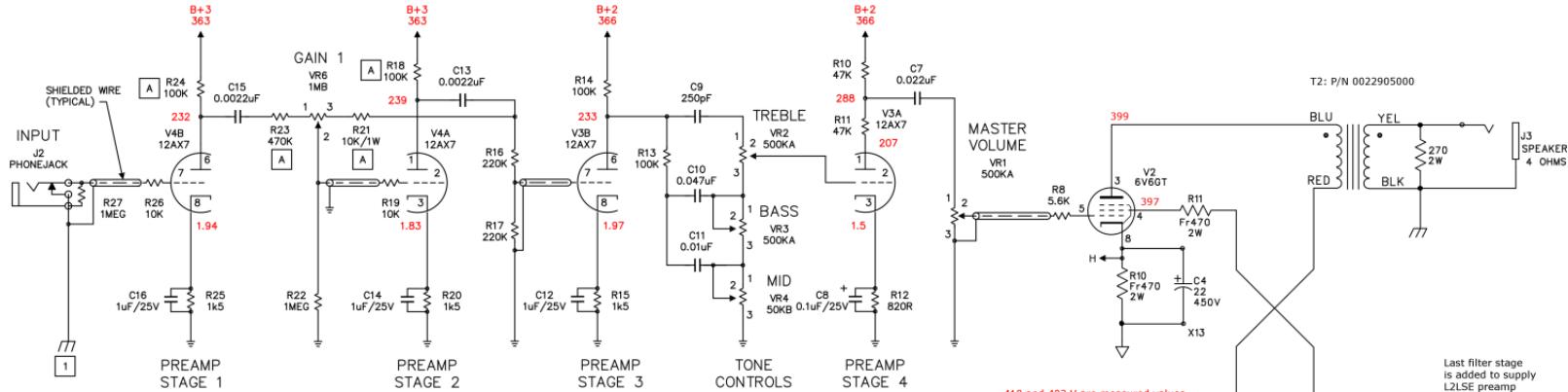


A MEASURES MUST BE TAKEN AT THESE LOCATIONS TO REDUCE NOISE AND HISS.
THE USE OF "LOW NOISE" TYPE RESISTORS IS RECOMMENDED. YOU CAN ALSO
SUB +/1W RESISTORS, OR USE 2 RESISTORS OF HALF VALUE IN PARALLEL.

Convert 12AX7 used for Bronco
tremolo circuit to second half of
L2LSE preamp.



Fender Bronco Power Amp Mated to L2LSE Preamp

POWER SUPPLY NOTES:

From the original L2LSE schematic we know that the screen of the EL34 fed from B+2 draws 7.5 mA ($(B_2 - V_2)/[R_7 + R_8] = 366 - 321/1000 + 5000 = 0.075 = 7.5 \text{ mA}$). We also know that the total current draw at B+2 is 16 mA ($(B_1 - B_2)/R_3 = 382 - 366/1000 = .016 = 16 \text{ mA}$). Therefore, we know that the stock L2LSE preamp draws 8.5 mA ($16 - 7.5 = 8.5$).

From the measurement taken on the original Bronco AB764 amp, we know that the screens, preamp and tremolo circuit draw a total of 8 mA ($(B_1 - B_2)/R_1 = [410 - 402]/1000 = .008$). From page five of the 6V6-GT (<http://www.milipgq.gda.pl/homepages/frank/sheets/093/6/6V6GT.pdf>) data sheet, we can guesstimate that the screens draw about 3 mA of that total.

Adding those two values suggests that the L2L preamp and the 6V6-GT screens combined will draw about 11.5 mA total.

Given that total current draw, we can calculate the anticipated screen voltage and value of the filter resistor RF2 necessary to arrive at the desired 366 volts for the L2L preamp. First, we'll assume that the power supply is reasonably well regulated at B+0 and keep the 410 volts. Next we calculate the voltage drop across RF1 given the 11.5 mA total current of the screens and preamp:

$$RF1^* = 1000 \cdot 0.0115 = 11.5 \text{ volts}$$

Therefore we can expect that B+1 will be around 398-399 volts and given the 470 Ohm screen grid resistor that the screen voltage will be about 397 volts.

Next we calculate the value of RF2. We know we want 33 volts drop across RF2 to get from the 399 volts at B+1 to the desired B+2 voltage of 366 volts. Given the 8.5 mA draw of the L2L preamp, we use Ohm's law again to arrive at the value of RF2 $RF2 = [399 - 366]/.008.5 = 3882.35$. The nearest standard resistor value to 3882 is 3.9K.

