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Subject: passive crossover point

Posted by [zobsky](#) on Thu, 19 Jul 2007 04:00:54 GMT

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I thought I'd ask here before I order the parts for the crossovers. I plan to cross my 12 x 5.25" foster midwoofer line to the 49 x 1.125" apex jr tweeter (Fs between 3 - 3.5KHz) line around 5 KHz because the drivers match each in sensitivity around there. Not quite meeting the 1/2 wavelength or 1 wavelength criteria but I don't think I have a choice for a passive crossover. Any suggestions on this point of crossover. Also, I thought about notching out the broad hump below 1KHz but the capacitors needed for a series notch filter at those frequencies are pretty costly. Any thoughts on this?

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Subject: Re: passive crossover point

Posted by [zobsky](#) on Thu, 19 Jul 2007 04:03:18 GMT

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Forgot to mention, I'm thinking of 3rd order butterworth (tweeter line impedance is pretty much a flat 6 ohm, while the woofer line will need a zobel to hold it steady at 6 ohm)

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Subject: Re: passive crossover point

Posted by [Wayne Parham](#) on Mon, 23 Jul 2007 13:28:43 GMT

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When I measured Fred Thompson's ART Arrays, I expected a high-order crossover would be better. As a general rule, I think one can expect this. But in the case of the ART Arrays, they measured better with a simple first-order filter on the woofer array and the tweeter.

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Subject: Re: passive crossover point

Posted by [zobsky](#) on Mon, 23 Jul 2007 17:15:14 GMT

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Thanks for all the help, Wayne. Last week, I used foobar 2000's DSP filter plugin to test various filter types / x-over points and slopes. There didn't seem to be much difference (if any) between a 4KHz and 5 KHz point, so I picked 5KHz as the higher x-over point allows the tweeters to play louder with less distortion. I've ordered parts for a 5KHz / 3rd order filter and a zobel circuit for the

open baffle woofer array . Rather than use a passive filter to tame the mid-bass / mid-range hump, I plan to use the eq. in foobar 2000 for this purpose, if I eventually find it an issue. The tweeter impedance peak is fairly benign (2 ohm above the nominal 6 ohms).Almost there.

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Subject: Re: passive crossover point

Posted by [Wayne Parham](#) on Tue, 24 Jul 2007 16:51:13 GMT

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Very cool!

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Subject: Re: passive crossover point

Posted by [Marlboro](#) on Wed, 25 Jul 2007 17:35:46 GMT

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You may not have to tame anything. One of the characteristics of ganging multiple speakers together is that the the FR's tend to smooth down to a common flatness.I electronically crossed my system  
(<http://pub48.bravenet.com/photocenter/album.php?img=115732&usernum=4095425731>)and purchased a 2/3 octave crossover to tame certain aspects. I took it out of the circuit since its just not needed.Marlboro

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Subject: Here's the output with the crossover and zobel in place

Posted by [zobsky](#) on Sat, 28 Jul 2007 00:07:14 GMT

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I'm satisfied with the result. Thanks, all.

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