
Subject: E-Linear intro

Posted by [PakProtector](#) on Thu, 15 Dec 2005 20:25:19 GMT

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Hey-Hey!!!,Let's take a look at what is happening at an instant in time: The input grid of the input pentode goes up; its plate goes down. At the power tube, g_1 (cap coupled to the anode of the input) goes down; and its plate goes up. Its g_2 goes up by tap %. g_2 is the other end of the plate load. The input pentode is a gm amp, and the delta-V across the plate load is $g_m \cdot \Delta V$. This assumes an infinite plate resistance. So, the input pentode calls for a lower plate voltage, and lowering the plate voltage lowers g_1 of the power stage and raises the source voltage of the input stage. Since the input stage does not care about voltage, and causes only a change in current, the increase in supply (at the power stage's g_2) reduces the magnitude of the lowering of its own g_1 . It is short path plate-to-grid, as the plate signal is fed back to its own grid through the plate winding and input pentode's voltage source. The grid choke is a substitute for a grid resistor. The TX valves I like call for a low grid circuit resistance. For example the 813 maximum g_1 resistance is only 30kOhm. The low DCR/high AC impedance of the choke seems to deal with small grid current production far better than an ohmic device. If this missed something, please ask a follow-up. cheers, Douglas
