Subject: Re: Array driver question
Posted by Jim Griffin on Wed, 19 Apr 2006 02:02:11 GMT
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Jose,I like your ambition to try to tackle a design like this. My preference vs. the Nola application would be to use a longer array (a true near field line array) with 4 to 6 inch diameter midranges from 80 to 100 Hz and then cross them over to the ribbon line in the 1800-2500 Hz area. You are thinking of some very nice drivers and I'm sure that your project will yield great sound. I'm suggesting something along the lines of my latest line array which is shown in the photo. It uses 9 Aurum Cantus G3i-130 (similar to the Fountek NeoCD2.0 ribbons) and 12 Creative Sound CSS WR125S (you don't need the FR125S as you aren't going full range with the mid-ranges) per side. On the low end I would suggest at least two separate stereo subwoofers (say 12 inch diameter or more subs depending on your room size and how much bass you seek) to fill-in below the mid-ranges. The Fountek ribbons and the CSS WR125S mids will play very nicely with each other. I'm using an active DEQX 3-way digital crossover and a multichannel amplifier with my arrays. My white paper talks about the benefits of a near field line array vs. just a line array. Jim
Near Field Line Array White Paper

Subject: Re: Array driver question
Posted by Jim Griffin on Thu, 20 Apr 2006 01:51:30 GMT
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Jose,The Nola design concept puts you into a 4-way speaker design (the Nola tower is a 3-way) if you add external subwoofers. Now you could integrate the subs with external crossovers or a set of plate amps with integral crossovers. What I'm suggesting is a 2-way line array tower which would be augmented by separate subs so it is a 3-way overall design. To me a 3-way would be easier to get sounding correctly vs. a 4-way but to each his own on how much you wish to attempt. With an active crossover you can certainly get closer to perfection vs. a passive crossover. On the dipolar section akin to the Nola design or a dipolar line array: You would really need the 4-way design if you use the Nola design concept. A dipole line array would take more equalization and such as you realize and the choice of midrange drivers would likely be a concern. By that I mean that you generally need a larger mid-range driver--Linkwitz uses an 8" driver in his Orion model--for a dipolar as you need more augmentation for the lower frequencies. Other people widen the baffle face to help lower the dipolar shortcircuit. Now the Nola concept uses boxed woofers to mitigate this concern so they get by with 4" (or a 4.5") drivers for the mid-ranges. If you add the woofers as they do in their approach, then you could get by with the dipolar mids. But I question what benefit would be to just have a dipole midrange while the rest of the speaker acts as a monopole? In my case I favor a sealed box for the mids which means that you can expect acceptable bass with a reasonable enclosure size and you have the freedom to use the mids low enough to eliminate the woofers. Sealed mids would integrate very easily with subs. Thus I favor using the mid range drivers down into the 80-100 Hz range with a monopolar enclsoure over the entire frequency band. Yes, I'll share my enclosure plan with you.Jim