Subject: Re: o.b array
Posted by Eric J on Sun, 14 Jan 2007 13:09:29 GMT
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OK..... WHY would you want to do that? If you make it smaller, you still have the trade offs.It seems that the huge woofers will give him dynamic bass, but what happened to the midrange and the treble which are the meat of most music? If all he plays on his system is Bela Fleck then maybe he can get away with it, but it seems that his range of listenable music has dropped through the floor.I had someone consult with me a while ago about replacing the speakers on a very old set of Altec Lansings with a 15 inch woofer and a cone tweeter. He was insistent that he use a dome tweeter replacement for the blown cone tweeter. I told him he would have no midrange from roughly 800 to 3000. But he did it anyway. Then he writes back asking what is wrong? I told him again the same thing I told him beforehand.Suppose you use all eight inchers? with a coax in the middle:1. you will have a large difference in the sensitivity between the mids and the tweeter. The will have to be remedied. The remedies are not nice: either pad the mids down to the level of the tweeter(losing all the benefits of high sensitive midrange), or boost the tweeter, which will increase its distortion).2. You will have a nearfield/farfield problem where your tweeter is operating in the farfield and the mids are operating in the near field. This will cause an imbalance in the music3. If the woofers are too big(above 8 inches), you will have issues in having a decent midrange at all. 8 inch woofers are great up to about 1200hz. What are you doing for quality sound between 1200 and wherever the tweeter kicks in?4. If you make the woofers too big you will have problems with midrange combing because the cross to the tweeter will be too high, and the center to center distance between the large midranges is too high.5. This isn't a line array. Line arrays ahve a line of tweeters and a line of mids. All the benefits of a line array are lost.6. While you can move a lot of air with eight inchers, you can't go really low, because eight inchers just don't go low enough. So you have to put in a subwoofer of 12 or 15 inch size anyhow to get that 32hz low note on the organ or the basoon or explosions for HT.7. Additional information from Jim:"The dirty little secret of line arrays is that the woofer line amplitude response starts rolling off at a frequency that is about 1/2 wavelength spacing center to center. In other words I lied when I said that the crossover could be at one WL spacing in my white paper. Measurements of the array would tell the truth. Hence, you'll need a cross under 2,000 Hz for sure."My response: "This certainly makes sense. It also suggests, but you didn't say it, that you are talking about woofer lines as opposed to smaller speakers such as 3-4 inchers, which are not woofer lines, and require a sub to give them the bass they need."These speakers would have enough at the top end of their range to not be affected by the woofer measurements that you made. My 3.5 inch sammi's do not seem to exhibit what you measured. But to be sure I would have to look up the measurements for them, although they were made in the room as a whole rather than the array in an anechoic chamber or outside. And of course, with tri-amping, electronic crossovers, and constant Q equalization, all of this is less of a problem for me than someone who is stuck with whatever they might have developed with passive crosses."----------Hope this all helps you understand some circumstances with your proposed "line array". Please read Jim Griffin's Line array white paper. Send me an email and I will return email a PDF copy for you.Marlboro----------I have a system of 17 3 inch mids coupled to 32 dome tweeters per side. I have two 12 inch 15 inch xmax woofers which kick-in in at 165hz. This works well. Combing in the tweeters doesn't being to start until about 14000hz, and the mids cross at 2600, which is OK for 32 tweeters.