Subject: Re: Information about the 3 Pi Subwoofer
Posted by Wayne Parham on Fri, 01 Feb 2013 19:21:03 GMT
View Forum Message <> Reply to Message

Those are good questions, thanks for asking.

It was designed to be a high-quality subwoofer in a convenient size. It isn't specifically designed to be a flanking sub, but its smooth response reaches high enough it is quite good as a flanking sub. It's low-frequency extension is deep enough it works great as a distributed subwoofer too.

I have larger subwoofers available, but they aren't convenient for multisub placement. The three

intrusive, but large enough not to give up too much efficiency.

My larger subwoofers are all much more efficient, so if you need that, it's available. What I don't have in the line is a smaller subwoofer that's less efficient. A smaller box might be worthwhile for smaller rooms - those that need multisubs even more than larger rooms do. But a smaller box would need to be less efficient.

I chose a vented alignment because I think vented cabinets are the best direct radiating configuration. I really only design bass-reflex and horn systems.

Sealed systems are alright, but they don't load the woofer as well down low, so excursion and distortion are higher. Some say they prefer the reduced group delay from a sealed box but that's non-sequitur because room modes swamp loudspeaker phase. So I find no benefit in sealed cabinets, only disadvantages.

Bandpass boxes are probably OK but I never heard one that I didn't think sounded "tubby". They're not for me. If I want to build a bandpass system, I prefer to build a horn. That way I get a lot more than just a bandpass, I also get increased acoustic loading, reduced excursion, greater efficiency and all-around better sound. Of course, a horn is a larger box. But if I need a smaller box, I'll run a bass-reflex system.

Transmission lines and "tapped horns" aren't attractive to me because they suffer from standing waves in the passband, and those almost always cause junk at high frequency. What I mean by "junk" is big anomalies, like 10dB peaks and notches. Some people find this sound interesting, you'll hear people describe the "grunt" from a tapped horn, for example. But midbass/midrange "grunt" is not something I want from a subwoofer. Usually transmission lines are stuffed with insulation to damp these higher frequency standing wave modes, but it is an anomaly that I'd prefer to avoid rather than to mitigate.

subwoofer, but it is very large. Overkill, by a long shot, for home theater. You can get subs that go lower, but they are usually T-Lines or tapped horns with the grunt. Sometimes you'll see a

more reasonably sized, and provides plenty of power for home high-fidelity use.