
Subject: Cathode bias

Posted by [Damir](#) on Thu, 23 Feb 2006 18:24:52 GMT

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Huh, Manual - we passed this in Parts 1,2,4... See the link, Fig.4 - it's the our output stage. We can use (and I used:-)) grid choke in the place of grid-leak resistor, R_g . And I enlarged coupling cap (between the driver stage and output stage), C_i to 4,7 μ F/450V. This is cathode or self bias output stage. Anode load for 300B triode is output transformer, or (simplified) reflected secondary resistance (our 8-Ohms speaker) to the primary side (where our tube is actually connected), or 3kOhms. We have "voltage drop" through the cathode resistor of about 70V, or $U_k = +70V$, then our "bias" voltage $U_{gk} = -70V$, grid is grounded through grid choke / grid resistor, and cathode is +70V positive. Voltage "through" the tube is $U_{gk} = U_a - U_k = 420 - 70 = 350V$, and current is 80mA. You don't need adjustment, it's a "self adjusting", only you must "tune" your R_k in respect of actual voltage in the circuit. I have 780Vct (more then specified 760Vct) secondary, and with AZ50 rectifier (I'm currently using) $B+$ is about 440-450V. I have about $U_k = 74V$, and $I_a = I_k = U_k / R_k = 74 / 875 = 84,5mA$ - larger then 80mA max. DC current spec of the OPT, and I must enlarge my R_k a bit... Nothing complicated, Ohms Law. The final schematic will be larger and nicer, I promise...

<http://audioroundtable.com/GroupBuild/messages/1476.html>
