Subject: 2 into 1
Posted by Newbie on Thu, 24 Oct 2002 19:12:25 GMT
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Im trying to get to grips with using T-S parameters by reading up on the subject, but I cant find the answer to this simple question.If you have a 15 inch driver in a reflex box of say 400 litres and want to add a second driver into the same box, do they both occupy the 400 litres or do you now have to double the volume of the box.ThanksWinny

Subject: Assuming....
Posted by LuxmanLover on Thu, 24 Oct 2002 20:07:50 GMT
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the hypothetical 400 L box is optimum, you would double the volume for 2 of the same drivers.Kelly

Subject: Piggybacking on this piggybacking question
Posted by DRC on Fri, 25 Oct 2002 12:05:16 GMT
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As you can see just below, I'm now entertaining the thought of going to a 3-way, which would put the TAD 1602 and JBL 2123 in the same box, with the Martinelli horn sitting on top. Does this mean my 5 cubic ft (external) box should now be 8 cubic feet? Would this allow me to tune the 1602 lower than the 37hz recommended for it in the 5 footer?I'm getting in soooo much deeper than I had planned . . . ;-) Keep your ears and your mind open.

Subject: Re: 2 into 1
Posted by crazychile on Fri, 25 Oct 2002 13:07:27 GMT
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I'm still learning about this myself, but you normally have to double the box volume and recalculate the port dimensions to acheive the same response.Passive xover components and impedance will also change, so this needs to be taken into consideration also.Eat Mo' Hot Sauce,crazychile

Subject: Re: Piggybacking on this piggybacking question
Posted by D. Kurfman on Fri, 25 Oct 2002 14:21:56 GMT
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The 2123 would go in it's own box within the larger box. It could be either sealed or vented depending on where you want the crossover point. In your situation, I would probably go sealed. With a volume of aproximately .2 cubic feet, f3 will be about 200 hz. You will be less than 1db down at 300 which would be an excellent crossover point. The main box will need to be increased by the external volume displace by the .2 cubic foot subchamber.Dan

Subject: Re: Assuming....
Posted by Newbie on Fri, 25 Oct 2002 18:24:09 GMT
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Ok, thats much clearer thanks.Leading on from this, what do you get for the extra speaker in the double size cabinet. Presumably it will interface with the room better, but would it go deeper, would it be faster at the same volume (half the cone movement for each) etcThanks againWinny

Subject: Re: Assuming....
Posted by ToFo on Fri, 25 Oct 2002 19:38:08 GMT
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Hey Winny,Sounds like this ones gonna be loud.I am not the best person to get into this, but in case noboby brings this up I want to mention the "array" issue. With 15" drivers I think you will have to cross over below 800 Hz. The difference in distance between the two drivers off axis can do nasty things at higher frequencies due to interference. So if you had them alligned vertically the sound of the mids would get nasty if you stand up (or if you sit close). However, if your design permits the low crossover you will get more juice from your amp from a 4 ohm load, and some increase in sensitivity.I think that your observation about reduced excursion is astute, but I can tell you in my setup there just isn't any meaningful excursion at any volume most people will allow. If you need high output though, more drivers is better than overpowering fewer drivers. You'll get less power compression and less distortion.You may want to search the archives here for posts on 2.5 way systems. I find them fascinating.(2 woofs, 1 crossed at say 1.6 KHz, and one crossed say 500 Hz. If you use woofs with louder midrange or are going to put them far away from walls, this works well.)Thomas

Subject: Re: Assuming....
Posted by Newbie on Fri, 25 Oct 2002 19:57:22 GMT
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Thanks ThomasI intend to use the sub to underpin a Lowther horn that has pretty good output down to about 60Hz, so hopefully the problems you suggest shouldn't manifest themselves too much. I will use a Behringer 8024 to help integrate the base unit with the horn.So I suppose my question still stands. What do you get from the extra driver and having to accomodate twice the cabinet volume?ThanksWinny

Subject: Re: Assuming....
Posted by ToFo on Fri, 25 Oct 2002 22:09:59 GMT
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As a sub you wont have these issues. Unless your going loud, I don't know how much better 2 15 will be, if any. 1 15 is gonna move a lot of air, and lowthers, horn loaded or no, will get all they

need from a good 15. Questions:Do you already have a driver?Do you have a target box size?Will it be used with a solid state amp?I would bet there is a Pi with your name on it. Most of the 15" Pi's could do well as a sub. Just delete the High frequency horn and crosover. JBL = pricy but real good. downside is not so much deep bass, but what you get will be as good as it gets.Eminence = cheaper, deeper and amazing sound for the money.Then what size box can you handle, and hey maybe a cornerhorn sub pair to get the best bass and keep the horn theme going. Now im getting carried away. (one can always dream/maybe I'll build some next year)Thomas

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Subject: An attempt at an answer
Posted by mollecon on Sat, 26 Oct 2002 00:50:11 GMT
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OK - theoretically speaking:You can get 6 dB (= 4 times) extra output by using two instead of one bass unit. 3 db from the extra sensitivity gained from better acoustic loading of the units, + 3 dB from the doubled power handling - in all, 6 dB.But why not build two? Then you have a stereo pair & will then be able to go higher in crossover frequency if necessary...

Subject: Re: Assuming....
Posted by Jeff Robinson on Sun, 03 Nov 2002 12:50:43 GMT
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Hi WinnyNot only will you gain 3dB in sensitivity and 3 dB in power (6 dB total) you will also get an extra 1/2 octave in bass extension (Fc x 0.707).Jeff Robinson

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