Subject: please advice: 8 drivers, 95dB, 6ohm+
Posted by Dav on Wed, 04 Jan 2006 15:31:38 GMT
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To the LA gurus out there:I'd like to build a quasi array using 8 5" drivers and a single dome tweeter at its center. I've read Jim's paper and Im stuck with achieving the following goals:- 8 drivers per side- roughtly 95dB efficiency- minimum 6 ohm loadThe drivers i plan to use have 86dB eff each @ 8ohms.Doing the basic math described in Jim's paper, I 'best' I can do is 4 parallel groups totalling 98dB and 4 ohms. The only solution I can think of is to add series resistance (4ohms) to get down to 95dB and 8 ohm load.My questions are then:Is this a acceptable solution?Is series resistance a good approach?If so, should I use several equal resitors in parallel for proper resistor/power managememt?Is there another option/solution? Thank you all in advance!RegardsDave

Subject: Re: please advice: 8 drivers, 95dB, 6ohm+
Posted by RKM on Fri, 06 Jan 2006 01:47:34 GMT
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1) Make 4 ohms work...get a new amplifier!2) Use an autoformer: it transforms from one impedance to another:http://www.zeroimpedance.com/or 'matchit' from parts express:http://www.partsexpress.com/pe/showdetl.cfm?&DID=7&Partnumber=302-305I have not personally used either of these, but I do use McIntosh amplifiers which incorporate autoformers to drive low impedance loads such as my DIY ribbon at 1 ohm.
http://www.zeroimpedance.com/

Subject: Re: please advice: 8 drivers, 95dB, 6ohm+
Posted by Jim Griffin on Fri, 06 Jan 2006 03:01:56 GMT
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Dave,Let me comment on a few items in your posting:You said: "I'd like to build a quasi array using 8 5" drivers and a single dome tweeter at its center. I've read Jim's paper and Im stuck with achieving the following goals:- 8 drivers per side- roughtly 95dB efficiency- minimum 6 ohm loadThe drivers i plan to use have 86dB eff each @ 8ohms.Doing the basic math described in Jim's paper, I 'best' I can do is 4 parallel groups totalling 98dB and 4 ohms."Comment: With the assumption that you have either a sealed or vented box and that it is out in the room a bit, you will need baffle step compensation which will cost you 3-6 dB of that woofer sensitivity that you were planning to have. Hence, your array will likely run in the 92-95 dB sensitivity range. By the way, what dome tweeter are you using to keep up with the woofer line? Most dome tweets are best case in the low 90's sensitivity. You said: "The only solution I can think of is to add series resistance (4ohms) to get down to 95dB and 8 ohm load."Comment: With 8 drivers you can

connect them as you have in mind in 4 parallel groups of 2 in series to get a 4 ohms impedance. You could go to a 16 ohm impedance by using 2 parallel groups of 4 in series. I don't recommend series resistors in the woofer line unless you take the increase in Re into account when you size/tune the box. A thought is to add another woofer so that you have 9 in the woofer array (connected as 3 parallel groups of 3 in series) which yields 8 ohms array impedance for 8 ohms drivers. Jim

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Subject: Thank You
Posted by Dav on Sat, 07 Jan 2006 20:46:33 GMT
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that was good advice Jim...opens up further options which is what I was after. Never been good at EE.ps - wow, got sticker shocked with that 'zero' device...only in America right!
