Subject: One more time
Posted by steve f on Sun, 14 Nov 2010 04:22:00 GMT
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Wayne,

Sorry, but I need to bother you one more time. Because of space restrictions, I was going to build a pair of 2 PI speakers set sideways. Trouble is, I love the CD of your horn loaded models. I don't want to give that up. The big question is "Has anyone tried to build a sideways mounted pair of 3 PI's?" Will that work? Low frequencies have sub reinforcement in my room.

Steve

Subject: Re: One more time
Posted by Wayne Parham on Sun, 14 Nov 2010 04:36:54 GMT
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Not sure about that one. I think it would fit, so it might be worth a try. There have been several

Subject: Re: One more time
Posted by steve f on Tue, 16 Nov 2010 08:51:23 GMT
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Wayne,

I'd like to give a 3PI tower version a try. Would you please send me 3 PI plans? Thank you.

Steve

Subject: Re: One more time
Posted by Wayne Parham on Tue, 16 Nov 2010 09:31:19 GMT
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check internal standing wave modes. One of the most common problems I see with tower configurations is internal standing waves lining up in an unfavorable way and causing response anomalies. When you make a tower, the positions of woofer and port become somewhat critical. This is true for any large speaker with a midwoofer used through the midrange, but even more so

with towers. There's more potential for unwanted standing wave problems. See the posts at the link below.
Internal Standing Waves

Subject: Re: One more time
Posted by steve f on Tue, 16 Nov 2010 17:52:01 GMT
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Thank you Wayne. I was planning on following your lead by trying a box shape similar to your 2 PI, measuring, and hopefully tweaking dimensions for the final project.

Steve

Subject: Re: One more time
Posted by Wayne Parham on Tue, 16 Nov 2010 21:02:21 GMT
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I'm sure you can make it work, it's just not a slam dunk like it is with smaller boxes. Of course, smaller boxes trade-off extension or efficiency or both. So I'd rather deal with the added complexity of making sure the standing waves don't lump up around the port.

midwoofer and tweeter packed pretty tightly up top. It won't fit, to tell the truth, so you'll have to move 'em down a little. And cabinet volumes are different too, so you'll need to modify the dimensions for that as well. You can't just put the midwoofer and port the same distance from one

isn't just the relationship between the two sound sources but also internal reflections, the distances to the top, bottom and sides. All this means it isn't apple-and-apples.

You'll just have to measure the speaker when you're done and hope for the best. Maybe build a sacrificial speaker first, and that way if it doesn't work out, you won't be out much. Use either scrap wood or perhaps MDF without a finish. If it measures well, you can add the veneer and finish after it has been proven in testing.

Subject: Re: One more time
Posted by steve f on Wed, 17 Nov 2010 17:40:44 GMT
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Wayne,

My initial space requirements aren't that far from the 3 PI turned sideways. Most table/low cabinet

furniture is 30-32 inches tall. I can make the box 31 inches, an inch taller. I would like to maintain a 15 inch width for the front baffle. That would leave 18 inches for depth. Not a huge change from your design, provided sideways works. I agree with you. A sacrificial box is the way to go. I'll build one out of MDF that has removable panels, and a couple of different baffles. So the first trial will be a box of 31 X 15 X 18 placing the drivers height wise near your original design. I prefer to place the vent on the back. If it doesn't measure well, I'll add to my scrap wood pile & try again.

Steve

Subject: Re: One more time
Posted by Wayne Parham on Wed, 17 Nov 2010 19:14:22 GMT
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Good idea, I think that's an excellent plan. Keep us posted with your progress and let us know how it works out.