Subject: PI 2
Posted by jon anderson on Tue, 07 Jan 2020 00:14:57 GMT
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Just wanted to say thanks to Wayne for the great design. I had been looking at building these for a long time, and am sooo glad I decided to take the plunge. Made a few changes to suit my taste, but kept strictly to the measurements and dimensions. Can't tell you how amazed I was when I first heard them! They really sound great with almost any type of music. Now I am going to build the flanking subs and will dive into the 4's very soon. I have been building speakers for a very long time, and have to say that this simple design has really got me going again. By the time I'm done, I'm sure I will have built every speaker that Pi offers. Just a few pics to add to the many great ones! Cheers to all! Jon

File Attachments
1) IMG_2473.jpg, downloaded 852 times
2) IMG_2474.jpg, downloaded 716 times
3) IMG_2475.jpg, downloaded 848 times

Subject: Re: PI 2
Posted by rvsixer on Tue, 07 Jan 2020 11:40:22 GMT
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Those look great.

I do wonder what effect changing the design mounting plane of the woofer has.

Subject: Re: PI 2
Posted by Rusty on Tue, 07 Jan 2020 15:07:21 GMT
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Those look fabulous. Especially your chamfering the baffle with the woofer on the inside.

Subject: Re: PI 2

Posted by Wayne Parham on Tue, 07 Jan 2020 15:19:02 GMT
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Those speakers really look great!

Subject: Re: PI 2
Posted by jon anderson on Tue, 07 Jan 2020 15:40:14 GMT
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I mentioned it to Wayne and showed him pics, it didn't seem to be an issue. They sound fabulous.

Subject: Re: PI 2
Posted by rvsixer on Tue, 07 Jan 2020 15:49:58 GMT
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Great. I really like the look of the recessed woofer.

Subject: Re: PI 2
Posted by Wayne Parham on Tue, 07 Jan 2020 17:27:27 GMT
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Fore-aft driver offsets naturally shift the forward lobe centerline. But when I've measured one Pi and two Pi speakers that had drivers mounted flush and compared those with surface mounted drivers - with about 3/8" difference in the fore-aft offset - the difference isn't immediately obvious.

Without waveguides, the pattern isn't uniform through an arc. It is an averaged energy, sort of like the reverberent field. It tends to be a little more uniform across the horizontal than the vertical, but I still tend to see them as creating a statistical energy distribution.

There is a "perfect spot" where the acoustic centers are the exact same difference to the listener, and where the drivers are close enough to on-axis that their amplitude response is basically the same as on-axis. It's within about 10° of being straight on-axis. So as long as the fore-aft offset is within this range, the location of the forward lobe simply shifts up or down a little bit.

But most listeners aren't in this location. The forward lobe - which is actually more like a forward strata - is pretty narrow vertically. The horizontal coverage is a little wider, but even then, we're still talking about a speaker that isn't made for constant directivity. It provides a uniform energy distribution statistically, but it does not provide constant directivity like the larger models do.