

Boozhound Laboratories JFET Moving Coil Pre-Preamp

Assembly manual (rev.2)

The Boozhoundlabs Philosophy

The plan here is to offer kits that let the curious audiophile experience designs that they would otherwise have to build from scratch. The parts used in this kit are for the most part considered obsolete and are probably no longer being manufactured. I source this stuff from overseas via eBay.

I think simplicity is a huge part of why classic equipment sounds so good, and modern stuff can sound so bad. In the days when capacitors and transformers were expensive, designers minimized the parts count in any design, and this approach is audible even when designing with modern devices. And for those of us who not only want to build stuff, but to understand how it works, simple designs are much more comprehensible, with no "black boxes" that we only understand through the abstraction of a spec sheet.

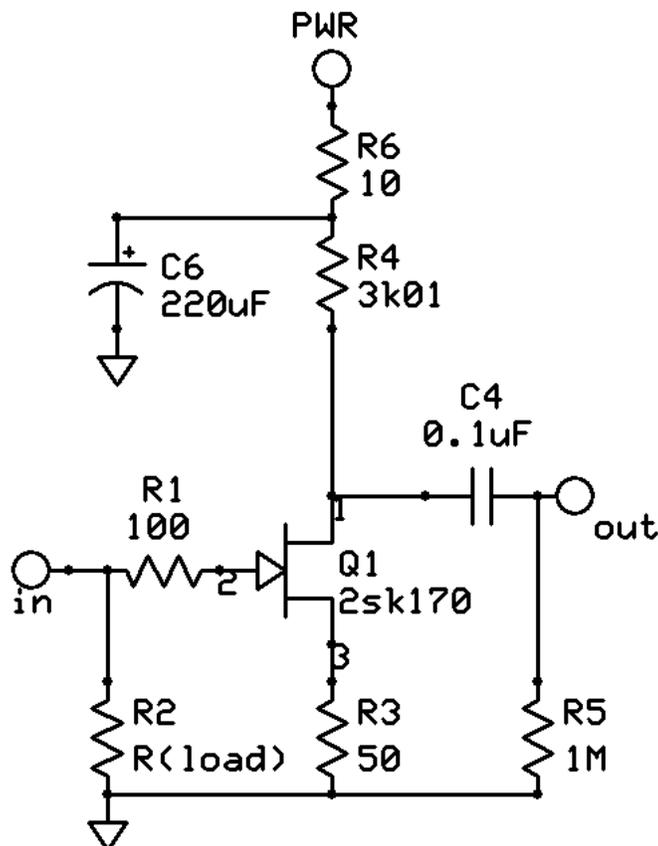
Why not have fun building stuff instead of just pouring dollars into your system on the quest for ultimate-ness? Part of the fun for me is the ability to try something new without having to shell out the big bucks.

The JFET Moving Coil Pre-Preamp

This is nothing but a textbook JFET gain stage, executed using great parts and a nice board.

Traditional moving coil phono cartridges generate a very low output voltage that requires lots of gain to be useful – more than is available from a typical phono stage. This pre-preamp provides that extra gain.

Gain is approximately 30dB.



Inventory

Start by verifying that you have all of the parts you need. I endeavor to send only complete kits, but it is always possible I missed something. If I screwed up and left something out, please email me immediately at jsn@boozhoundlabs.com and I will make it right.

Here is what is included with each kit, with checkboxes to make it easy to verify that you have all of this stuff:

- () 1 Printed Circuit Board
- () 2 2sk170 transistors
- () 2 220uF electrolytic capacitor Nichicon Muse
- () 2 0.1uF PIO capacitor Russian K40-Y
- () 2 10 ohm resistor
- () 2 49.9 ohm resistor
- () 4 100 ohm resistor
- () 2 3.01k resistor
- () 2 1M resistor

Assembly

This is almost self-explanatory, but I will offer a few tips, and a few photos.

It is generally a good idea to install the little stuff first and the big stuff afterwards, so that you aren't melting the big stuff trying to get to the little stuff. Start with the resistors and the JFETs.

I like to solder from the bottom of the board because it is easier to get to things, and the odds of overheating a part are lower because you are that much further from the part itself. Be sure to heat the pad and the leads sufficiently to let the solder flow all the way to the top of the board though. These boards have through-plated holes, so it will be easy.

These boards have traces only on one side, leaving the bottom side to be nothing but a huge ground plane. This will reduce grounding problems and make this a very quiet design.

The points where the components do attach to the ground plane will take a bit more heat to solder properly since the ground plane will act as a heat sink.

Next install the capacitors. Or instead of "next" I should say "last" because after the caps are soldered in, you are done! The only thing left to do is visually inspect the solder joints to make sure everything looks good and there are no solder bridges or obvious cold solder joints.

Integration

Connecting this to the various inputs and outputs is also super easy. The in and out pads are obvious.

The pwr pads need to be connected to a source of 12-24 volts filtered DC.

There is no onboard fuse! If you use another power supply, a fuse might be a good idea. Current draw is less than 50 mA. I include a 100 ohm load resistor, but feel free to change that to something that is better matched to your cartridge.

Now go play that copy of The Talking Heads' Speaking in Tongues you just got at a yard sale!

-jsn