Subject: 300B cascode + grid choke Spice simulation
Posted by Damir on Sun, 04 Dec 2005 15:36:43 GMT
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There`s a E182CC cascode driver + 300 B SE stage simulation. I substituted 220k grid resistor with grid choke model, consists of (constant) inductance in series with its winding resistance, and with stray shunt capacitance, Cw. The Cw=200pF value I "made up", like not too good example. This is a simplified model, but "good enough" for our simplified considerations :-).Our driver has some good properties (low Miller capacitance, amplification ~35, good sound ), but unfortunately, has Rout~Ra, or 12kOhms in this example. The simulated frequency response we can see in lower diagram - high frequency started to fall after 20kHz, and we have LF resonance (~8dB) on 10Hz. For later, if we want to avoid this and have a linear response down to 2Hz, we must use a much larger coupling cap Ci, about 4,7µF.And for HF - use a grid choke with smaller Cw, or another driver - with lower Rout. If we use, say, common cathode 6C45Pi, our Rout would be much smaller, about 1/10 then cascode, and now HF "falling" problem is gone, but 10Hz "hump" would be even larger - need larger Ci...Knowing Cw helps a lot in design process - especially with rel. high Rout drivers (cascode, pentode, some triodes).