
Subject: Short array

Posted by [Eric](#) on Fri, 21 Mar 2008 16:53:08 GMT

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Hi All, Was thinking of using (6) 7" drivers a side and a single tweet for a quasi-. Listening distance of less than 10ft. I'm sure someone has an opinion...

Subject: Re: Short array

Posted by [Marlboro](#) on Sat, 22 Mar 2008 17:17:56 GMT

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My opinion is: Anything shorter than 70% of the distance from the floor to the ceiling is not a line array. It won't have the characteristics of an array and will be what is actually called a line source. Some part of the array must couple with the floor and the ceiling. Usually this is the midrange, but it could be the woofers or the tweeters. Often it's not the tweeters. So you must spread the 7 inchers apart enough to get the 70% rule. And you will need a tweeter that goes pretty dang low in Hz. Suppose the c-to-c is nine inches on the 7's. That would work for coupling, but your 7's will develop comb filter distortion at 1500Hz, so you will need to find a tweeter that can cross (and pretty steeply) at below 1500Hz. You will probably need a digital crossover of 48 dB to do it easily (Behringer), and then you will need to bi-amp also. It gets complicated and costly real fast. Marlboro

Subject: Everyone: What would you do?

Posted by [Eric](#) on Sun, 23 Mar 2008 22:15:01 GMT

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Hey Marlboro... and everyone else. I always appreciate your opinions, Marlboro. Everyone, please feel free to chime in. I'd love to incite some more activity in this forum. It seems to be rather inactive. A preface: I have a CNC router, and everything else you need to validate a CNC. I figured as much, regarding the "true array-ness" of this proposition. I have so many drivers in my inventory, so many options. I know you have more than a clue. For all, I'd like to open this up to a "what would you do?" I can buy a few more drivers if needed (like another pair or 2 of usher) to "round it out." Also, if anyone would like to buy some of my inventory, I'm open... but, the real deal is MY pursuit of an enduring system: I have: 6 pair Usher 8945A; 4 pair Usher 1" dome tweeters 2 pair Hiq. 3/4" domes 1 pair SS 9900 Revelator tweeters, 4 pair Seas H1212 tweeters 100 HiVi B3N 3" drivers (I like 'em!) I have them in a pair 7ft arrays (a la Russell) Behr. Dig EQ Behr. Dig XO Prasad 6ch Amp for the Behr. XO (remarkably modded with an external power supply, as ridiculous as it may seem) It's not quite Belles, but it's also not far off... A few Seas Alu 7" drivers A few Seas Poly Coax 16 PE 8" woofs 4 Peerless XLS 12"4 Peerless XLS 10"4 Peerless XLS 12" Passive So, I stand ready for the next. An outstanding array system. My dedicated listening room

is only 8ft (max) from the speakers. (this is with about 4 ft from back and side walls) It's very well executed for a listening environment, If I do say so...I really like to hear from everyone, if you care to contribute.

Subject: Re: Everyone: What would you do?

Posted by [zobsky](#) on Mon, 24 Mar 2008 21:57:38 GMT

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Well, ..I guess you could do something like the audio round table array (WWW..T..WWW) . Personally I'm set up to switch between such an arrangement (fountek ribbon + cheapo woofer line) and a true array (cheapo tweeter line + cheapo woofer line) . My ribbon is attached to the side of the speaker .The disadvantages of the single tweeter are1. the image and soundstage change somewhat from the seating vs standing position. For this reason, I usually leave the cheap tweeter switched in and the ribbon switched off for casual listening, internet radio etc ... and occasionally I sometimes switch to the ribbon when I'm critically listening to high quality recordings, or those with well resolved high frequency content .2. if your single tweeter is not efficient enough (\$\$), it can easily be overpowered by the woofer line . Also, the single tweeter will roll off earlier compared to a line of tweeters .3. make sure your single tweeter can handle the lower crossover pointThe advantages of the single tweeter are1. potentially cheaper than a line of high quality tweeters.2. much easier to implement3. you don't have to worry about getting the tweeter flanges as close as possible (since you only have one), risking roll off on the high end.If your cache of raw drivers satisfy these requirements, try the WWW...T...WWW approach .It's not theoretically correct, but that doesn't mean it will necessarily sound bad . Make sure the tweeter is somewhere near listening height .

Subject: Re: Everyone: What would you do?

Posted by [justinc](#) on Tue, 25 Mar 2008 00:37:10 GMT

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I would do an mtm style line array using the hivi and buying some dayton PT2C's and throw in your peerless xls also.80-90" tall cabinetpeerless xls 12" at the top and bottom, with rear facing passives tuned to about 20hz. xover the subs to the hivi's at around 100-150hz2 columns of 16-20 hivi-b3n per column with some pt2c's in the middle. that will run about 60" you could keep the ctc to about 6.5" horizontally and 3" vertically. use your dcx2496 for the xovers and you will have one amazing set of line arrays.I think rick craig is doing something similar using the hivi's and the fountek's. I'm not sure what he is using for subs though. I have really wanted to do this setup ever since I finished my last one but just havent had time and probably wont for at least another year. I would probably use the aura ns3 and dayton rs subs instead though if If was starting from scratch. I'm currently using a full row of the pt2Cs in my line array now, and I definetly do prefer a full line of the cheaper pt2c tweeter compared to the single fountek in my other array. Im sure a full line of founteks would be better, though 3x as much Hope this helpsJustin

Subject: Re: Everyone: What would you do?
Posted by [Rick Craig](#) on Thu, 27 Mar 2008 22:00:19 GMT
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Unless you plan to add more tweeters down the road I would use a different design format. With a single tweeter the vertical coverage is very narrow. About the only thing you achieve is high sensitivity if you have something like the Fountek CD2.0 or similar. You'll also have issues with balancing a line source pattern versus a single tweeter that operates closer to a point source.

Subject: Re: Everyone: What would you do?
Posted by [Rick Craig](#) on Mon, 31 Mar 2008 01:55:57 GMT
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There's really no one "ideal" solution as it depends on the other drivers being used.

Subject: Re: Everyone: What would you do?
Posted by [Eric](#) on Mon, 31 Mar 2008 03:49:58 GMT
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So, Justin...Do me a favor and draw me a picture... I'm intrigued.

Subject: Re: Everyone: What would you do?
Posted by [justinc](#) on Tue, 01 Apr 2008 01:46:58 GMT
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ok so here is a really really rough picture...

Subject: Re: Everyone: What would you do?
Posted by [Eric](#) on Wed, 02 Apr 2008 06:45:03 GMT
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Good stuff.I'm really tempted to go for it on Justin's line. I wonder if it would be worth it to add the

Usher 7" to the mix...bring the 12" crossover down a bit. Could be a radical looking cabinet, which always helps the sound. At the risk of complicating things even more, what about opening the center up, creating a semi-dipole situation?

Subject: Re: Everyone: What would you do?
Posted by [Rick Craig](#) on Wed, 02 Apr 2008 13:48:54 GMT
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The best thing to do is measure the THD after the filter is applied. John's tests didn't include this plus he wasn't measuring a line of several ribbons.

Subject: Re: Everyone: What would you do?
Posted by [justinc](#) on Wed, 02 Apr 2008 15:07:23 GMT
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I think adding a 7" also will create some complications...as is the two rows of 3" will provide nice horizontal dispersion. If you have some good size amps you can always boost the hivi's some to get your xover lower, but the nice thing about the peerless subs is they are very clean even up to above 150hz.
