
Subject: 4Pi Speaker Plans request

Posted by [brewthunda](#) on Sat, 20 Aug 2011 00:00:21 GMT

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Hi Wayne,

I'm getting the itch to build a new DIY speaker project. I'm currently running North Creek Rhythms that I built 9 years ago, but now I'm looking for a bit more dynamic slam. The 4 Pi's look right up my alley. Can you send me the plans?

Many thanks!

Best regards,

Mark

Subject: Re: 4Pi Speaker Plans request

Posted by [Wayne Parham](#) on Sat, 20 Aug 2011 00:33:35 GMT

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You've got mail!

I would also suggest reading the material at these links for more information:

High-Fidelity Uniform-Directivity Loudspeakers

Room modes, multisubs and flanking subs

Subject: Brainstorming my speaker strategy

Posted by [brewthunda](#) on Wed, 24 Aug 2011 22:25:43 GMT

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Thanks, Wayne!

I wonder if I could pick your brain for a moment.

We recently moved to a new house and our tv setup now resides in a large living room area. The room is 35' x 29' and has a ceiling that is 12' on the sides, rising up to 25' at the peak. Our tv/speaker setup is in a corner, aiming out into the room at roughly a 30 degree angle. The tv setup includes a Marantz SR7000 receiver bought in 2000 and a pair of Cerwin Vega VS-120's that I bought in 1992 back in college. We also use a NHT center channel speaker with a MTM configuration.

Up until now I've been pretty happy with the Cerwin Vega's for what they are. The advertised specs claim 97db sensitivity, so they play loud easily, but the sound has never really been what I would call "refined". We previously used them solely for TV/Movies in our basement and would

listen to music on our dedicated 2 channel system based on my North Creek Rhythms and Rega electronics. I love the refinement of the North Creek Rhythms, but wish they had a bit more dynamic slam.

With the move to the new house our listening and living patterns have changed quite a bit. The North Creek system is now in a cozy music nook upstairs and the tv setup is now in our living room. When we hang out as a family or entertain friends, it's now in the living room with the Cerwin Vega setup. With the big room, we are often listening far off-axis and the Cerwin Vegas just don't sound so hot. The NHT center channel is also only good if you're sitting in the sweet spot - anything off axis sounds awful (who came up with the idea of a horizontal MTM layout for a center?).

So what I'd like to do is replace the Cerwin Vegas, ditch the NHT and try to keep the Marantz. I'm looking for something that sounds good over a wide area, something that can fill that big room with effortless sound, something with a bit of slam for realistic reproduction of live music and something that can do away with the need for a dedicated center channel speaker. I want it to sound good for both music and tv. I figure I'll probably need a sub of some sort to fill in the bottom range.

So my questions to you are:

1) Am I on the right track looking at the 4 pi's?

2) What would you suggest for a subwoofer? Can I get away with one sub in the corner behind the speakers (maybe like a Parts Express Titanic 15" kit)? Or would a couple of 3 Pi subs be better? In your professional opinion, how much subwoofer do I need for a 1,000 sq foot room with 12-25' ceilings?

Thanks and sorry for the long post!

Subject: Re: Brainstorming my speaker strategy

Posted by [Wayne Parham](#) on Thu, 25 Aug 2011 02:29:40 GMT

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upgrade over what you have right now. They're as loud as those Cerwin Vegas and much, much speakers with multisubs are in a different class, night and day better sounding.

But even just the stock drivers are much, much better than Vegas, which always defined the standard definition of mudmotor bass to me. Still, go with the upgraded drivers, because the speaker still doesn't cost much for what you get, which is a price-no-object, world class audiophile speaker that can hit concert sound pressure levels. It's delicate and powerful, all in the same

package.

The choice on whether or not to go with two or four is really dependent on how much damping your room provides for its modes. I'd probably go with two flanking subs first, because those are definitely needed to smooth the floor bounce and back wall notches, which is in the midbass to lower midrange. They'll also smooth other room modes, but maybe not the deepest one. If you still have a valley somewhere in the room in the 30-50Hz range, then go with another sub or two placed further away.

Setup in the room as shown in the document I referenced earlier. The crossed-axes configuration provides a natural phantom center channel. It gives great imaging over a large area, basically a really wide sweet spot. So you can throw your center channel speaker away. Put a pair of one

Subject: Re: Brainstorming my speaker strategy
Posted by [brewthunda](#) on Fri, 26 Aug 2011 14:02:57 GMT
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Perfect. Thanks, Wayne!
