Subject: A Possible 2.5 PI?
Posted by steve f on Mon, 01 Nov 2010 05:53:49 GMT
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I've got a problem; my living room is small. I recently built a pair of 1 PI speakers. I love them. I put them in my living room to replace a popular mini-tower horn loaded system. They are physically too wide for the room. Where the original speakers fit nicely, the PI's don't. I can't leave them out in the room. The 1 PI's are relegated to my garage shop where they are playing nicely. So I need to build a 12-13 inch wide tower pair for my room. So... I thought this might work. My first idea is to build the 2 PI's sideways so they fit the space. Idea number two is to take this a step further and build the same 2 PI's, but horn load the tweeters like 3& 4 PI's. I already have a pair of the Eminence horns and drivers as Wayne uses in his higher end designs. (My third idea is to throw out my TV monitor and cabinet to gain more space and risk divorce.) My concern is that the narrow woofer baffle may become too narrow and need baffle step correction and I hope to avoid that. Help please, advice needed.

Steve

Posted by Wayne Parham on Mon, 01 Nov 2010 14:35:32 GMT
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Some people have built the towers "sideways" and have liked the results. I would suggest doing that instead of the smaller bookshelf model if they're going to be used as mains and not surrounds, especially if you won't be using subs.

About baffle step compensation, I'd suggest it might be better to incorporate subs than to try and push the mains down deeper. That's one way to deal with reduced bass output and it has the added benefit of helping smooth the modal region too.
Baffle Step

is. It uses a midhorn to control directivity because the pattern without a horn is too wide. A larger midwoofer driver narrows directivity at lower frequency and is a good match for the tweeter horn but the smaller midwoofer needs extra pattern control, so a midhorn is used.

be made that adding a horn doesn't necessitate matching directivity. But to me, that's the main advantage of using the horn in the first place. We're looking for controlled directivity. So if you

design. That's my advice.

Posted by steve f on Mon, 01 Nov 2010 15:34:11 GMT
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Wayne,

Thanks for the quick reply. To be honest, I completely forgot about the 8 PI. It's also too wide for my room, but I get the idea. I agree that directivity matching is important. I would prefer CD, but it doesn't seem possible for my room. (Heck, then I'd be considering 4 PI because I can't place a corner horn anywhere.) My next house will be much more audio friendly.

Unless I can make a few changes in the room itself, "sideways" 2 PI may be the answer. I could have massaged the dimensions of a pair of 1 PI as I do have subs, but a tower is preferred as I don't like speaker stands. Out of curiosity, what is the f3 for your 2 & 8 PI speakers?

Steve

Posted by Wayne Parham on Mon, 01 Nov 2010 19:47:53 GMT
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midhorn. It does provide CD, but from what you've said it isn't an option because of size constraints.

so), it sounds really nice. The soft dome tweeter is a good match and the system sounds great.

(Click on image to zoom in)

(Click on image to zoom in)

Posted by steve f on Tue, 02 Nov 2010 15:51:11 GMT
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Wayne,

I agree. Unless I can convince my much better half that she really doesn't need her cabinets.

Then 4PI here I come. Seriously, the 2 PI "sideways" is a really good design that a lot of audiophiles would enjoy. When I get more space, I'm sure they will make great surrounds or a nice bedroom system.

Steve
