Subject: Re: Interesting New Line Array Design
Posted by John L. Murphy on Mon, 23 Nov 2009 17:04:19 GMT
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Rocket wrote on Mon, 19 October 2009 11:49Please let me save you a lot of heartache. Please.

I built a Russell IDS25 clone - 'used the HiVi B3N drivers and a Behringer EQ. It was cool for a while by virtue of "hey cool, I built an array and it sounds impressive." And it was... for a little while.

But look, you are far better off with a 2 way array.

After A/B comparos to my little Usher X718's, there was just no competition. The little cones trying to reproduce that entire spectrum were just distorting like crazy, but you cant really hear it until you A/B em, unless you are golden eared and can get over the "wow" factor of you 1st array. - So I added a sub, and cut the low pass down to 80 Hz. It got a little better, but only marginally. The upper frequencies we just not there, even with gobs of EQ. (and its a killer EQ, BTW.)

Do yourself a favor, get some super cheap woofers around 5" or so, and a line of the PE 5/8" or 3/4" domes within the listening height, you don't have to go top to bottom of the line, and build a 2 way array of modest price. It will be exponentially better than the full range units, and you wont have to pawn off 50 drivers that you have no use for, or sell them to your friend who doesn't know a hill of beans about speakers, just that they are "impresssive and cool looking."

Just don't do it, Man.

Rocket, what frequency response did you achieve with your B3N array? I would think they would sound great. Could you show us a measured frequency response? Given the "pink" response of an array it is entirely possible that the high end really was "just not there".

I have to disagree that a 2-way array would sound better...especially one made with low quality transducers. I've been listening to an excellent 2-way line array for better than 30 years but I now prefer the new full range array for its midrange clarity. There are no missing highs in my opinion. Here is my measured frequency response averaged over the listening area:

You said your system was "distorting like crazy" but I wonder if it was actually the loudspeakers drivers distorting. Pro audio equalizers can be difficult to interface to home hi-fi systems due to the different operating levels and it is not unusual to overdrive the source feeding the EQ. The ND90 array has very low distortion at even the highest sound levels. Here is what I measured from one array driven at 50 Hz with 1 Watt:

With 94 dB SPL of output (at 1 Watt) the 2nd harmonic is down -41 dB from the 50 Hz fundamental for 0.9% distortion while the 3rd harmonic is at 1.4% distortion. This is as good as or

better than the distortion performance of many subwoofers.

Cheers!

John