Subject: Alpha-8/APT-80 xover options
Posted by tom on Wed, 28 Dec 2005 00:06:00 GMT
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Hello,Using the FRC tools I have simulated the response for the Eminence Alpha-8 and APT-80 on a 10x20 baffle, and designed two crossovers: 1st/3rd order, and 2nd/2nd order. Although the frequency response is similar for both I was wondering if there is anybody here who can predict the difference in sound for both designs?Thx, ThomasXover A - 1st order low pass, 3rd order high pass:http://www.one4ever.de/audio/xoverA.jpgFrequency response for xover A:http://www.one4ever.de/audio/xoverA_frd.jpgXover B - 2nd order low pass butterworth, 2nd order high pass butterworth:http://www.one4ever.de/audio/xoverB.jpgFrequency response for xover B:http://www.one4ever.de/audio/xoverB_frd.jpg

Subject: Re: Alpha-8/APT-80 xover options
Posted by Wayne Parham on Wed, 28 Dec 2005 15:18:35 GMT
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Phasing is similar between 2nd/2nd and 1st/3rd networks. The symmetrical network tends to work well if the drivers are similar, two direct radiators of about the same depth, for example. Asymmetrical networks are often better when the adjacent drivers are very different, such as is the case when one is a direct radiator and the other a horn, or if one is considerably longer than

happening through the crossover overlap region in the targeted listening area.The Alpha 8 is pretty smooth through the midrange, so it sounds nice in a system with a low-order crossover, or one with no crossover at all. If it had more breakup, you would probably like it better with a higher slope. The tweeter will have increased excursion if run with a lower crossover slope, and this will make it less robust. I think it sounds better with a higher slope anyway. So I think I'd probably lean towards the 1st/3rd solution. You might stagger the crossover points of the two to get summing right.

Subject: Re: Alpha-8/APT-80 xover options
Posted by tom on Thu, 29 Dec 2005 00:57:52 GMT
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Wayne, Thanks a lot for your explanation. Can you please elaborate on your comment, below: "You might stagger the crossover points of the two to get summing right...."Anything that is wrong with my 1/3 xover?Thanks, Tom

Subject: Re: Alpha-8/APT-80 xover options
Posted by Wayne Parham on Thu, 29 Dec 2005 17:52:27 GMT
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There's no way to know without more information. You can do a lot with modeling software, and then confirm your analysis with measurements, making corrections if necessary.

Subject: Thanks Wayne! (nt)
Posted by tom on Thu, 29 Dec 2005 23:43:51 GMT
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