Subject: Help With 4Pi Build
Posted by DSD on Tue, 31 Oct 2023 17:31:38 GMT
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I am finally building a pair of 4 Pi speakers that I have put off for a very long time. I have a couple of questions that I hope someone can answer.

First, one of the inductors has become detached from the PCB crossover board. I see that a silicon glue was used, and that this takes a very long time to cure. Does anyone have a suggestion as to how I can re-glue the inductor to the board so that it can be mounted in a speaker within a week or two?

Second, for internal wiring, it looks that I can use 16 gauge speaker wire if I want to solder directly to the crossover board, or I need to use crimp connectors if I want to use a thicker gauge wire. 16 gauge wire seems a little thin, but will it make a difference, is there a preference?

Finally, both R11 or R13 insulation are recommended, but I think I remember reading somewhere on this forum that one is preferred. Is one better than the other?

Thanks,

Daniel

Subject: Re: Help With 4Pi Build
Posted by Wayne Parham on Tue, 31 Oct 2023 21:03:26 GMT
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The coils are fastened and cushioned with silicon adhesive, most commonly sold in a tube for use as a caulking product. Just form a big "blob" with it and press the coil into it.

The thickness required makes curing time longer, but it will "skin over" in a day and will cure deeper and deeper into the mass as the days go by. You can definitely mount the board inside the cabinet in two weeks.

What causes a problem is impacts, which can jar a coil loose if the silicon cushion has only cured for a week or two. So just avoid large impacts. Easy to do, really - only actually a problem during shipping 'cause sometimes packages get tossed around pretty violently.

About wiring, honestly, 16 gauge wires for internal hookup are completely fine. You can go larger, of course, that never hurts. And you can solder directly to the board, if you want. I like the convenience of using spade lugs though.

As for insulation, either R11 or R13 is fine. I would say I prefer R13 but it's not bad at all to use R11. Both are fine. The main thing is to apply the sheets as described - one sheet on the rear, one on top and one on the side nearest the port. And the most important one - that is sometimes overlooked - is the sheet that rests on the cross-brace between woofer and tweeter. This sheet

spans the cross-section of the cabinet, dividing it into two "compartments."  Midrange is trapped but bass passes right through.

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Subject: Re: Help With 4Pi Build
Posted by DSD on Tue, 31 Oct 2023 22:58:56 GMT
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Thanks Wayne.

I definitely have read about the insulation between the woofer and tweeter many times, so I won't forget!

Daniel

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