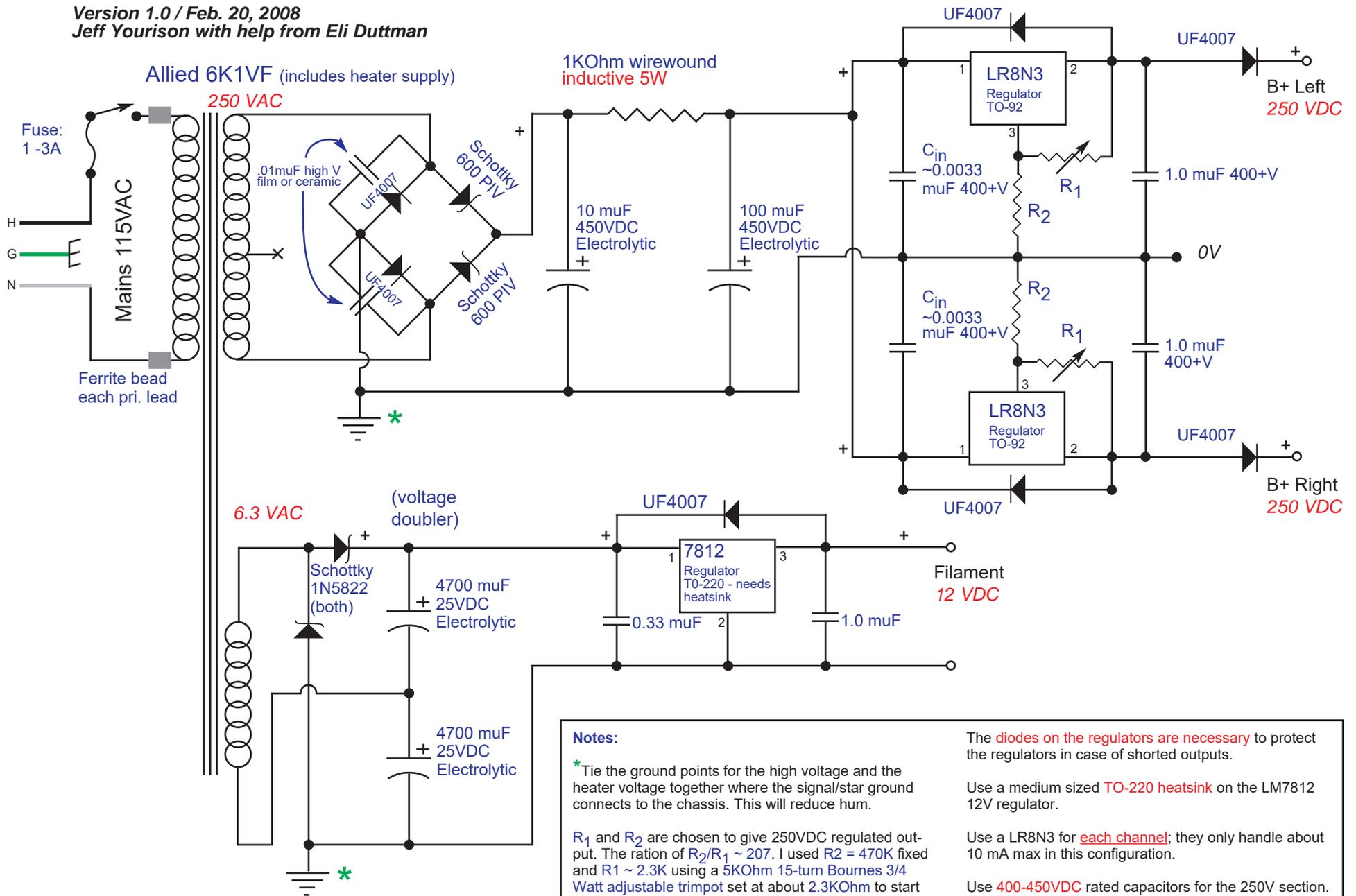


Power Supply for Classic RCA Phono Stage with MOSFET Follower

Version 1.0 / Feb. 20, 2008

Jeff Yourison with help from Eli Duttman



Notes:

*Tie the ground points for the high voltage and the heater voltage together where the signal/star ground connects to the chassis. This will reduce hum.

R_1 and R_2 are chosen to give 250VDC regulated output. The ratio of $R_2/R_1 \sim 207$. I used $R_2 = 470K$ fixed and $R_1 \sim 2.3K$ using a 5KOhm 15-turn Bournes 3/4 Watt adjustable trimpot set at about 2.3KOhm to start with. Trim R_1 to get 250Vout while loaded.

The 1KOhm for CRC filter should be slightly inductive, and is a tubular wirewound power resistor for max inductance. Mouser 71-HL12-05Z-1.0K is 12W.

The diodes on the regulators are necessary to protect the regulators in case of shorted outputs.

Use a medium sized TO-220 heatsink on the LM7812 12V regulator.

Use a LR8N3 for each channel; they only handle about 10 mA max in this configuration.

Use 400-450VDC rated capacitors for the 250V section. The rectifier diode snubbers should be 800-1600V or more. I used film caps because the ceramics buzzed. 715P orange drops come in 800VDC.

Use caps rated 25VDC or better for the 12V section.