Subject: Re: 4 Pi Build in San Luis Obispo - Parts Arrived, Got a Router Jig
Posted by Wayne Parham on Thu, 25 Mar 2021 21:25:29 GMT
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Nice work so far. And man, I hear you about the "things get in the way" issue when doing projects. I always have several projects underway, and like you, I have several disruptors. But I always try to remember that a mountain is climbed one step at a time and that it pays off to sometimes take detours and rest breaks. I sometimes have to tell myself this because my nature is to get stressed and try to conquer the mountain in one day. Never any good in that. So I know to always enjoy the disrupters rather than to endure the disruptors. In fact, even my terminology is wrong, in that I should change from calling them "disruptors" to maybe "detours" or even think of them as "fun distractions."

Anyway, I digress.

To answer your questions:

1. Horn damping. It doesn't hurt, that's for sure. Some people swear by it. I personally don't find it useful because the H290C is so thick and heavy. It's well-damped, as dead as a rock. Its bell mode is over an octave below the passband, at around 420Hz. So the sound passing through it cannot energize it and the sound on the outside of the horn is damped by the insulation within the cabinet. Still, you won't hurt anything by adding rope calk or any other sort of damping goo on the outside.

H290C (unmounted) Bell Mode

2. Port location for flanking subs is unimportant because the sound emanating from the port is almost purely the Helmholtz region, certainly very little up high. I do think it's useful to have the woofer cone forward-facing, since the lower-mids emanate from there.

3. Sorry that I'm not as much help here as the woodworkers. Usually the cabinetmakers I've worked with show me samples that I choose from. But I do know you can buy online and many of the online sellers will also show grain images.

I've shopped at "Woodcraft Supply" - which is both online and has "brick and mortar" stores - and found excellent veneers there. They also have nice "chunks" of wood which were great when I was making CNC wood horn/waveguides. The link below shows some of the veneer products they have available online and/or in the stores.
Woodcraft Veneers
4. I like to use 10/32 thread button head screws with black oxide coating. They're attractive and fit nicely. Use T-Nuts or threaded inserts. The length depends on whether you surface-mount or flush-mount, because the depth of the baffle and any additional backing you might provide for strength behind a router groove sets the length needed. But I tend to find that 1-1/4" seems to always work.