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Subject: Thinking of using electronic crossover - what should I know?

Posted by [SteveBrown](#) on Fri, 05 Feb 2010 21:18:18 GMT

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Still having fun experimenting with various speakers to mate w/my 2226's. I have been toying with the idea of building an 800hz 3-pole Butterworth crossover (ala Steve Bench) and use it with 2226 on the bottom and 500hz Edgar horn on top (w/GPA 299). Anyone have thoughts on how well this might work? Obviously the top will need to be attenuated. Any speaker level eq still needed? I think this ends up being an 18db slope - okay or is a steeper slope better?

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Subject: Re: Thinking of using electronic crossover - what should I know?

Posted by [Wayne Parham](#) on Sat, 06 Feb 2010 04:29:27 GMT

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I like that little Bench crossover. I did a version of it for my speakers and found it to be very tailorable.

6DJ8 Tube CrossoverActive crossovers are similar to passive crossovers in some respect. One that's most important is the phase matters as much or more than the crossover point, as it is all inter-related : electro-mechanico-acoustic phase and physical position. The motor, diaphragm, loading (cabinet and/or horn) and crossover all contribute to the blending through the crossover region, which in turn sets the response both on-axis and off-axis.

I'd probably do some preliminary configuration using Spice and pen-and-paper math. My goals would be to make sure no driver got signals that exceeded their limits, to match directivity in the crossover region and to make sure the vertical nulls were widely spaced, at least far enough apart to make a useful forward lobe. You sure don't want anyone sitting in a null. Then after I had a crossover that looked good on paper, I'd build it and make some measurements, modifying the values to get everything perfect.

Whether active or passive, I'd use the process described in the link below to design the crossover:

Crossover optimization for DI-matched two-way speakers

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Subject: Re: Thinking of using electronic crossover - what should I know?

Posted by [SteveBrown](#) on Sun, 07 Feb 2010 20:19:32 GMT

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Thanks, Wayne! Great info as usual!

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