Subject: Re: DSP xover and EQ with line arrays?
Posted by denverdoc on Sun, 28 Nov 2004 18:45:51 GMT
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Jim.Thanks so much for your insightful remarks on the project. And I hope you think me not so naive as to believe a silk purse can be actully made from a sow's ear. But from hazy memories of coursework in DSP in grad school (man a dry subject if there was one), I do recall a demonstration where a crummy caruso recording using big horn/wide needle transducers/shellac was considerably improved by characterizing and inverting the Z transform of the then time recording "technology". Perhaps such faith is misplaced and bordering upon religious fanatacism, as I have yet to hear the DEQX. But indeed, why not start with the best transducers one can afford! Mitigating v this view is the finding that seems to be emerging from multichannel investigation,i.e, that increasing the number of channels seems to relax significantly the performance standards of the component parts (one channel). Could the same phenomenon exlain why the Monster Cable system, constructed from more drivers than I could count in a single sitting, make a pretty damn good impression on the ole eardrum, in spite, you said, were far short of perfect parts. I wanted to at least raise this qestion, as a lot of folk seem to embark on this line array mission as an implicit assumption. Granted distortion figures will be reduced, efficiency goes way up with less tax on amps, and bandwidth can be stretched within limits so long as there is acoustic summing. Which raises my next question--if vertically challenged ribbons don't add, is there any real point in arraying them? I have read your paper and still remain a little confused on this issue--suppose I intend only to listen from a certain distance, and head elevation remains more or less constant depending only on time of day and perhaps what has been consumed earlier, why bother at all with arrayed ribbons? Yet when I hear a well implemented line array of tweeters, its agape with jaw time? Take the Dali Megalines for instance I heard at the recent Rocky Mountain Audio Fest{{BTW everyone make a point of attending next years event which, because of CEDIA's proximity, gonna be a don't miss affair!) This year no lines whatsoever, anywhere, play your own music, not a problem.}} These things for whatever reason were able, albeit in a huge room (at least 70' by 20', able to produce both depth and lateralization which was friggin uncanny--heard distinct sound sources from 15 feet deep and 8 feet wide of the speaker. I was stupefied. Forget the disappearing speaker description, I've had that experience often enough--this was more like walk ten yards and handshake a particular musician. Satchmo recording, ca 1950 btw. This was within nearfield: less than 15 feet. What provided comic relief to this otherwise sublime experience-- magic standoffs to keep the cables, arrayed between at least a 100k in apmplifiers, off the floor!Can I capture this in my living room--fat chance, not even a ghost's chance, but if you can play something loud enough in such a venue, w/o a lotta reflections messing it up, it can be religious--hence my abiding hope for this project of approximating by using line arrays and reflection busting software--hell put me in a straightjacket and my head in one of those screw mounted halos suspended from the ceiling. Now about the bass/mid diver issues: these little 6.5 inch wonders from Adire, because of the XBS^2 tech are supposed to move an inch back and forth with nominal distortion. This set off a big debate around doppler distortion and one guy claimed a figure of 45% under worst conditions (at o point, max velocity, with a 3000 hz tone riding on the bass). I have no idea, but am more worried about air noise fromn the backside. Finally, bass eq--isn't this the inherent advantage to line arrays? No single driver can be made to hit 110 db at 50 hz, but add in the efficiency/sharing advantages of an array, why not? And last for another 8k gimme one of those adire drivers that doesn't so much as move air, as people, pets, walls: f3of 7 hz and capable of something like 120 db at 20 hz--this with a 2'X 2'foot

baffle, NO ENCLOSURE NECESSARY! In rereading, this post seems like some kind of endorsement for adire--not so, no affilaiation whatsoever. Guess it comes down to my admiration for all and any who can think outside the box, I want no box at all!!Cheers to all,JPS: thanks dearly re the reminder of shaping via proper lumping!