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Subject: NEO3 treble in a LS?

Posted by [mediafreak](#) on Tue, 29 Apr 2008 15:43:23 GMT

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Thanks for a great LS forum. I am going to build LS speakers with closed cabinets – I am not a fan of ported cabinets. I have a DENON A11-XVA amplifier and a Velodyne sub (closed cabinet) Crossover 60-80Hz. I might need to buy an extra sub because of the high crossover. As far as I know the bas speakers are not so important as the trebles. I bought 2x9 Vifa / Tymphany PL14W J09-04 (4ohm. – 5½”) and want the crossover around 1-1,2 KHz. with a 4/4 order filter. The LS bas will be in a 3L closed cabinet. The bas units are 1,5 meter tall, so because of the low crossover the treble need to be around the same length. The bas sensitivity is theoretically 95db so I need a Treble sensitivity between 95 and 100 db. I am looking at the NEO3 (not the PDR version) in a sealed cabinet with a distance of 1” to the rear closure. 2x16 units so the speaker will be at 3,5-4 ohm. The Neo has 10W RMS and 20W program (160/320W) I have 3 questions for the forum: 1: Could the 16 NEO3's be used with a crossover between 1-1,2KHz? 2: How is the sound of the non-PDR by less than +/- 30deg. horizontal off-axis compared to the PDR version? (Normally the PDR version is used). 3: the official price for the NEO's is around 40\$ each, does anyone know the price for roughly 40 units? Mediafreak

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Subject: Re: NEO3 treble in a LS?

Posted by [FredT](#) on Tue, 29 Apr 2008 18:46:35 GMT

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This information from the GR Research web site might help.

Neo 3 Information

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Subject: Re: NEO3 treble in a LS?

Posted by [Danny Richie](#) on Wed, 30 Apr 2008 01:20:33 GMT

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I can give you some feedback on those. I have probably done more design work with them than anyone. They will handle a lot more power than that too, BTW. "1: Could the 16 NEO3's be used with a crossover between 1-1,2KHz?" That is not going to be a problem with 16 of them. I crossed them at 1.2kHz in the Epiphany 12/12 model (12 per speaker) and even lower in the 20/21 model that used 21 of them per speaker. Just be sure that your crossover has them well down in output before they get too low. The Fs isn't much of a resonance, which helps a bunch, but it is in the 500Hz range, so keep that in mind. "2: How is the sound of the non-PDR by less than +/- 30deg. horizontal off-axis compared to the PDR version? (Normally the PDR version is used)." The off axis response is still not bad. It is an inch and a quarter wide playing surface so think of it just like a dome tweeter of that size. The pdr version will give you better off axis response but will also give

up about 3db in output. When they add the felt damping material to the sides they also drop out the two out rows of magnets. I wanted it all too. So I had them build me a custom version that kept all five rows of magnets and used a denser felt in the sides but only on the front side (not the back side). This gave me the better off axis response of the pdr, smoother over all response, and the higher sensitivity of the standard version. I had a large run of samples made so I could test them in a new design. I'll have 1000 units produced and have them in stock by mid summer. The cost will be the same as the standard units. "3: the official price for the NEO's is around 40\$ each, does anyone know the price for roughly 40 units?" If you need that many units then I'd contact a dealer for them (me) and ask for a good deal on them. I bet you'll be pleased.

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Subject: Re: NEO3 treble in a LS?

Posted by [mediafreak](#) on Wed, 30 Apr 2008 11:11:02 GMT

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Hi Danny Richie..thanks for your reply. I will follow your proposals. You are together with Mark L. Schifter the absolute top. I am regulary eating all the stuff at AV123 & gr-research. I might have bought the LS9 if I did not like to make the speakers my self; they seems just to be great. I have an ide - that I do not need to use. IF I wanted 16 trebles and are only using 8 mid-woofers then the wooferline would be only 1,3 meter high. The NEO3 is 89mm. tall but the C-C fitting /mounting distance at the unit is only 78mm. So in a "\\\\"-assembly upon each other where each unit is pointing 2-3 deg. upwards all 16 units can be at  $15 \times 78 + 89 = 1,259m$ . Question: Would that be an acceptable way to build the speaker?

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Subject: Re: NEO3 treble in a LS?

Posted by [Danny Richie](#) on Wed, 30 Apr 2008 19:37:50 GMT

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I sent you an e-mail answering your questions. If you have others feel free to e-mail them as well.

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