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Subject: Re: Fixed Bias v. Cathode Bias

Posted by [Forty2wo](#) on Sun, 17 Jul 2005 21:08:02 GMT

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OK, first, off how are you running your el84's. As pentodes with a screen supply, ultralinear, or triode connected. The output transformer (+speaker) is the load and for modeling, is the plate resistor and they are fixed. So, the Z-out is determined by the tubes dynamic plate resistance. If you add a unbypassed cathode resistor the DPR increases. For a triode it is  $R_k(u+1)$  "cathode resistor x  $\mu$ (amp factor) + 1. This is the effect of degenerative feedback. For a pentode, I don't know ask someone else.;) Now if you bypass the cathode resistor with a big cap. From a AC (impedance) point of view it's not there. So you are more or less back were you started, from a Z-out point of view. So is any of this to worry about. No. there is not much you can change, so go with what you like and don't worry...John

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