Subject: Upon further investigation..
Posted by shawnb on Tue, 29 Jun 2010 01:14:26 GMT
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I have seen the beautiful 3pi's from audio show.I am no audio expert(actually far from it) but I do love building speakers.I was wondering if I could get the 3pi plans and 3pi subwoofer plans?Maybe I could be a "test dummy".It appears to me the DE250 is padded down to match TD12S(Apollo).Any possibility of maybe having a MTM or TMM type.Sorta 3.5pi.Do you build custom crossovers for something like that or should I bi-amp with electronic crossover?I am thinking MTM (high pass 80hz)with no stands to get to ear level with speakers as high on box away from floor bounce as possible and dual 3pi's on each side next to them.Any opinions?and yes I do like it loud!haha,thanks Shawn

Subject: Re: Upon further investigation..
Posted by Wayne Parham on Tue, 29 Jun 2010 02:34:23 GMT
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I think the MTM idea is definitely doable, but I find that the nulls are well spaced using the matched-directivity two-way approach I employ, so I'm not sure the MTM gives anything extra. The whole point of both approaches is vertical control and we have that at HF by virtue of the horn, and through the crossover region, by virtue of the crossover and driver spacing, with vertical nulls set far apart.

Likewise, I find the 2.5-way to be another useful configuration but I think it is even better to detach the "helper" woofer and make it a dedicated sub. The benefit of using multiple subs comes when there is some distance, so having stand-alone subs makes more sense to me. I think if I am going to have three drivers, I'd prefer a dedicated midrange, albeit it one that goes deep enough to have a lot of overlap with the woofer. I think there is something to be gained from the 2.5-way approach though, and especially if used with multisubs.

Subject: Re: Upon further investigation..
Posted by shawnb on Tue, 29 Jun 2010 03:26:36 GMT
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So in theory a 7pi direct radiator?I was trying to come up with something like the audio unlimited look from rmaf 09.I like the style.Sub on bottom with your style on top,BUT with td12s-de250-td12s angled down towards listener.I guess i'll keep thinking.This could hurt.thx

Subject: Re: Upon further investigation..
Posted by Wayne Parham on Tue, 29 Jun 2010 14:37:13 GMT

Again, I think the 2.5-way approach is a good idea but think multisubs are better. Of course, you can always do both.

The thing is, when building speakers, the thing that separates the decent DIY efforts from the really sweet speakers is the amount of time spent making useful measurements. You can do a pretty good job with just modeling tools, but you can do a much better job with accurate measurements.

A good measurement system can provide visibility and help you know what direction to take. It does take some effort though, since a variety of tests must be run and you have to know what to do with the information you gather. Since these speakers are designed for uniform directivity, you can't make just on-axis measurements but also need to do several measurements at various angular positions.
Crossover optimization for DI-matched two-way speakersIt's no small effort, and if you aren't up for it or don't have the equipment, it's probably better for you to stick with my plans, leveraging the work I've already done.