
Subject: Re: Damping factor - SE vs. PP

Posted by [Damir](#) on Wed, 12 Oct 2005 20:39:07 GMT

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Well, I simplified very complex tube(s)/transformer/speaker case. Although it is true that internal anode impedance of our output triode (say 300B) is not a constant resistor, and that our Z_{out} is not constant, especially on the frequency extremes vs. mid frequencies, and that those changes are probably little larger in SE then PP case - we can't say that r_p (and Z_{out}) of SE amp vary wildly like in your example. Measuring the Z_{out} of SE amps showed relatively constant value throughout the frequency and power output magnitudes. The change in r_p is not large, and for most practical purposes we can model our triode like voltage source (generator) with its (constant) internal resistance r_p in series. Definition of DF like I explained it is correct, it is a ratio of primary (reflected) resistance and tube internal resistance, or ratio of speaker resistance and r_p referred at the secondary - r_p divided with OPT impedance ratio. PP amp (class A) has two tubes in series. Then we can add complexity in our model (R_w , L_p , L_{sp} , C_w , Z_{sp} ...)...
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