Subject: Xover
Posted by Adrian Mack on Thu, 22 May 2003 08:11:10 GMT
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Hey Wayne.The 1KHz crossover I showed you before, it has 8db compensation. P.Audio states a sensitivity of 105db 1w/1m for the PA-D45. So with 8db of compensation, will this lower the sensitivity to 97db 1w/1m? The midrange tractrix horn with alpha 6 which the JBL 2370A's will be crossed over will be 105db 1w/1m.... A lot higher than the 97db for the high frequency part. I dont know what I will do here, maybe another lpad can be fitted into the crossover somewhere?Thanks for any help!Adrian

Subject: Re: Xover
Posted by Wayne Parham on Thu, 22 May 2003 09:11:33 GMT
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Well, yes.  If you're going to expect the speakers to be flat when used with a single amplifier, then you're going to need a passive crossover and it is going to have to pad the midrange and tweeter down unless you can use a more efficient woofer subsystem to bring the bass up.But even when padding the tweeter and midrange horns, you still retain much of their benefits.  The advantages of using horns extend to other things besides efficiency - You'll still have their reduced distortion and extended dynamic range.To pad the midrange down 8dB, I'd suggest that after the crossover, you should connect a 4 ohm resistor in series with the midrange and then 4 ohms in parallel across the midrange speaker terminals.

Subject: Re: Xover
Posted by Adrian Mack on Thu, 22 May 2003 09:41:34 GMT
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Hey Wayne.Basically, what I will be using is:JBL 2370A with PA-D45 compression drivers from 1KHz - ~18KHzEminence Alpha 6 on tractrix midrange horn, 300Hz-1KHzJBL 2226H 60Hz - 300Hz, just as direct radiator, sealed boxThe PA-D45's and Alpha 6 is what will be used on the 2way 1KHz Pi Crossover. So obviously this is on the same amplifier.... the 2226H will be on another amplifier though, and if I remember correctly, is 97db too (but who cares, its bi-amped with a large amp :-). Since the PA-D45's will be 97db with attenuation, I would have to pad the Alpha 6 down 8db as you've suggested. I am pretty sure I know what you mean by dynamic range, when you say you get an extended dynamic range with the horns though, I dont understand completely.BTW: Would you reccomend a high pass filter a bit below 300Hz for the Alpha 6 to reduce cone excursion and hence distortion? This of course would be done using an active xover, I can design this myself.Thanks!Adrian

Subject: Re: Xover
Posted by Wayne Parham on Thu, 22 May 2003 18:03:52 GMT
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Dynamic range is the difference between the highest output a device can generate and it's lowest. So basically, the maximum output of a speaker sets its dynamic range. If you pad a speaker you don't lose dynamic range - You set the level that is required to get it there.As for a high pass filter to the Alpha 6, I'd probably use one. If you don't, you'll be sending bass to the midrange driver. Some large-format drivers are OK when done this way, particularly if they are used at relatively low volumes and housed in cabinets that reduce their excursion. But I don't think I'd want to send send much low frequency energy to an Alpha 6.