Subject: Four Pi Build - recessed drivers
Posted by arbakken on Thu, 04 May 2023 03:24:20 GMT
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I've started the build of my four pi speakers out of baltic birch. I grew up with access to a full woodshop, but I don't have room for such things so a circular saw and a Kreg Accu-cut will have to do! I will be veneering them (probably walnut) so if my cuts are off by a hair it's okay (or so I tell myself)

I have a pair of used (new?) JBL 2226HPL, and the DE250 compression drivers are on their way. UPS says that my waveguides and crossovers are showing up tomorrow, so things are coming together. I have them all glued up except the backs, with a few 18 ga nails to help hold stuff together. I just trimmed all the edges and sanded them up a bit. All the internal bracing was done by laying the pattern out with a pencil/straight edge, drilling holes in the corners, cutting with a jig saw, and routing the edges. The woofer baffle is double thick, and I added 1/2" to the depth of the box to compensate. I modeled the entire box up in Solidworks (Wayne, if you want my drawings you can have them). The way I laid it out there is very little scrap on two 5'x5' sheets of baltic birch.

I'm planning on recessing my drivers and think I have a plan to make that happen. I haven't seen a real clear guide to recessing the waveguides so I thought I'd make one, assuming it works.

Do I need to recess them the same amount so the acoustic center doesn't change?

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1) IMG_0058.jpg, downloaded 434 times
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Subject: Re: Four Pi Build - recessed drivers
Posted by compaddict on Thu, 04 May 2023 04:17:10 GMT
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Nice work!

Subject: Re: Four Pi Build - recessed drivers

Posted by Wayne Parham on Thu, 04 May 2023 14:57:24 GMT
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Lookin' great!

As for keeping the recess thickness the same, you have a pretty good amount of wiggle room there so you can set them as you like for aesthetics.

The go into a little more detail, remember that your forward lobe is 90° x 40°. The vertical nulls are just outside that, above and below. If you move the woofer or the tweeter forward or backwards with respect to one another, you are essentially adjusting the "tilt" slightly. Fractions of an inch create very slight angular offsets. Not enough to matter.