Subject: Active Crossover
Posted by Malcolms on Sun, 15 May 2005 16:12:48 GMT
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Hello, I finished building a pair of stage 4pi's using the eminence drivers. I just aquired a behringer dcx2496 digital crossover. I would like some info as to where to set the crossover points. I will be bi-amping using 60w tube mono blocs for the highs and a bryston 4b for lows. Any help would be greatly appreciated. I will post pics of speaks soon. Speak are finished in solid cherry and baltic birch.

Subject: Re: Active Crossover
Posted by spkrman57 on Sun, 15 May 2005 16:23:32 GMT
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60 watts of power for the horns, what stadium are you using these in?Seriously, I run my 4 pi-pro on SEP EL34(9 watts/chnl) and when I need the serious output, I use my MC-240(40WPC) and it threatens to blow the windows out.Keep us posted on the results!Ron

Subject: Re: Active Crossover
Posted by Wayne Parham on Mon, 16 May 2005 01:18:00 GMT
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Set it between 1.2kHz and 1.6kHz, no lower for the PSD2002. You want to be able to set the LF and HF points independently, if possible. Also, you'll want to be sure to use tweeter compensation or it will not sound good.

Subject: Re: Active Crossover
Posted by Eric J on Mon, 16 May 2005 11:35:05 GMT
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As someone who is building a system at the moment with active crosses, its damn difficult to find any power amp with left than 50 watts per channel unless you buy Vellum and build them yourself.So if you put in horns, its over kill. I'm currently leaning to using Fostex 100HT's in my new system, andf the smallest power amp I could find to power the tweets is 34 watts RMS per channel. Luckily with an active system I can turn the gain on the crossover way down to at least get the amp out of that bad power range below 1 watt.You will need to do that. Many amps cannot run adequately below 1 watt without serious distortion. Of course use a tube amp, you

may actually like the qualities of its distortion. I'm using transister amps purchased from ebay.
Eric J.

Subject: Why Independent?
Posted by GarMan on Mon, 16 May 2005 14:16:10 GMT
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Hi Wayne,Can you explain why it would be better if crossover frequency can be set independently for LF and HF? Wouldn't Low-pass and High-pass use the same frequency?gar.

Subject: Some examples
Posted by spkrman57 on Mon, 16 May 2005 20:04:50 GMT
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NOrh SE-9 Single ended EL34 pentode for 9 WPCAlmorro A205 6BQ5 Single ended 6BQ5 5 WPCYamamoto 45 Single ended triode 2 WPCJust to name a few, these are very good amps with horns, I use them to power the entire system though. For more power, try the Cayin push-pull EL34 for 35 WPCRon

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Subject: I stand on my statement
Posted by Eric J on Mon, 16 May 2005 20:36:20 GMT
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A cursory perusal through google gave me no idication of where I might locate one of these exotic little beasts except for the NOrh SE-9 which I found for $400(and you have to like tubes, which I don't), which obliterates 2/3 of what I need to spend on my DIY speaker upgrade to Electronic crossovers. Appreciate the thought though. Sort of out of the question for those of us who have other things to buy such as shoes for the kids, or books for their fall semester, and don't have huge salaries.But just wondering, where would I find one? Certainly not on ebay.eric j

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Subject: Chip amp
Posted by colinhester on Mon, 16 May 2005 22:00:13 GMT
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Eric, Have you looked at the chip amps. They are getting quite rave reviews (see below for one) They list for $39 but can be picked up for $20-25. You could bi-amp your system for around $100. There are also tons of mods on the net that really do make this a "giant killer."I had the pleasure of listening to Ron's Norh last Friday. For $400 this is a nice tube. I have a Cayin TA-30 that was a steal at $550, but I don't think it's available anymore.....Colin
http://www.6moons.com/audioreviews/sonicimpact/t.html

Subject: Re: Why Independent?
Posted by Wayne Parham on Tue, 17 May 2005 00:11:11 GMT
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Sometimes the best summing comes from an asymmetrical crossover having different slopes and crossover points. This is often the case when the drivers themselves have very different positions

tweeter response is shifted by the inclusion of components R1 and R2, moving its crossover point and overall response. But frequency and slope are fixed by the components chosen. With an active crossover, it is nice to have some flexibility.

Subject: Re: Chip amp
Posted by Eric J on Tue, 17 May 2005 20:01:43 GMT
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Colin, How much additional is the power supply?Actually you can pick up a couple of good power amps on ebay for maybe 60 bucks USD.But actually there are lots more expenses, as you know if you have done it. You need a preamp if you are currently using a receiver. You need to buy new speakers if you don't know what the frequency response curve of the ones you have are. You need to purchase an appropriate 24 db slope linkwitz Riley crossover device. You need a separate crossover for the sub if you have one. Finally you need a condenser mic and preamp and RTA program for your laptop, or at least a radio shack sound level meter to balance the different speakers and amps.its a lot of fun but you have to gear up for it.Eric J.

Subject: Re: I stand on my statement
Posted by GrantMarshall on Tue, 17 May 2005 20:54:15 GMT
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Hi Eric.I hear you on the costs side of the equation.I hope I'm not abusing forum etiquette by sending a link to a specific vendor, and Wayne feel free to blow this away if I am, but here is a like to the little amps. Note an optional power supply costs around $20 putting total cost around $50

an amp plus shipping and tax.http://www.partsexpress.com/pe/showdetl.cfm?&DID=7&Partnumber=300-952A review of this little beauty can be found at:http://www.6moons.com/audioreviews/sonicimpact/t_3.htmlLooks interesting for sure without breaking the bank.Grant.

Subject: Re: Chip amp
Posted by spkrman57 on Wed, 18 May 2005 09:58:26 GMT
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Eric, You can take this hobby as far as you want, or as simple as you want. I have always found the more difficult way finds me!By the way, you can go passive crossover between the preamp and amp to save money. Slight loss of gain, but usually not enough to be a problem.Ron

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Subject: Re: Active Crossover
Posted by Malcolms on Wed, 18 May 2005 12:39:45 GMT
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The amps I have are Quicksilver 8417 mono blocs, which I have modded to accept either, 8417's 6550's or el34's. With the el34 it puts out about 35-40 watts. All I change is the bias. I would like to know more about adjusting the slopes Wayne was talking about. What settings or freq. I would use. Malcolm

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Subject: Re: Active Crossover
Posted by Wayne Parham on Wed, 18 May 2005 13:05:06 GMT
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There are crossovers that come with the kits and are shown in the plans. If you're going to do your own active setup, you'll want to check summing through the crossover overlap region. There are several good solutions, all of them asymmetrical.

Subject: Re: Active Crossover
Posted by Malcolms on Wed, 18 May 2005 14:39:55 GMT
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Thanks for getting back Wayne. I already purchased the behringer. It's supposed to be able to configure everthing through software or manually. I just don't know exactly what values to input. check it out if you have time at the behringer sight. It's the dcx2496. It's also the one Newform research sells as a package with their speakers.Malcolm

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Subject: Re: Active Crossover
Posted by Wayne Parham on Thu, 19 May 2005 02:45:11 GMT
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You might use something like Speaker Workshop to set it up. Watch the overlap range between 1kHz and 3kHz, and adjust the LF and HF curves for best response. The mechanical slopes of the two subsystems are different, one being the roll-on slope of a horn and the other being the roll-off slope of a direct radiator, well into collapsing DI. That's why the electrical slopes you'll want will also be different.You'll find a second or third order LF low-pass combines well with a third or fourth-order HF high-pass, with crossover points slightly different, like LF at 1300 and HF at 1900. You could model the system, but it's a lot of work. Might be easier to just download Speaker Workshop and use it. At the frequencies of interest, it works pretty well.
