Subject: SPICE working. Now we'll cooking!
Posted by GarMan on Thu, 04 Dec 2003 11:38:03 GMT
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Finally got SPICE installed properly on my computer! Half an hour to read through the Help Files and another half an hour of playing around. Now I'm armed and dangerous.I found out two things that I did wrong with integrating the Alpha10 and APT80 together. The 1mH inductor I was using with the woofer was too high and was rolling off the driver too early. Trying out different figures, 0.5mH gave me the best results. With 0.5mH, the woofer starts to roll off at 1K, with a 4dB drop at 3K. This flattens the hump of the Alpha10, giving a pretty flat response up to 3K. The 0.5mH was also the figure that Wayne used in his design. Yes, Wayne was right and I had to find out the hard way.SPICE also told me that I did not have enough attenuation with the tweeter, so I dropped it down by another 3dB by changing resistors in the LPad.The program also let me visually understand why I have to reverse the leads on the tweeter, so no more phase problems.Looking back, these two things make sense. I rolled off the woofer too early without realizing it and created a dark sound. To compensate, I reduced attenuation on the tweeter to brighten things up. The changes I found through SPICE now makes for a more balanced, smoother sound. I'm quite happy with how things sound now.I know my crossover is not optimized, but I think I'll let it alone for now (for at least until next week). As always, suggestions are always welcomed.Current config:1st order on woofer: 0.5mHZobel: R=6.6 C=11uF3rd order on tweeter: C1=3.3, C2=11, L=0.27mHLPad = Rs=6, Rp=2.7gar.