Subject: Ultimate Line Array ($?)
Posted by Greggo on Wed, 05 Jul 2006 13:19:56 GMT
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Just having a little fun here... if we had no worries about budget and a fairly large living room or family room that was to be converted to a listening room, besides all the room acoustic stuff (which is important of course), what would you do as the ultimate expression of the line array principles discussed in this forum. Critique my example or come up with your own or both:1) Multiple DEQX or whatever they are called along with Pass amps, or possibly wire all the drivers up in series and build OTL tube amps for the mids and tweets.2) Jordan JXr 6HD, it seems to me that this would be the ultimate centerpiece of a line array system if we all got past Ted Jordans insistance that they not cross to a tweeter or super tweeter. Of course, Ted knows an order of magnitude more about this stuff than I ever will, but if we stick to Jim's latest research, then we cross them up high (but not two high, I think we have 2.5 inches center to center to work with here...), and in keeping with all the lessons learned by the full range guys spreading out to two and three ways with help up high and on the bottom, we find a driver that has a close enough center to center spacing but covers the bandwidth where we are most sensitive to crossovers, and I can't think of anything better than the new JXr 6HD. How about 25 per side so we have around 6.5 feet of line length, and we run them 300Hz to 6Khz, which should be a walk in the park for these beauties.3) I think the dipole guys are onto something, but many have reported that the Jordans don't sound that great out back, so we keep them sealed, and put another line of 25 behind the first one, and now we have a more perfect dipole because the two lines are better balanced and we use the digital filters to decide up to what frequency we have a dipole. That addresses another issue of how much of a good thing is still a good thing. As some have debated how high up you want the dipole effect in a given room, now you control it from lets say around 600Hz where most room nodes go away, all the way up to the 6Khz that we run the little Jordans. Sit in the listening seat and experiement away.4) Tweets - I don't think this is quite as important as the rest (since we are starting at 6Khz, but this is just my opinion as I don't get all excited about air and delicacy, I just want clean and effortless, as in high dynamics and low distortion), so lets just use the same stuff Jim Griffin and Rick Craig are using lately and go with 12-16 per line, whatever best matches the line length of the little Jordans. Crossed at 6Khz, we avoid all the issues around distortion raised on the Zaph Audio site (and subsequent discussions on other forums...). I would probably remove the face plates and build a custom frame that mounts from the back, allowing the ribbons to get as close as possible to the edge of the Jordans. Might even slice the edge off one side of the Jordan frames at a 45 degree angle so it serves as part of the face plate for the ribbons, then make something to match on the other side of the tweets so everything stays in balance, and this also puts the ribbons between 1/8 and 1/4 of an inch behind the front of the Jordans, might get lucky and have arrival times line up a little better between each of these drivers...5) TC Sounds 12" aluminum woofers, like the idea of similar cone material, a line of 6 run open baffle, in a seperate baffle/frame than the mids and tweets, but designed to still be placed fairly close together as their bandwidth is not quite omnidirectional so location sensitivities still apply. I would run these from 40-300Hz, dipole. Now we have two dipole towers on each side of the stereo system, and each pair is hopfully spaced just an inch or two between baffles. Not sure how I would match the profiles betwee the two however. It seems to me the Jordan towers would only need to be around a foot wide and six-eight inches deep, and they could taper at the ends to form sort of a wing like profile when viewed directly overhead. The woofer towers would need to be in a U cabinet, and how far back the sides would go I am not

sure. Probably go with baffels that are around 21 inches wide and 12-15 inches deep. Not sure about gaps between the two baffles and how much they combine to effectively extend the width of the Jordan baffle, etc... 6) Aurasound 18s (1 per side) would handle the rest, in sealed cabs, and again you could use the digital filters to adjust any overlap with the 12" dipole woofers to get the desired bass slam in a given room.Of course, the "know how" to put all this together in the most optimum fashion is beyond me, but based on everything I have read (and noting the stuff that seems to make the most sense to me personally of course), it would either be this or a 4-5 way front horn system as the ultimate home stereo. So all I need are four-six DEQX, 10 really good amps, 100 Jordans (could probably get them for less than 10K), 24-32 ribbons (around 2k?), 12 TC Sounds 12" woofers, the TC2+ I imagine unless they have something better out now, probably around 3k for those, and of course 4 of the big Aura 18s will set you back around 3k as well. I am guessing around 16k for drivers, 24k for electronics, and 10k for custom metal work and woodworking to do the cabs/frames... I wonder how this 50k, assuming you are willing to write off all your time and effort, would stack up against similar budgets in the many hi-fi salons around the country?Hope you enjoyed dreaming with me. I wonder if Dr. Griffin would be up to the task of a small consulting gig if I just go crazy some day and save up enough to buy the hardware!Regards,Greg