Subject: I guess I kinda messed up!
Posted by GarlandB on Tue, 13 Dec 2011 18:57:45 GMT
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Wayne and all,

After building and rebuilding and building again my crossovers first used in the Theater 4s and now up-dated for the new 4 Pis I just went in and thought I'd up-grade a few components for Christmas and discovered that I have been listening to a 20uF cap for C4 in the woofer circuit instead of the 10uF as specified. Funny, but the sound was OK- nothing too amiss. Was the low freq. cut-off too low and therefore there was a notch in the response and hense not that noticable? I immediately swapped in the 10uFs and heard a possible improvement in bass definition but I'm not sure since the system has been jostled around a bit to make room for the Christmas tree and the sound is different anyway as a result. What would you expect the effect of using twice the capacitance in the c4 position as I had done?

Thanks and happy holidays; merry Christmas to all,

Garland

Subject: Re: I guess I kinda messed up!
Posted by Wayne Parham on Tue, 13 Dec 2011 19:50:05 GMT
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That change actually does something very subtle and can be considered "perfectionist mode". It shifts the forward lobe upwards about 5°. The crossover point doesn't change, and response - at the center of the lobe - doesn't change either. But it does shift the position of the forward lobe in the crossover region, and as a consequence, this also shifts the vertical nulls.

With a 20uF capacitor C4, the nulls are about +15° and -25°, meaning the top null is about 15° above the baffle normal (straight forward) and the bottom null is about 25° below the baffle normal. With a 10uF capacitor C4, the forward lobe is nicely centered, with vertical nulls at +/-20°. It's not a huge change, but it does make enough a difference I thought it was worth doing. You'll hear the difference if you're standing up, listening fairly high above the centerline.

Subject: Re: I guess I kinda messed up!
Posted by GarlandB on Wed, 14 Dec 2011 18:19:02 GMT
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Thanks for the info, Wayne. I really enjoyed listening last night; the family was away for a while so I could really crank it up and play some real ROCK! Green Day's American Idiot, The Yes Album, The Eagles all sounded hugely dynamic at levels at which I'm glad I don't get to listen very much.

We do need to save our hearing esp. at my age edging up into the 60's!

Soon I'll rig up my old Theater 4 boxes with Omega pro 15s as subs. That should be interesting!

Thanks again!

Garland
