Subject: Wide-Range Drivers In A Line Array
Posted by FredT on Tue, 17 Jun 2008 15:14:23 GMT
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We haven't discussed this in a while. Any comments about this type of line array as exemplified in Roger Russell's IDS-25. I'm especially interested in his comments about the lack of an audible comb filter effect. http://www.roger-russell.com/columns/combfilter2.htmMy own experience when I heard these speakers was the same as his, but I did hear some attenuation of the highest frequencies which caused peercussve effects to lose some of their "sparkle". However, this is the same effect I hear when listening to any full range single driver speaker.
A Single Wide-Range Column

Subject: Re: Wide-Range Drivers In A Line Array
Posted by Marlboro on Tue, 17 Jun 2008 16:31:08 GMT
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I'm not sure how the discussion might range since Russel's version has a very specific and proprietary equalization. I'm not sure that any DIY could match the equalization that he has on his system.That said, I have three separate amps amplifying three separate arrays in my Calipso's. When I put them together, the first one completed was the midrange. So for awhile I listend to just the midrange operated as a full range(the SAMMI's are full range speakers). I was astounded by the quality and didn't really notice any comb filtering since when I listen I SIT STILL. The bass was great the high's were smooth.Then I added the tweeters and discovered what I was missing in the high's. But it all still sounded great. and then I added the woofers and discovered the real missing bass. I have a nice constant Q equalizer which I've never needed nor used. I've not heard Russell's speaker system.Marlboro
Marlboro's Calipso Line arrays

Subject: Re: Wide-Range Drivers In A Line Array
Posted by FredT on Wed, 18 Jun 2008 13:14:20 GMT
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Marlboro said: "Then I added the tweeters and discovered what I was missing in the high's". That's what I would expect too. Properly equalized for treble rolloff they wouldn't sound bad at all, but adding tweeters would restore the "air" that would be missing without them. After I posted the initial message I recalled a PE project that mentions that same thing. The published graphs in this project are also revealing. Note the measured comb filter effect on the unsmoothed freq response graph. The builder's comments are: "Several people noted that the high-frequency reproduction lacked some "life" and "air". This could be attributed to the comb filtering problems that definitely were occuring. However, this also could be a result of the high-frequency capabilities of this

particular driver, it is hard to say for sure. Whatever the reason, for pure audiophile use I would consider these lines to be slightly less "refined" and "articulate" than many standard speakers.Too bad. I really do like the concept of a full range drive line array.
Kuze 3201 Line Array

Subject: Re: Wide-Range Drivers In A Line Array
Posted by Rick Craig on Wed, 18 Jun 2008 15:13:55 GMT
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The main problem is always going to be the dispersion in the top two octaves which equalization cannot help.

Subject: Maybe the key is going in the other direction
Posted by Marlboro on Wed, 18 Jun 2008 15:16:05 GMT
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Perhaps, instead of using 3 inchers AND supplementing the high and the bottom, one should use HiVi 1 or 2 inchers, and just supplement the bottom?HiVi B1S 1" Shielded Aluminum Mid/TweeterAluminum alloy concave cones and square frames are the distinguishing features of the BS series. Magnetically shielded design allows use in center channel and other multimedia applications. The B1S has a polymer frame and foam surround. Specifications: *Power handling: 3 watts RMS/6 watts max *VCdia: 3/4" *Znom: 8 ohms *Re: 6.5 ohms *Frequency range: 1,000-15,000 *Fs: 180 Hz *SPL: 79 dB 1W/1m *Vas: .001 cu. ft. *Qms: 3.22 *Qes: .65 *Qts: .54 *Xmax: .95 mm *Dimensions: Overall Diameter: 1-7/16", Cutout Diameter: 1-3/8", Mounting Depth: 5/8"At a cutout of 1.36, one could put in 64 of them top to bottom in a 7.5 foot array. PE would probably sell them for $3.50 if one bought 128 of them, so the price would be $450. Then you need an array of 8 inch woofers. 8 inch aerogel woofers are on sale for $25 and they go down to 29 and up to 4000. Putting in an array of them is 9 of them or 18 total for another $450.If after doing this, one found that there was still no "air", one could always add a horn tweeter that would keep up with the spl of the Hi-Vi line, and not put you out more than another $200.Another choice? Only if you had money to burn, but it would be fun to try. You wouldn't even need a box for the HiVi line.Marlboro

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Subject: Re: Wide-Range Drivers In A Line Array
Posted by FredT on Thu, 19 Jun 2008 14:06:36 GMT
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I'm so glad we have this forum. Without it I probably would have spent a ton of money on

something that couldn't even approach the sound of my Selah arrays or any other arrays using separate mid and tweeter lines.