

The Pumpkin assembly

You can see in Pumpkin BOM what is most important ;
Regarding parts – pick your poison , or use favorite brands of parts, but stay with noted voltage ratings for caps (as minimum values) , use multiturn trim-pots (it's somewhat easier to set with them , than with dreky non multiturns) , use whatever type of isolators between IRF mosfets and heatsinks etc .

Heatsink thermal conductivity is noted in BOM , too , but I presume that you can also use convenient size of Al or Cu sheet ; Say that sheet length must be as pcb width , at least 2mm thick and 35mm high . You'll have ~ 5W of dissipation across that heatsink .

Top ground plane is connected to ground via JP1 . Just solder shortie in these two holes .

During soldering of resistors , use some 0,5mm thick spacer between pcb and resistor body , to ensure that resistors have same clearance from pcb ; Even if pcb have top blue silk and voltages in Pumpkin aren't sky high , you don't wanna risk that somehow scratched resistor body have contact with somehow scratched top GND plane .

Check twice polarity of electrolytics ;

When you solder everything - , check trice for nasty shorties , use your DMM and check that both trim pots are in mid position ; You wanna see ~22E from both sides to wiper .

If you soldered everything , give it a rest , and go to Shunty ; When both (Pumpkin and Shunty) are assembled , just then is time for setting

The Shunty assembly

Pretty much same things written above are applicable for Shunty ;
Top GND plane is connected via JP2 or JP2a ; Somewhat is more convenient to use JP2 ; Just solder shortie through these two holes .

Well – D8 and D8a somehow slipped from Shunty BOM ; they're nothing else than plain 3mm leds – your fave color , and their role is nothing else than visual sign that you have (some) voltage at outputs of reg .

Solder everything ; Heatsink characteristics are written in Shunty BOM .
If you are cheapskate (as I am) use Al or Cu sheets, pretty same as for Pumpkin – for larger heatsink , and for solo IRF's heatsinks use something substantial,too .

Few pictures you can see in P & S building thread on DiyA will feed your eyes and tell to your brain what's probably enough . Each little heatsink must cool down around 2,5W , and biggie must cool down around 5W .

You don't need any isolation between small heatsinks and their mosfets ; Put your fave thermal goo between them ,and be sure that they aren't in physical contact with pcb . Use nylon or thick paper spacers between ALL heatsinks and pcb. Same applicable (spacers) for both – Pumpkin and Shunty .

When you soldered everything , triple checked (on Pumpkin too) that IRFs and darlington are well isolated from heatsink , time is for preliminary setting of Shunty voltage .

You need two 470E/5W resistors for that as load , instead of (impatiently waiting) Pumpkin boards . Wire xformer secondary wires where is needed, solder one biggie resistor to positive Shunty output and gnd, second biggie resistor to negative Shunty output and gnd ; Fire it up , and with WR1 set that you have 36V on positive output , and with WR1a set that you have -36V on negative output .

Desolder biggie resistors (after powering off) , solder them to second Shunty board and repeat procedure .

Final setting procedure

Presuming that you placed both (precisely – all 4 boards) in some sort of box and that you wired everything – including selector , pot (yes – pot is also your choice ;)) , all wires between both Pumpkins and Shuntys , you can power it up .

If nothing smoked , you can now leave for cup of coffee , leaving your new preamp to cook a little .

After 10 mins (it's not good for nerves to drink cup of coffee faster) , you can go back to cooking gadget ;

Pick one channel ; I didn't tell you that you place fuses in both Shunty boards . Just one is perfectly good for start ;) .

Place probes of one of your Voltmeters between GND and any output before output cap . Good point for that is outer pin of any output cap : C4 or C5 .

Place probes of second voltmeter between positive and negative output ,also before output caps ; good points for that are same as for previous : both outer pins of C4 and C5 .

Turn volume all the way down . Now look at voltages ; Between outputs is completely normal that you see few volts , and it's completely normal to see that you have between one output and GND almost full side of PSU don't worry – just tweedle WR2 until you see that offset is coming down .

Set it to 0 volts and wait a little ; Then set –with WR1 – 0 Volts between outputs . You are almost finished with that channel .

Now – power it down for moment , put fuses in second channel , power it up and you can go again to kiss your better half and ask for more coffee .

When you're back – move both voltmeters to second channel , and repeat procedure .

When you are finished , put top lid on , and wait 1 hour .

Put top lid off- recheck offset on one channel ,set it again and put lid again on .

Wait 10 mins , put lid off and recheck other channel ; put lid on .

After few hours – repeat “lid off – check – lid on “ procedure for both channels , and then you can be pretty sure that entire gadget reached temperature equilibrium ,and it will be stable with these settings .

OK- that's it ; it's done – you can now enjoy in your new FI FI gadget , and plan what to do with your , now obviously, crappy amp

Cheers!