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Subject: Pinging Griffin (again)

Posted by [topher\\_m](#) on Wed, 23 May 2007 00:02:45 GMT

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Hi Jim, If you get a chance, please respond to my email about array tradeoffs. I'm dying to hear your opinion. Inevitably within a budget there are tradeoffs - would you prefer 1). a lower xover point to bring below 1 wavelength but get a fairly short tweeter line (say 45 inches) 2). full length tweeter line but this would push xover for ctc to 1 wavelength Thanks so much, Chris

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Subject: Re: Pinging Griffin (again)

Posted by [Jim Griffin](#) on Thu, 24 May 2007 00:01:34 GMT

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Chris, First, I did send you an e-mail reply (with attached files) last night which I assume that you received. I'll be honest with you that I'm a little confused as to what you asking me. I'll try to address what I think you are asking and you let me know if I'm off base. You asked: Inevitably within a budget there are tradeoffs - would you prefer 1). a lower xover point to bring below 1 wavelength but get a fairly short tweeter line (say 45 inches) 2). full length tweeter line but this would push xover for ctc to 1 wavelength My Reply: Now if we are talking about a tweeter line that consists of ribbon tweeters then you don't have to be concerned about comb lining (ctc spacing) as long as you maintain a relative high active radiating factor (ARF) as explained in the white paper. For ribbon tweeters ARF is the active radiating length area ratioed to the total flange and active lengths. I suggest that you use an ARF of 80% which effectively places the tweeters flange to flange for most available tweeters. As I explain in my white paper, ribbon tweeters of the kind (the Fountek Neo2.0 or Aurum Cantus G3 are typical of this variety) that I suggest will have minimal vertical radiation overlapping dispersion (see page 14 of the white paper). Essentially, the vertical center to center placement doesn't come into play with ribbon tweeters. The placement between tweeters in the their stack should be flange to flange to maintain the maximum radiation factor. Typically, a stack of 8 or 9 ribbon tweeters (roughly 7" height for each one so 56 to 63" total length) would be adequate for a near field/far field transition that extends out to at least 15' at 1500 Hz and beyond. Let me hear if you want more info. Jim

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Subject: Re: Pinging Griffin (again)

Posted by [Marlboro](#) on Thu, 24 May 2007 16:46:41 GMT

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I'm not sure what you mean either. I used a group of domes. The only domes that fit into my design were the 3/4 inch Dayton NeoND20A's which have flanges. The flanges can be cut off so that you are right against the edge of the connection of the dome fabric to the tweeter itself. If you use the formula  $13560/.92=14739$ ; this would be the start of comb filter distortion if you managed

to cut the flanges so the you had about a .92 center to center distance. Remember that you usually cannot hear combing unless you are moving up an down vertically, and that 14,700 is a frequency range that humans can hear but not terribly well, especially they cannot hear differences very well. Now, I'm not exactly sure what you are talking about. To hear treble in my system my ears need to be within the range of the height of the 30 inch line of tweeters. And to be in the near field(to match being in the nearfield of the midrange line) you have to be a little more than 3 times the distance of the height of the tweeter line, which for me is about 9 feet(which is where I listen). So I'm not really sure what compromise you are talking about. Pete Shumacher produced some modeled data on the PE forum about lengths of lines, but despite his tech speak about those things, I cannot verify his statements with my own personal hearing. And neither can anyone else who has listened to my array. Could you be more specific? Marlboro

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Subject: Re: Pinging Griffin (again)  
Posted by [topher\\_m](#) on Thu, 24 May 2007 16:55:15 GMT  
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Hithanks for reply don't worry about it now. I coughed up a bit extra to get the longer line of beefier ribbons to get a ~1500Hz xover. I have ordered 18 Seas W18E001 and 16 Fountek Neopro5i through Rick for an array. I'll be back in a long time after I actually get the thing built. Thanks, Chris

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Subject: You'll love it  
Posted by [Marlboro](#) on Thu, 24 May 2007 16:59:57 GMT  
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Nothing like the low distortion and giant sound stage of a line array. Marlboro

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Subject: Re: Pinging Griffin (again)  
Posted by [Andy\\_G](#) on Fri, 25 May 2007 07:29:16 GMT  
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"Remember that you usually cannot hear combing unless you are moving up an down vertically" ok, lets rethink this. Your ears pick up from about a 2" height, so anything less than 2" apart should not be able to be heard as a changing volume level, especially at 3m or so distance. Logically, comb filtering in tweeters should manifest itself, not as a change in level as you move up and down, but as a general reduction in the average spl level of the very high frequencies as the peaks and troughs average out. For us old guys, this is basically irrelevant anyway ;-))

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Subject: Re: Pinging Griffin (again)

Posted by [vertically challenged](#) on Sat, 26 May 2007 11:34:24 GMT

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only in the far field= in the nearfield, there is a phisical overlapping of the sound where the cancellations occur,

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