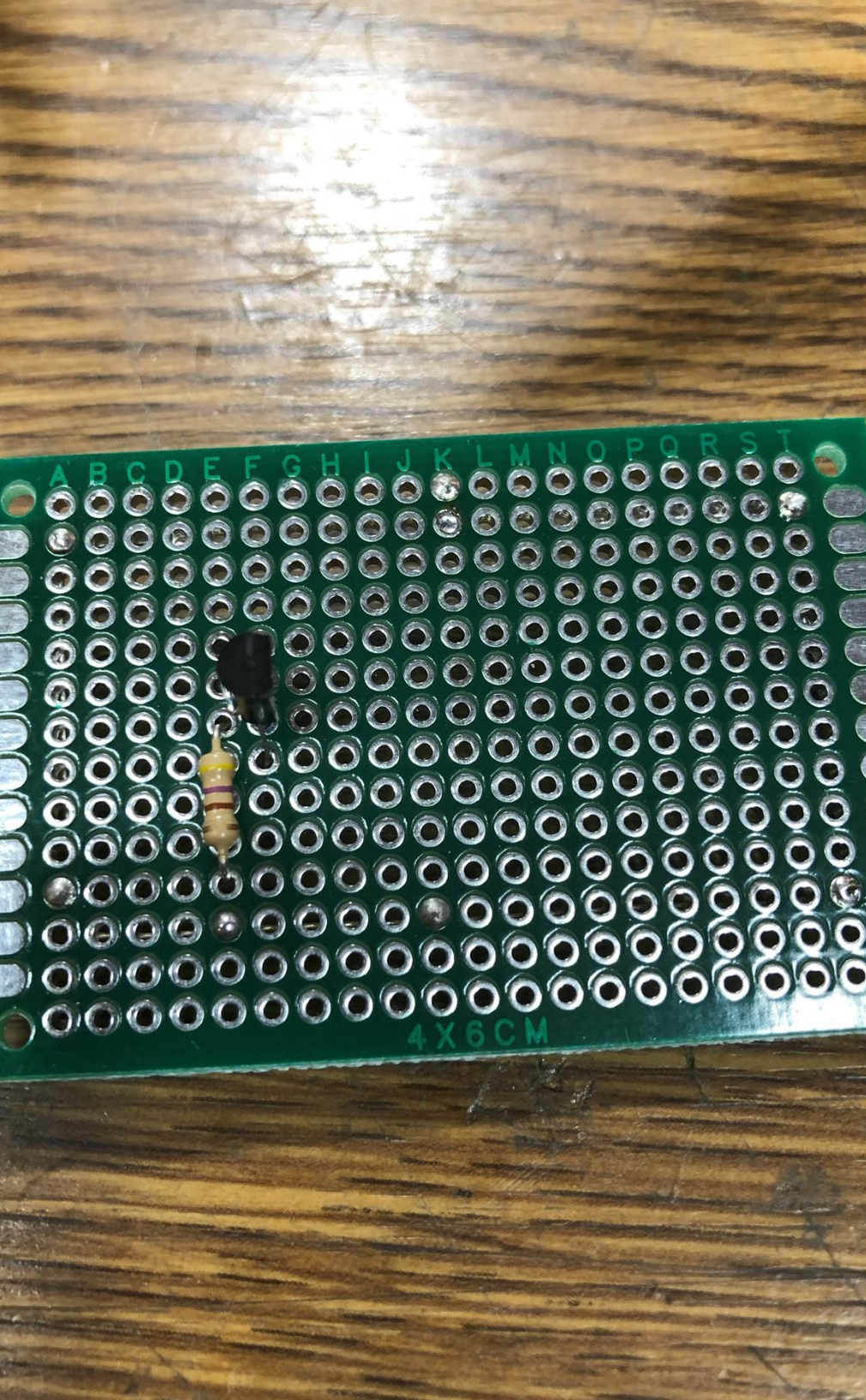




Plated Thru Perf Board

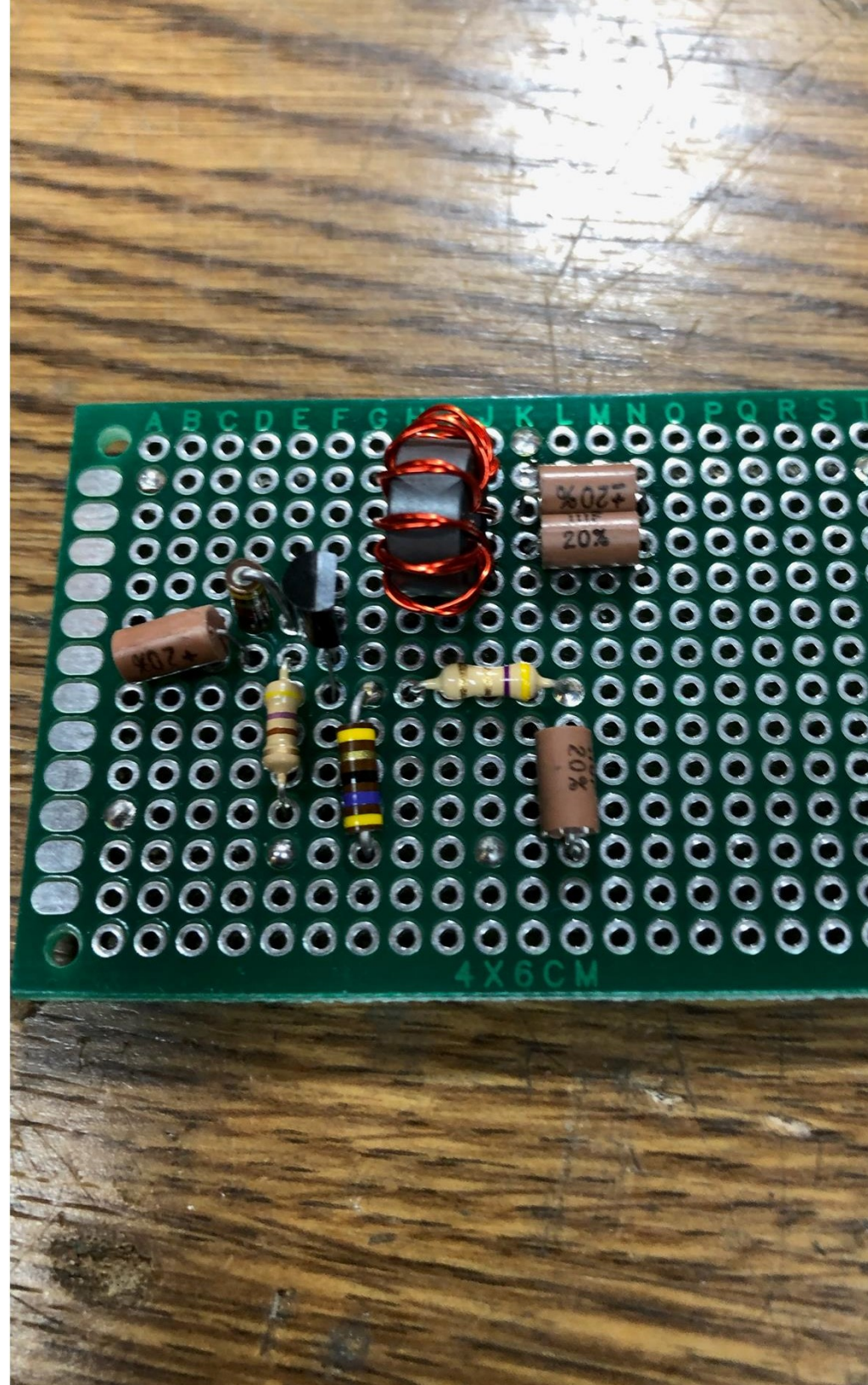
Nicer looking boards
Poor ground plane





Perf Board

Completed Amplifier



Tools Needed

Temperature- Controlled Soldering Iron

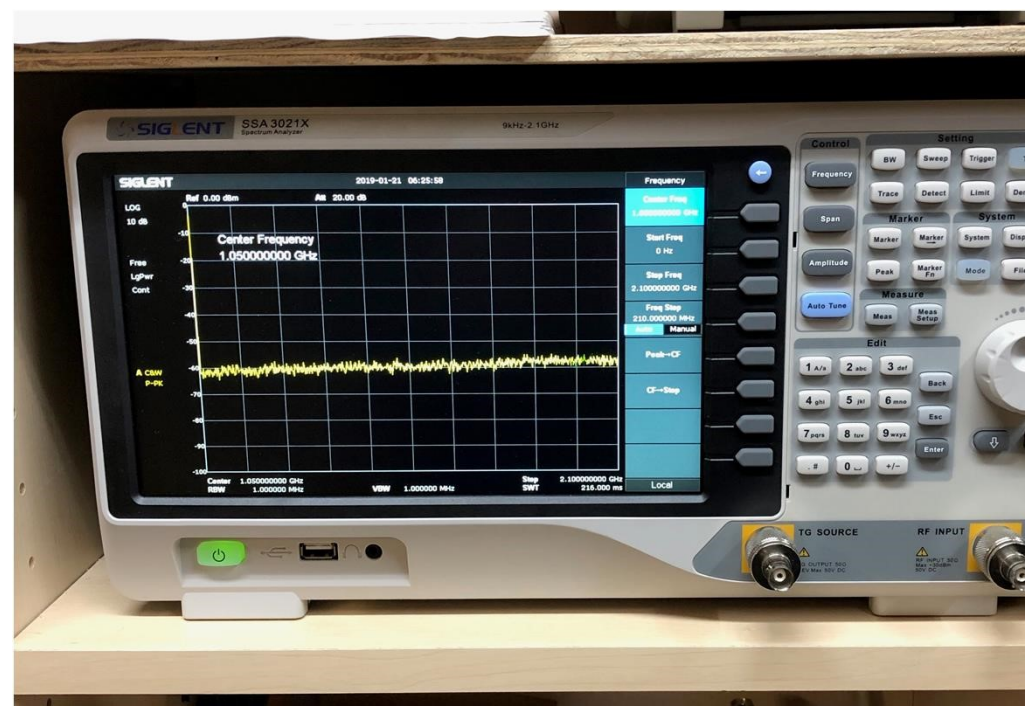
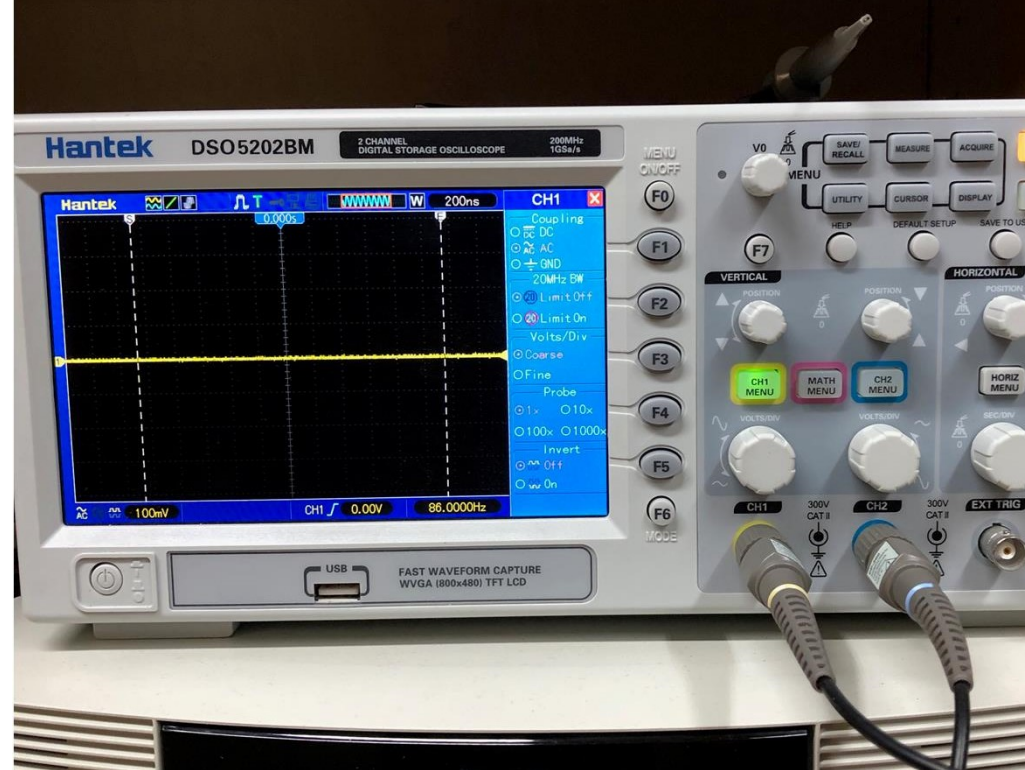
Small Hand Tools

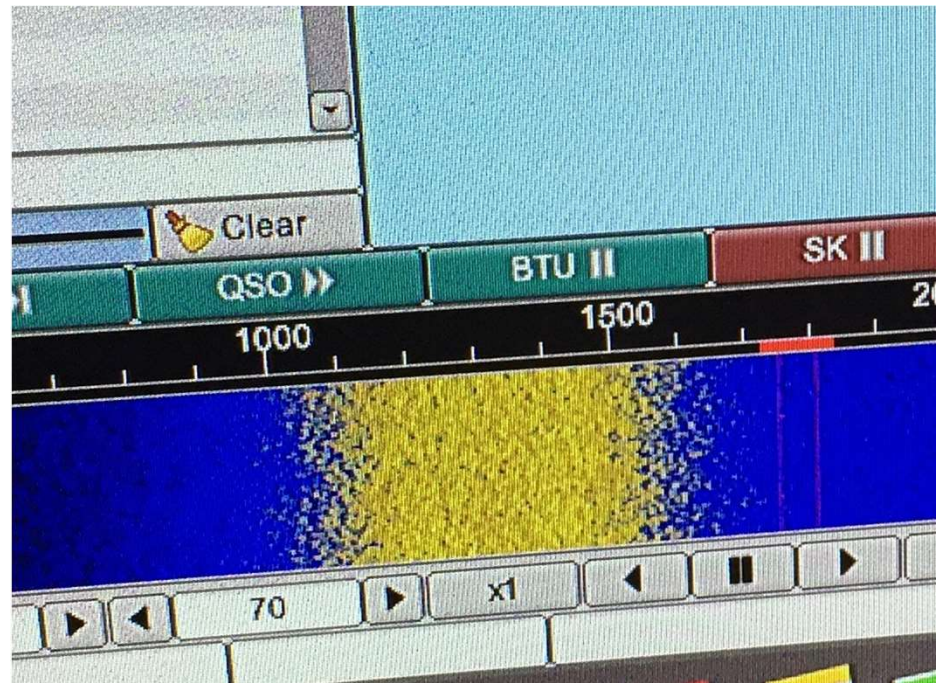
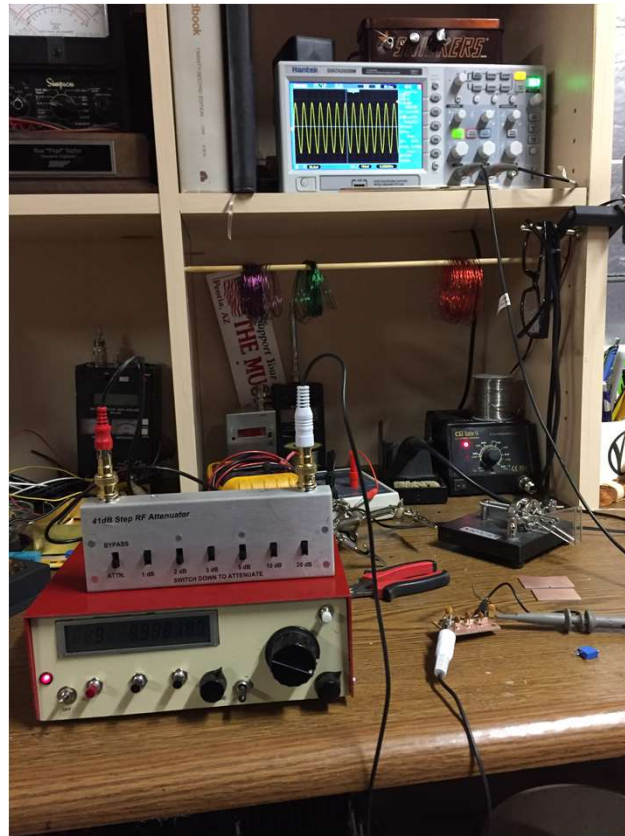
Cordless Drill and Bits

Oscilloscope - Nice but not mandatory initially

Digital Voltmeter - Don't leave home-brew without one!

L-C Meter - measure L and C for more accurate filters





Parts on Hand

Resistor Assortment

Capacitor Assortment (NP0 Ceramics and Electrolytics)

Transistors (NPN, PNP, J-FET, MOSFET)

Toroids (FT37-43, T37-6, T37-2)

Parts

Keep parts in labeled
Drawers

Sort parts and group by type
and value

Everything in one shoebox is
a junk box but hard to use



Parts Sources

kitsandparts.com -very good source for QRP HB

danssmallpartsandkits.net - Nice parts selection. Not very user friendly. He has everything but the on-line catalog takes some searching. Also, does not take credit cards or PayPal. Check, cash or money-order

Amazon/Ebay - Buyer Beware

Fry's Electronics for local purchases - Who besides me misses Radio Shack about now?

Recommended Books

“Experimental Methods in RF Design” by Haywood, Campbell and Larkin- This one is the essential must-read for Home-Brew enthusiasts.

ARRL Handbook - still the good basics, go-to resource

“The Art of Electronics” by Horowitz and Hill - more digital oriented than the first reference above

Note Taking

Keep track of what you are doing on every project

Keep a lab notebook. Date page entries. Note where you found a circuit idea, whether or not you built it and how it performed. This notebook can appear somewhat random but is invaluable to keep from making the same mistakes over and over.

When a project is completed consisting of several of the circuits in the lab notebook, transfer the notes for that whole project into a separate "Completed Projects" notebook. Note how to operate the device and what issues it might still have that need further work.

Show and Tell
and Questions?