
Subject: Missing the midrange

Posted by [Marlboro](#) on Wed, 07 Mar 2007 11:00:53 GMT

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I believe that the midrange is the critical range in a speaker system. By using a smaller mid woofer(3.5 to 5 inch) one gives oneself the flexibility to do lots of things and adequately cover the range from 150hz to 3500hz. Its important to know that when you are building you have the mid range adequately covered or your critical listening could suffer. Someone on the PE forum when to the huge trouble of building a huge line array with their mid range covered by 6.5 inch woofers. As one might expect, the woofers really don't do the job adequately above 1600, and the their tweeters screech below 2500. So they have a very thin 1600 -2500 area. Their only choice as i see it is to pull the baffle or add one, and pull the 6.5 inch woofers, and replace them with something smaller that can actually handle the midrange. Marlboro

Subject: Re: Missing the midrange

Posted by [Anonymous](#) on Wed, 07 Mar 2007 18:02:26 GMT

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>>Someone on the PE forum when to the huge trouble of building a >>huge line array with their mid range covered by 6.5 inch woofers.
<http://www.pesupport.com/cgi-bin/config.pl?read=340023> Zedguy doesn't seem interested in fixing his problem because he's hasn't replied to critical questions posted. It's premature to blame his problem on the midwoofers when we know zilch about this design. Right now, based on availability of product, the tweeter is more critical in a line array design because there are only a few good candidates whereas there are tons of midrange candidates.

Subject: But , ...

Posted by [zobsky](#) on Wed, 07 Mar 2007 18:41:53 GMT

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>>Right now, based on availability of product, the tweeter is more>>critical in a line array design because there are only a few good>>candidates whereas there are tons of midrange candidates. With a smaller midrange / midbass, you can get away crossing higher to a tweeter line (at which point, there are more tweeters to choose from).

Subject: Re: But , ...

Posted by [Anonymous](#) on Wed, 07 Mar 2007 18:57:44 GMT

>>at which point, there are more tweeters to choose fromWhat new tweeter candidates can you find if the crossoverfrequency is raised ?

Subject: The Point I was making is teh balancing act
Posted by [Marlboro](#) on Wed, 07 Mar 2007 19:27:21 GMT
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The point I was making, perhaps badly, was that to use too large a mid woofer limits your possible choices of tweeters. Basically you have a much more limited choice of quality tweeters. With domes you have to use Dayton and a very small others of the 3/4 inch size, and then you have to use a smaller midrange, usually not bigger than 5 inch. With planars and ribbons you have more choice, but if you use a 6.5 or 7 inch woofer, you already know that you will have a limited number of tweeters that go low enough without using 8 db/octave crossovers, that you use. ITS all a balancing act with line arrays due to the comb filter distortion issues. Marlboro

Subject: Re: But , ...
Posted by [zobsky](#) on Wed, 07 Mar 2007 19:29:27 GMT
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On the cheap end, there are always the \$0.20 Onkyo 4 ohm tweeters at partsexpress (you may need to extricate them from their mounts). Likewise, apexjr.com has a bunch of \$1 tweeters. These aren't ribbons, mind you, but should work well at about 5KHz upwards. Not much power needed if you array enough of them (for normal listening). If you wait for a month or two, I can give you my first hand impressions on these

Subject: Re: But , ...
Posted by [Anonymous](#) on Wed, 07 Mar 2007 20:57:18 GMT
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\$0.20 Onkyo \$1.00 Apexjr plus... \$4 Partexpress Neo20 cent to \$4 tweeters, that covers the entry level line array designs. What other new tweeters can you find that satisfies the higher end designs?

Subject: Re: The Point I was making is teh balancing act
Posted by [Anonymous](#) on Wed, 07 Mar 2007 21:57:16 GMT
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If you migrate from [6" - 8"] midwoofers to [4" - 5"] midwoofers soyou can raise the crossover frequency into the 3khz - 5khz range,what *new* quality tweeter candidates exist if I chose this path?Do you consider the 20 cent - 1 dollar mylar tweeters a quality tweeter? I don't.I think the PE \$4 dome would be an *ok* choice. What else can you find ?If you shift your budget from midwoofer and make thetweeter the priority, you can now spend the big money on a qualitytweeter because it's a critical ingridient in the recipe as youcan shift the crossover frequency to 2khz {+/- 500hz}, to improvethe sound quality of the design. Your midwoofer candidates risesalot, you have hundreds of candidates.I did this with the budget line array I made. Two choices;Plan A;* Spend \$25 per midwoofer.* Spend 50 cents per tweeter.Plan B;* Spend \$25 per tweeter.* Spend 50 cents per midwoofer.The decision is based on available products.I can easily find many \$25 midwoofers that would offer great results.But can I find a quality 50 cent tweeter? Not really. I can't think of any that are good.But if I were to buy a \$25 tweeter like PT2B and mate this withsome buyout 50 cent midranges, there is more reward to get fromthis path. Hypothetical. Your budget is \$150 for a midrange/tweeter pair.What do you do?I can buy a Fountek ribbon for \$120 and use a very good \$30midwoofer {Dayton, etc, so many choices}.Orl can buy a \$120 Seas midwoofer and only have enough moneyleft over to get the PT2B tweeter which makes this plan a stepdown in performance. Good tweeter candidates are very limited.Keep in mind, this is based on available products. Who knowswhat new products enter the market in the future. That can changethe gameplan.

Subject: Re: But , ...
Posted by [zobsky](#) on Thu, 08 Mar 2007 02:43:10 GMT
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Here's another one with a truncated flange that might work (looks to have an Fs of somewhere around 2KhZ). Pity I haven't heard it though.Sinar Baja 1" textile dome \$7.50
http://www.madisound.com/cgi-bin/index.cgi?cart_id=4937174.26367&pid=120

Subject: Preachin' to the choir
Posted by [Marlboro](#) on Thu, 08 Mar 2007 21:17:25 GMT
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I pretty much agree with you but differ in some key areas.Rather than purchasing 49 cent midranges, I prefer buyout models that listed for the vicinity of \$11 to \$18, and the use of a lot of Dayton Neo 20A tweeters(like 30 per side).The use of that many tweeters drops the distortion way way way down, and I happen to prefer the sound of dome's anyway.The use of a decent buyout midrange in groups of 17 plus raises the quality of the mids also. I then use a quality(\$130 or so)

model 12 inch woofer for each side of the bass range. But to each his own. I MIGHT be willing to try the B&G Neo3 some time.....Marlboro
