Subject: tweeter compensation in active set-up
Posted by replay on Tue, 12 Feb 2002 11:01:55 GMT
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hi gang, now that i'm running an active x-over with my 4 pi's shouldn't i change the tweeters compensation network? there is no need to attenuate the tweeter because the x-over takes care of that, right? do i not simply need to simply boost the top octave response? which circuit do i use? am i not wasting power from my quad II's with this original network? wayne, if you can tell me what components i need to extend the top octave maybe Till E can do a sand illustration for me and i'll be all set.thanks guys,cheers,george

Subject: does your active xover have HF eq built in?
Posted by Sam P. on Tue, 12 Feb 2002 11:48:10 GMT
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If not, maybe leave the resistor network and bypass cap alone, to preserve the proper response Wayne designed for. Just remove the 1.6 kHz. xover board from the path, if you have not done so already. Set your level controls for the LF and HF outputs to unity, the speakers comp net will handle the level diff. for you.. If your amps are different, some level tweaking will still need to be done...make YOUR ears happy.tweeter amp + will need to connect to where you soldered R1 and R2 to each other. the xover board HF + out is/was wired there.tweeter amp - out will connect to the other end of R2, which is also connected to the - terminal of the HF driver. the xover board LF - out is/was wired there.bass amp + out will wire directly to the + terminal of the woofer.bass amp - out will wire directly to the - terminal of the woofer.It would be simplest to remove the HF wires where they exit the xover board, then extend them back to the amp...that way you don't have to mess with R1/R2 solder joint, etc. at all. Same goes for the LF wires, remove the wires at the old xover board, and extend them back to the amp. Easy to fix back into the original config. later if needed. Good luck, Sam

Subject: Re: does your active xover have HF eq built in?
Posted by replay on Tue, 12 Feb 2002 11:57:10 GMT
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hi sam, the original eminence x-over was already removed. everything sounds fine and the output levels have been optimized on my rane x-over. my question is: am i not still attenuating the tweeter to match the woofers output with this original tweeter circuit and thus wasting valuable power?thanks,george

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Subject: Re: does your active xover have HF eq built in?
Posted by Wayne Parham on Tue, 12 Feb 2002 12:39:00 GMT
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When running an active crossover, remove the passive crossover, including the tweeter compensation circuit. At the preamp/crossover, provide tweeter EQ with the following curve:

Subject: Re: does your active xover have HF eq built in?
Posted by Adam on Tue, 12 Feb 2002 12:52:42 GMT
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Wayne, what type of horn are the CH-3's? Constant directivity? The response graph in your papers doesn't show any HF rolloff other then the natural 3db of the driver. No worries, just curious.Adam

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Subject: are you driving the HF with the quad II's?
Posted by Sam P. on Tue, 12 Feb 2002 13:14:46 GMT
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Then don't sweat the lost power, if the end result is a more linear freq. response. Sure, you don't have the intimate amp to voice coil interface like the bass driver, but hey, the HF is damped by the network, yes? Later, you might wish to try learning about the opamps/active filters more, with an eye towards being able to tailor a gain stage to have the desired EQ characteristics the HF needs for being flat. Can also add a stage with low end eq for the bass. For example, in my preamp, there is a "+6 dB at 50 Hz." contour circuit...all it is, is a cap and resistor in front of a gain stage. There is even a bread board type kit out now, to learn and play with these things. And web resources. Depends on how far down the road in this hobby you wish to travel. Sounds like you already have your system pretty well sorted out for now. Sam

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Subject: Re: does your active xover have HF eq built in?
Posted by ToFo on Tue, 12 Feb 2002 13:42:14 GMT
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Replay,which rane x-over? My AC-23 has holes in the board for a cap correcting CD horn response. If you use a smaller cap you could compensate for a higher freq. The Rane manual covers this topic, but doesn't list frequencies higher than 6K. If you do not have a manual, Rane has all of this online.Thomas (the latest Pi newby)

Subject: Re: does your active xover have HF eq built in?
Posted by replay on Tue, 12 Feb 2002 13:47:39 GMT
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hi wayne! my x-over is a rane ac22 2 way x-over with 24db/octave filters. there is no hi-freq eq, just low & high gain controls. should i purchase an eq to run between the x-over and amp thus enabling to correct the response curve of the psd2002? really the sound now is fine with your tweeter network installed, i'm just want to get the best sound possible.cheers,george

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Subject: x-overs for dummies! wayne please translate
Posted by replay on Tue, 12 Feb 2002 14:09:15 GMT
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hi wayne, based on this chart what do you suggest?thanks,george

http://www.rane.com/pdf/crossmod.pdf

Subject: quad II's for the top, mission for the bottom (nt)
Posted by replay on Tue, 12 Feb 2002 14:24:24 GMT
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Subject: Re: does your active xover have HF eq built in?
Posted by Wayne_Parham on Tue, 12 Feb 2002 18:37:12 GMT
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The side walls of the CH-3 are straight, forming a constant 90o pattern in the horizontal plane. Thus, the on-axis response tends to track the driver's power response. Not completely, because the vertical pattern isn't CD. But enough that top octave compensation is necessary.

Subject: Re: does your active xover have HF eq built in?
Posted by Wayne Parham on Tue, 12 Feb 2002 22:17:40 GMT
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Look through your manuals because I think your crossover has an option for CD equalization. That's what you want. If not, you'll need to find another way to add EQ.