Subject: A few questions
Posted by Allan on Sun, 18 Jul 2004 20:27:25 GMT
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I've been wanting to build a line array for a couple of years and when I saw the PE 4 inch buyout ($.69 each) I went ahead and bought 40 of them. I'm also planning on buying 12 Dayton PT2 planar tweeters from PE this week. Mostly an experiment with no magical expectations, but I still want to follow the guidelines in Jim's white paper (thanks for that effort Jim). I've got some general questions that maybe you guys can help with.1) I can go with either 16 or 20 drivers per side. IF I go with 20, my ear height will be lower than the center of the array. Is there any disadavantage to having the center of the array above your listening height?2) If I go with 16 drivers, I'll plan on using 4 tweeters per side. Wiring both the 4 inchers and the tweeters for 8 ohms each, I'll have a ~4ohm load if I run the tweeters parallel to the 'woofers'. Theoretically, I'll have approximately the same efficiency (~98db/1/w/m) from both arrays so they should match up pretty well. XO point will be wherever they sound right, but I thought I'd start with ~10Khz and work down. I know, comb effects should start screwing everything up after ~3.4Khz, but the 4 inch drivers should have reasonable response out to 10khz and I want to use the wide-range aspects as much as possible. I've got the components to play with the XO point, so at worst, it's no more than a waste of my time (which I have plenty of:-) So, the second question I have is about the placement of the tweeters relative to the woofers. My instinct is to locate them centered on the woofer array, and placed as close to both themselves and the 4 inchers as possible. The other option is to place them centered on groups of 4 woofers, with an obvious gap between the tweeters themselves. It would look balanced, but would it cause more problems than if they were placed immediately adjacent to each other? The center to center distance of the tweeters would of course at least be doubled if not tripled.3)Dipole vs sealed: I can go OB or sealed with them. Any experience and opinions of one vs the other? The PE drivers have the qts (.77) to make them doable in an OB.4) BSC circuits: In general, a line array is going to be pretty tall and skinny - it's sorta the nature of the beast. I'll have mine pretty close to a back wall so it may be a moot question, but, do you guys normally try and apply a BSC circuit, or is there something about the array that makes it unnecessary? I'd rather not mess with the efficiency of the array, so I'd like to avoid any series resistance if possible. Just wondering what your thoughts/experiences have been with baffle step issues.5) If I go with a sealed box arrangement, I was thinking of building the array in compartments - groups of four drivers each in separate boxes that can be stacked. Any adavantage/disadavantage to a single, large sealed box? Thanks for any input and subjective opinions are fine. Personally, I always let my own subjective opinions override any theory anyway:-)Allan