Subject: 4 Pi crossover
Posted by Joe Sever on Fri, 11 Mar 2016 01:41:56 GMT
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Wayne,

As I have made a few changes to my speakers recently, and plan to do a few more, I thought I might as well check in regarding the latest version of the 4 Pi crossover.

Specifically, I've installed a pair of H290 to replace the SEOS-12 (big improvement).

I'm about to move from the Omega Pro-15A to a woofer that I've rather not reveal just yet (Qts = 0.32; Fs = 35 Hz), but which at 99 dB is roughly 2 dB more efficient than either the 2226H or the Omega.

My compression driver is 110 dB efficient, making the delta of 11 dB fairly close to that between the 2226H and DE250.

I'm certain I don't have an Rs or C1 in my crossover, and currently R1/R2 are 30 ohms/14 ohms.

I believe that the new values should be:
Rs = 16 ohm
R2 = 16 ohm
R1 = anywhere from 15 to 25 ohms?!

I'm finding what appears to be conflicting (or perhaps just outdated) information on how to determine R1.

I'd appreciate your guidance, or at the very least the latest schematic.

Cheers,
Joe

Subject: Re: 4 Pi crossover
Posted by Joe Sever on Fri, 11 Mar 2016 01:58:18 GMT
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I don't know how many times I've done this calculation, but each time I clearly mixed up the 4 values for R1...

It's 25 (50 & 50 in parallel).

I'll likely roll it back to 22 ohms, as I have that value on hand and it's between 16 & 25 which would attenuate 10 & 12 dB, respectively.

Back to your regularly scheduled programming.

Subject: Re: 4 Pi crossover
Posted by Wayne Parham on Fri, 11 Mar 2016 18:41:26 GMT
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I'll send plans. My suggestion is to use the crossover components for the DE250.

Subject: Re: 4 Pi crossover
Posted by PeterCL on Fri, 18 Nov 2016 21:05:28 GMT
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Hi Wayne,

a question about 4 Pi XO... in the plans you sent me appears a L3 inductor, the same is showed in the picture about gaskets:http://audioroundtable.com/forum/index.php?t=msg&goto=51946#msg_51946
but I didn't find it in the Speaker_Crossover.pdf document or Spice models, what is it for?
Thanks!

Subject: Re: 4 Pi crossover
Posted by Wayne Parham on Fri, 18 Nov 2016 22:48:17 GMT
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Early Spice models and the ~1999 Speaker Crossover document show earlier versions of our crossovers, some using drivers that aren't used any longer in any models of our loudspeakers. They are useful as demonstrations, but current models may use different components. See "Crossover optimization for DI-matched two-way speakers" for more information on Spice models.