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Subject: 4Pi's Biamped?

Posted by [ice963](#) on Sat, 09 Feb 2013 15:34:46 GMT

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Thinking of using an electronic crossover and a couple of pairs of tube mono blocks to biamp my 4Pi's when their done. Anyone tried this or is it just overkill?

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Subject: Re: 4Pi's Biamped?

Posted by [Bill Epstein](#) on Sat, 09 Feb 2013 16:18:14 GMT

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I tried an inexpensive ART 311 4 years ago with a Classe 75 SS on the bottom and 45 tube amp on top.

The benefits of biamping in tailoring the attenuation and crossover points (although 1600 Hz was best) as well as splitting amplifier loads was evident but The ART muddled the sound overall and I abandoned the effort.

Some say the Behringer is better but still not too good. The real solution is with the Marchand tube crossovers which will cost you about \$1000 bucks. Ron the Speakerman, on the Lansing Heritage site has used Marchands far less expensive fixed, solid state devices recently. Check over there.

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Subject: Re: 4Pi's Biamped?

Posted by [Wayne Parham](#) on Sat, 09 Feb 2013 16:43:52 GMT

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When I develop crossovers, I use a processor that serves as an active crossover configured with a Spice model. It allows me to change "components" using a configuration file. Once I have it fully optimized using Spice models, I build a physical crossover using passive components and verify that with measurements. But this is a development system, not one designed to be used at runtime.

The biggest problem you'll have using off-the-shelf active crossovers is you have to develop the filters. Some don't have the flexibility to do much more than make a basic "textbook" filter, e.g. Butterworth, Linkwitz-Riley, etc. But the filters in my speakers don't fit into any of those molds, so crossovers like that give unsatisfactory results. Others can be programmed, but then the user has to provide the algorithm to obtain the proper transfer function, and that's not trivial. So most people resort to basic filters, even with the programmable crossovers, and like I said above, that approach doesn't work well.

So the bottom line is, you need to be able to match the transfer function of the passive crossover. If you cannot do this, then the passive crossover will be better than the active crossover. You will negate the benefits of going active by having filters that don't work right for the loudspeaker, and the on-axis and off-axis response will suffer.

Still, I don't mean to discourage you. If you want to pursue it, here is a link that will show you what you need to do:

Crossover optimization for DI-matched two-way speakers

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