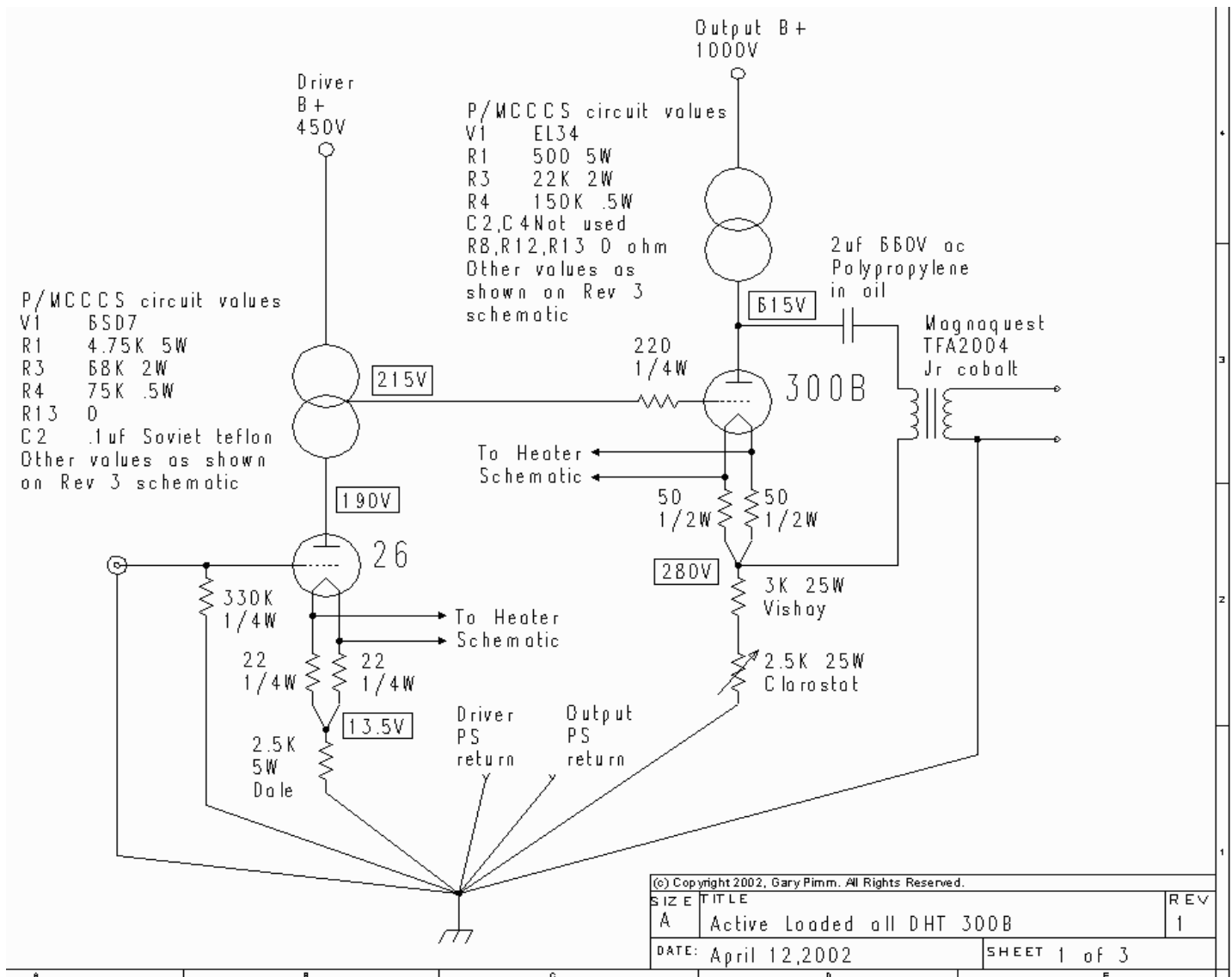


Here is my all active loaded, all DHT 300B amplifier schematic.



The input stage is a 26 DHT. The 26 is loaded by a P/MCCCS set for 5.5ma. I'm using the mu follower output and direct coupling to the input grid of the 300B. The 300B is also loaded by a P/MCCCS that is set for 60ma. The output of the 300B is coupled to a Magnaquest TFA2004 JR with a 2uf Mallory polypropylene in oil. The return from the TFA2004 JR is returned to the cathode of the 300B.

Both the 26 and 300B have battery powered filaments. I'm using the system of 2 batteries per tube that was developed for the 26 line stage. It works by connecting one battery to each tube when the system is turned on. The second set remains on the charger. About a 1/2 hour later the second set of batteries gets connected to the tubes and the first set gets connected back to the charger. There is a .5 second overlap built into the relay controller so the fresh battery is connected and after .5 seconds the partially discharged set is disconnected.

The 26's get 2V 5Ah single cells, the 300B's get 6V 5Ah 3 cell batteries. Both have resistors to drop the voltage down to what the tubes need.

Biasing. Both the 26 and 300B have un-bypassed cathode resistors. I had started out with red LED's on the 26 but switched to the resistor. The LED has a small amount of grain that the resistor doesn't have.

P/MCCCS:

On the 26 the P/MCCCS uses a 6SD7. I had started out with a 6AU6 but didn't like the look of the submini tube with all the UX4 and octal tubes. The reason for trying the 6SD7 was mostly because they look cool! They are a metal base octal with a perforated nickel plate that looks right at home with the TJ meshplate 300B's. Now all I need is some meshplate 26's to finish the package! The filaments don't show as well as the TJ's but you can still see them. There was a gain other than looks with the 6SD7, they sounds more relaxed and open than the 6AU6 did.

On the 300B the P/MCCCS uses a EL34. The output stage is setup a little different than the rest. There is very little gain in the output stage so I didn't think the noise from the LM431 needed to be filtered out. C2 and C4 were left out and R8 and R12 were replaced with jumpers. Sounds good and lowers the impedance of the voltage reference. This is good as the pentode will draw grid current which messes up the voltage reference. The other way to deal with the grid current is to install R13. It needs to be sized to that it drops about .5 volt more than the turn-on voltage of Q1. This way the mosfet will saturate before the pentode can draw grid current. I have not listened to the R13 version. With my speakers having 100dB/watt sensitivity it's just too darn loud to see what the overload recovery is like!

11/6/2022

Active loaded all DHT 300B

I'll be adding the schematics for the power supply and filament circuits soon...

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