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Subject: Re: A pentode on the input circuit...  
Posted by [coyote](#) on Mon, 13 Dec 2004 16:07:02 GMT  
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Good afternoon Metasonix, Thanx for the information. Here is an amp i am considering, i am attracted by the desing and a bit scared by the Pentode! My knowledge in amp design is lacking...I am comparing this with the famous AN kit-1.  
<http://audionotekits.espyderweb.net/kit1.html>(as a project.)Any thoughts!?  
<http://www.hificollective.co.uk/kits/300bcrtdes.html>EF86, The Input Valve Here I have used a pentode as the input valve, V1/V2, the venerable EF86 which was developed as a low microphony audio type. A pentode can deliver high gain from a single stage, allowing an amplifier with only one gain stage before the output valve. I have used two 100k resistors (R21/R22 and R23/R24 in series to give a 200k anode load for the EF86, this gives fairly high gain at the expense of a high stage output impedance, which will be similar to the anode load resistance. I deliberately used two resistors in series to reduce the voltage across them. Too high a voltage across a resistor will cause it to become non linear with respect to the signal voltage. This phenomena is particularly pronounced with carbon resistors but it is present in all types. The screen dropper resistor has a constant DC voltage across it and the screen voltage is bypassed by C23/C24 so there isn't so much of a problem there. R25/R26 and C21/C22 are conventional biasing components. The EF86 could just about drive the familiar 300B (V5/V6) directly, but the high impedance drive causes very hard clipping when the output valve grid reaches 0V and draws grid current. regards,a,

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