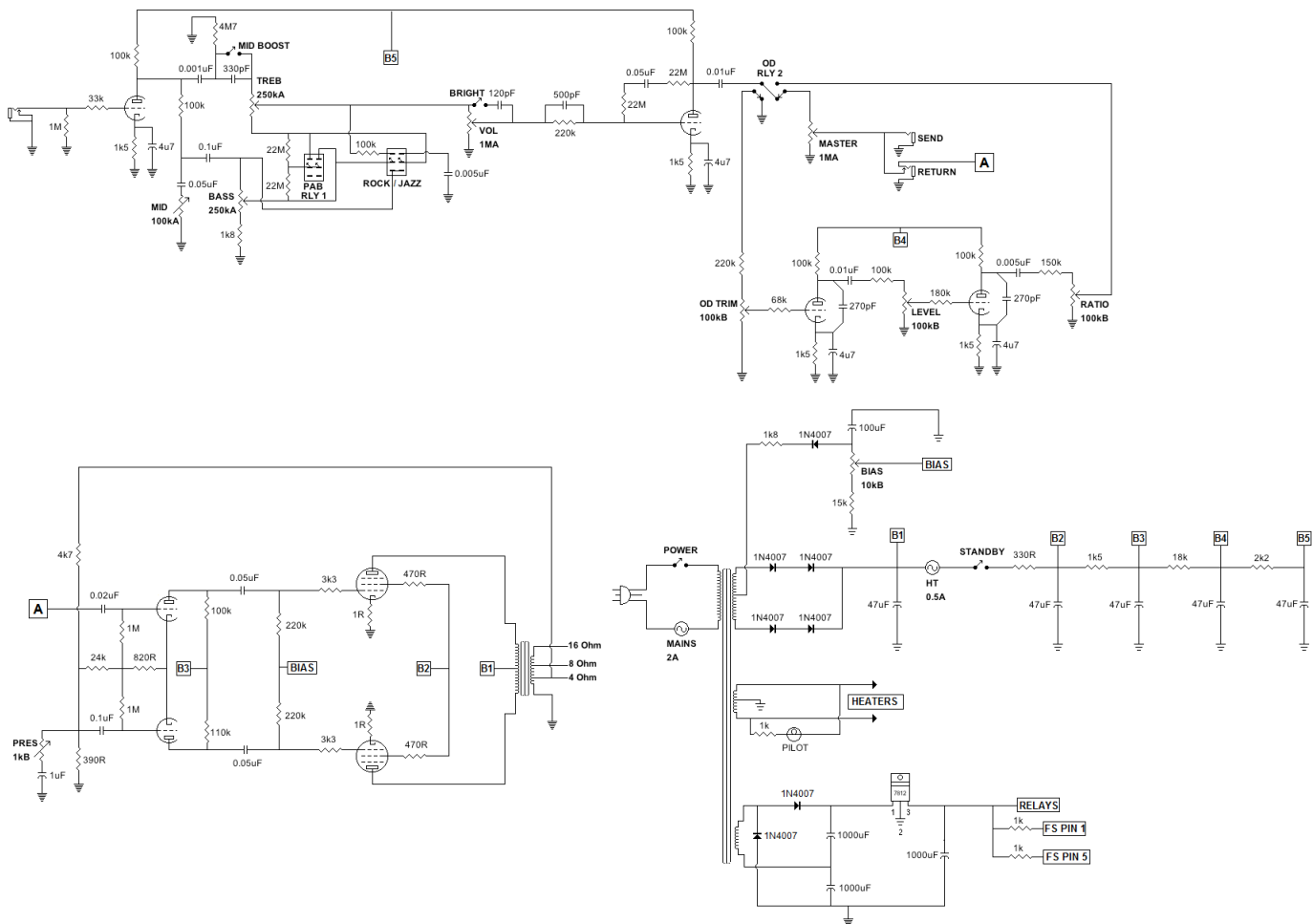


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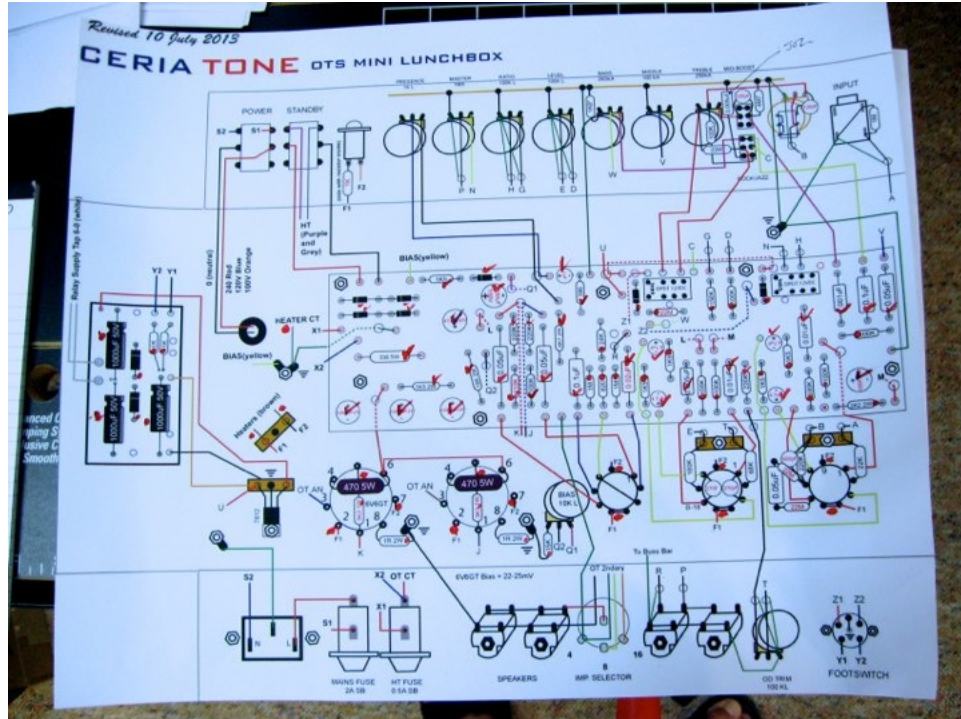
Here are my tips for building the great little Ceriatone OTS Mini Lunchbox guitar amp. This is not meant to be a step-by-step, “paint it by numbers” kind of guide, just a collection of notes and questions I had while building my own.

You will need to rely on the layout and pictures provided on the Ceriatone website for most of the build. Here is the schematic (I've included a slightly larger version of it on the last page of this pdf):

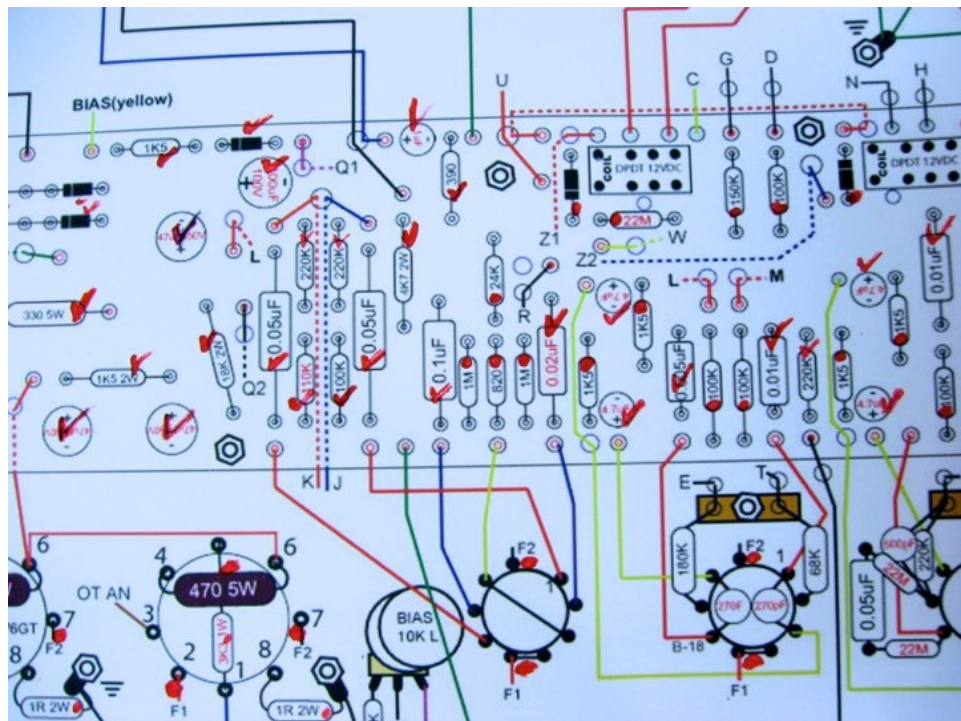


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I started my build by enlarging the layout to 14" x 17" so I could see it more clearly on my work area (11" x 17" would have also been fine, and much cheaper):

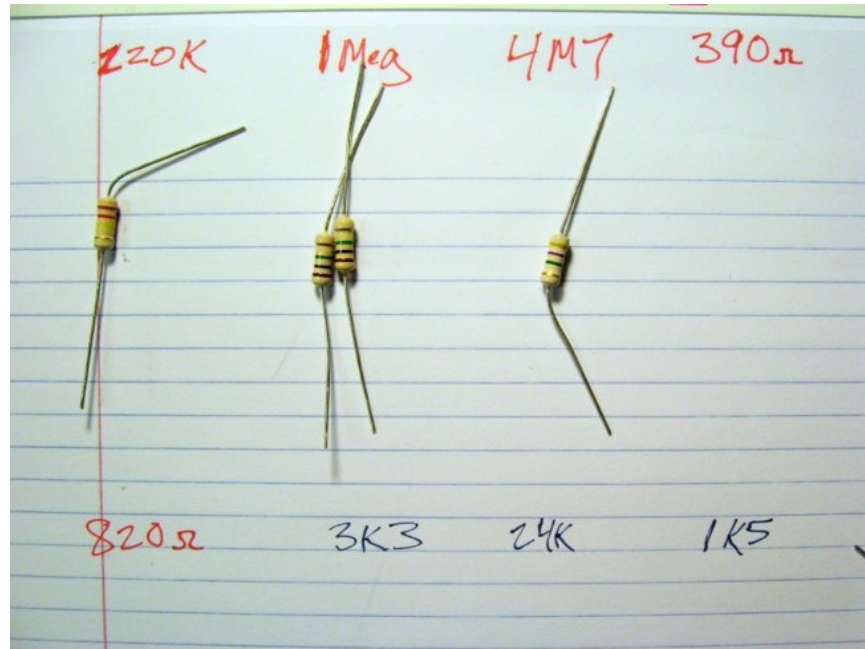


As I built, I checked off each part and solder connection:



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Next I measured and laid out all of the resistors. (Be careful - there are a couple of different types of the 100k resistors; the darker brown “RN60” types are for the plates of the preamp tubes, while the carbon film 100k are for the slope resistor and level pot.)



I also downloaded all of the gut shot pictures from the Ceriatone website and put them in a Dropbox folder on my iPad so I could flick between them easily while working. It's really helpful, and often necessary, to reference these pics. To help hone in on a particular pic, I printed out a “contact sheet” of all of them:



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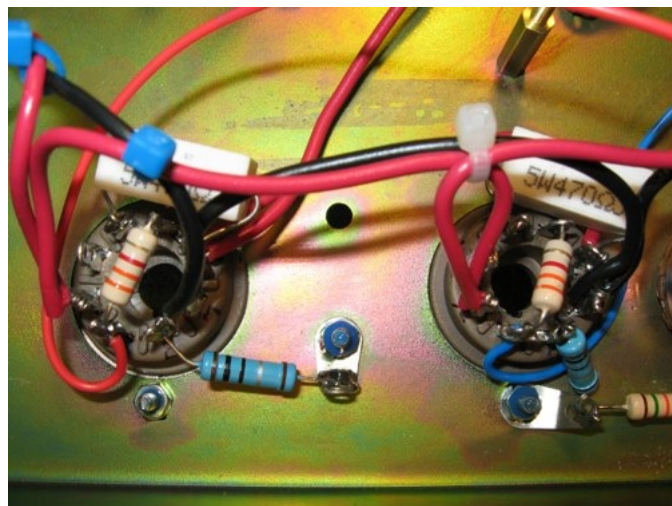
I started the build by populating the circuit board, then set that aside. Next came mounting everything pertaining to the underside of the chassis, including the ground lugs, terminal strips, tube sockets, relay power supply voltage regulator, and bias pot. I wired the various resistors to the tube sockets before wiring the heater wires, so the heater wires wouldn't be in my way. It's for this same reason I didn't populate the front or back panels yet.

Out of the packet of screws, nuts, and washers provided - 2 of the screws are shorter than the rest and are used to secure the mounts for the relay power supply board on the side.

Short screws



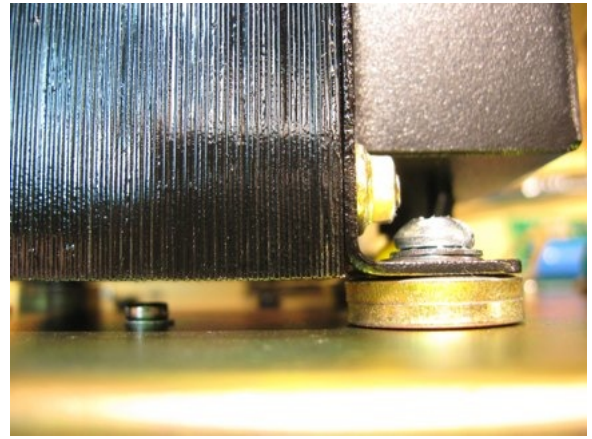
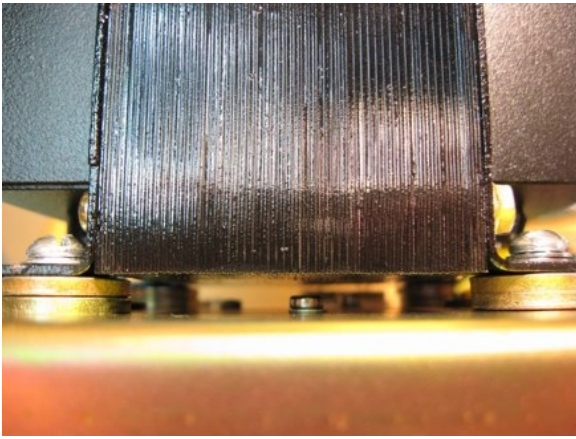
Heater wires carry AC and should be strung at least 1" or so above the tubes, and twisted or wrapped closely together:



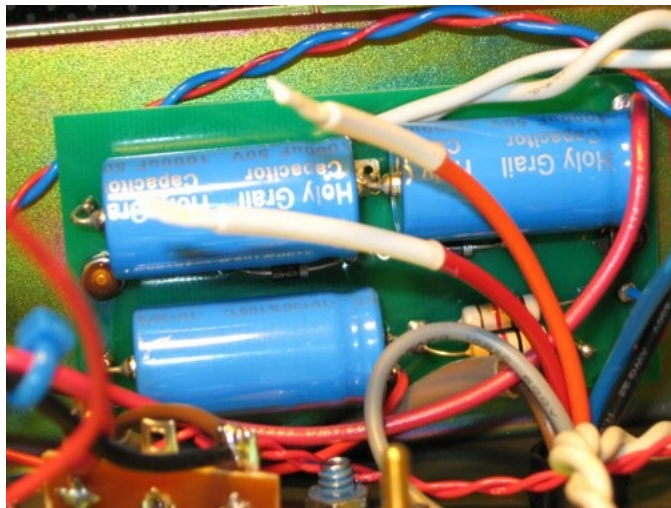
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Power Transformer

You will have to unscrew/unmount the PT (if your kit came shipped with it mounted) in order to install 3 screws for 2 pcb spacers and 1 ground terminal. After you install those 3 screws, you'll find that the PT no longer sits flush with the chassis and the transformer mounting screws are now too short. I replaced the screws with longer 3/4" screws of the same type (10-24) along with washers to lift the transformer above the chassis screws. Or, you can bend the transformer mounting tabs down towards the chassis and use the original screws - that's fine too.



Don't forget to tape off or shrink wrap the primary wires you don't need for your area (United States will use the blue wire - tape or shrink the red and orange):



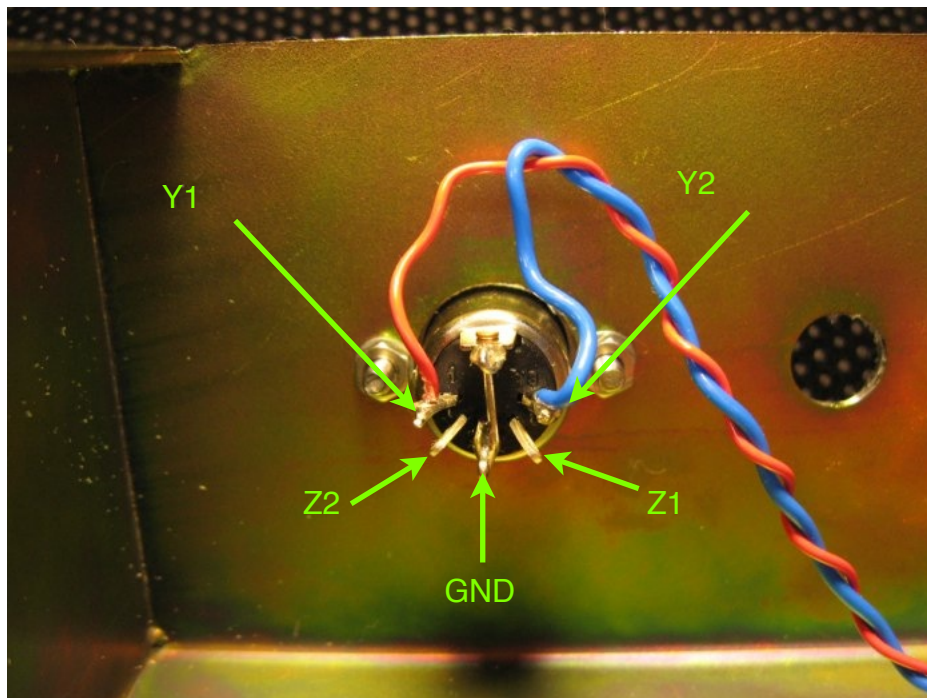
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Main fuse - should be 2A Slo-Blo, not 3A like mine shipped with.

7812 Voltage Regulator - The leads will bend to enable you to solder them into the lower holes in terminal strip. Then the wires can be soldered to the upper holes.

Generally, you can disregard wire colors EXCEPT transformer wires. For these, I went with the pictures instead of the layout colors.

I had some trouble with the 5-pin DIN connector for the footswitch. The photo shows how it ended up working for me:



About Z2 on the pcb: The “Z2” label is near the “W” pad. Follow the dotted line to the actual pad for Z2 next, to the diode and relay on the far right of the layout.

Pics show a terminal strip for .05 cap on V1, but layout doesn't show that - just use silicone to hold the cap to the chassis if you don't have a terminal strip for it.

2 (green on layout/orange in pics) wires coming off of Ground pin of OD Trim pot connect to the shield of the shielded cable coming off of the other 2 pins. There are other pics of the (solid) orange wires coming off of various places, most notably the

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volume and tone pots. These are grounds for the shielding cables, where the shield is connected at one end only.

Four 1M resistors are supplied (in my kit, anyway), but only 3 are used - disregard the 4th one.

Biasing: Measure across the 1R resistors from pin 8 of 6v6's to ground. Go for 23-25mV or so.

The pads on the pcb marked "L" and "M" actually show up in 2 separate places; they are jumpers that run underneath the board. There is another jumper that's not marked with letters, just a dotted red line at the top of the board near the "U" and "N" pads above one of the relays.

Re the wires marked "OT AN": AN = anode = plate. They go to pin3 of the 6v6 tube sockets, from the output transformer.

Re something I didn't know about transformers: The primary and secondary wires are not necessarily separated physically. In other words, primary and secondary wires *may* come out of the same hole in the transformer.

This should be really obvious for anyone having enough knowledge and skill to build an amplifier, but just to be really safe I'll say it anyway: The "N" and "L" labels on the AC power receptacle on the layout stand for "Neutral" and "Live" and do *not* get connected to those same-lettered pads on the pcb!

The Mini Lunchbox is a great little amp - have fun with your build!

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