
Subject: 7pi cabinet plan request
Posted by [jtavan](#) on Tue, 11 Oct 2011 22:05:39 GMT
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I've finally got some room available in the corners of my living room, and I think some corner horns are going to need to live there. May I please have a copy of the plans for the 7pi?

Subject: Re: 7pi cabinet plan request
Posted by [Wayne Parham](#) on Wed, 12 Oct 2011 02:24:05 GMT
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Subject: Re: 7pi cabinet plan request
Posted by [jtavan](#) on Wed, 12 Oct 2011 04:33:40 GMT
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Thanks very much, Wayne. Now I need to find someone locally to slap together some quick ugly test cabinets for me before committing to a pretty implementation - I don't have the appropriate woodworking tools, my garage being full of photo gear instead.

I have the capability to do fairly extensive digital active crossovers in software using Pure Vinyl. Would that be a suitable way to prototype, or would it be better to build up the specified speaker level passive from the get-go, perhaps rebuilding with higher spec parts later?

Subject: Re: 7pi cabinet plan request
Posted by [Wayne Parham](#) on Wed, 12 Oct 2011 04:52:38 GMT
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If you don't have good acoustic measurement gear and experience using it, don't attempt a crossover (re)design. I've put a lot of time into these designs, and the crossovers are optimized to as close to perfection as is possible.

I don't want to discourage experimentation but at the same time, I don't want anyone to think it's a piece of cake to design a crossover. Even with all the best tools, it's a non-trivial exercise. I spend dozens of hours on each crossover - and that's after literally three decades of experience refining this loudspeaker type. So I have a good idea what to do each time, and yet it still takes me dozens of hours.

You can leverage the countless hours I've spent perfecting them by using the crossovers

designed for these speakers. Frankly, you're going to be better off that way. In other words, don't take on a crossover redesign unless you have a lot of time to kill or you just want to experiment to see how things work.

See the links below. The first link discusses a two-way crossover, which is one element less complex, and yet you'll see some of the steps involved. It's just not a casual afternoon job. The second link shows an overview of the design goals of the constant directivity cornerhorn, of the matched-directivity two-way loudspeaker and of multiple subwoofers to provide uniform coverage in the modal region.

Crossover optimization for DI-matched two-way speakers
High-Fidelity Uniform-Directivity Loudspeakers

Subject: Re: 7pi cabinet plan request
Posted by [jtavan](#) on Wed, 12 Oct 2011 06:01:23 GMT
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As it turns out, I do have calibrated audio test equipment and some experience using it, but unless I end up deviating from your recommended plans for some reason, I understand the sense in using a well-tuned existing network. I'll build stock networks.

Regarding midranges: I see that people have been using the JBL 2012 in the midrange horn, but you do not offer this unit in the 7pi kits. Are you no longer recommending this drive unit for the midrange horn? Additionally for the kits, I'm a little confused about the pricing model. You offer the wood tweeter horns for \$700, but the 7pi kit (nominally including horn tweeter) is only \$450, and the illustration shows it with your wood tweeter horn. Is this incorrect and it includes the H290 horn instead?

Thanks!

Subject: Re: 7pi cabinet plan request
Posted by [Wayne Parham](#) on Wed, 12 Oct 2011 13:11:54 GMT
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Yes, the kit includes an H290. The wood tweeter horn is an upgrade option. As for the JBL 2012, it is a great part, but is no longer available. But it has been tested and optimized with the components shown in the schematic.
