Subject: Stage, Audiphile(?) or Professional?
Posted by PPoli on Mon, 25 Dec 2006 18:00:04 GMT
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Hi WayneI'm looking for a good plan for a couple of speakers to match with my 300B SE amplifier.I found Pi projects really interesting but I have a couple of questions for you.My living room is, more or less 5*5 meters (200"*200"), 3 meters high, irregular, but without available corners. The listening point is 3 meter from loudspeakers which are 3 meters distant each other and half to one meter from the rear wall.Due to small space I was thinking of build a couple of Stage IV, but I run into your doubt regarding impedance to match them with SE tube amplifier. A solution could be the Professional series, at almost double the price.A friend of mine is building the Theater IV but they seem to be huge to me.- Any suggestion from you?- What about development of Audiophile series with the new B&C woofer (and the optimized crossover)? Would they be available soon?- is it possible to have plans of Stage, Audiophile and Professional IV?- the JBL 2226 datasheet suggest 1200 Hz maximum frequency, is it compatible with Professional IV (1600 Hz cutting frequency)?- I read some topics concerning a Mid-Horn, possibly to add in a second time. Why don't you use it in non-corner speakers?- do you ship to Italy and how much would it cost for a couple of kits?Thank youPaolo PoliItaly

Subject: Go Professional Series
Posted by Wayne Parham on Tue, 26 Dec 2006 16:00:33 GMT
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upgrade by adding the midhorn later, if you want.  I'm dropping the Audiophile Series because the Eminence Magnums are no longer available and I don't have time to test and optimize the designs

though, so if you can get them at a good price, you might try them and see how you like them.

Subject: Re: Go Professional Series
Posted by PPoli on Wed, 27 Dec 2006 21:02:35 GMT
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Thank youProfessional IV would be ok, maybe with Eminence 2002 at the beginning and in a two way setting to limit cost.JBL 2226 seems to be a really interesting woofer. What about plans?And shipping? Would it be to expensive?Paolo

Subject: Re: Go Professional Series
Posted by xcortes on Thu, 28 Dec 2006 02:17:58 GMT
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I found that I can source JBL woofers in Mexico. Not only I save on shipping charges but also they are cheaper than in the US. Go to the JBL pro web page and find the link to your country distributor. Call them and ask them about the 2226. They don't carry the 2426 in Mexico though but you may be luckier.xavier

Subject: Re: Go Professional Series
Posted by dB on Thu, 28 Dec 2006 16:48:45 GMT
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Yes, xcortes.From what I learned in this forum JBL have different prices, and models in Europe and in the US. Always consider prices from Wayne because he buys bundle.Check here for type of transport. (Add customs & EU-taxes)
http://www.audioroundtable.com/PiSpeakers/messages/18696.html

Subject: You've got mail!
Posted by Wayne Parham on Thu, 28 Dec 2006 17:07:06 GMT
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I've sent plans to your E-Mail address. Shipping kits surface parcel post to Italy would cost about $50.00 each.

Subject: Re: Go Professional Series
Posted by PPoli on Thu, 28 Dec 2006 17:38:00 GMT
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My goal is not save 50-100$.Under, more or less, same condition I prefer to buy speakers from Wayne.He is doing a god job with the forum and I'd like to consider him for the time and energy he is spending in PiSpeaker researchMy main doubt are about high shipping cost, but the $/€ rate help me nowadays.

Subject: Re: You've got mail!
Posted by PPoli on Thu, 28 Dec 2006 17:44:09 GMT
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Sorry I posted another replay before reading this topic.50$ each for shipping is not much. I'll made you now someting.Thank you

Subject: Re: You've got mail!
Posted by PPoli on Mon, 08 Jan 2007 13:00:38 GMT
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I’m doing some simulation at the moment.The JBL 2226 seems to work much better, especially with low frequencies, than B&C drivers. I could find B&C for very little price (round 50-60 euros each) but JBL are going to be my candidates.In order to complete my decision can I also receive plans of Professional III?Is it possible to use the JBL 2206 with the Eminence 2002 horn, maybe outside the box?Is the low registry of Professional III considerably worst than that of Professional IV?

Subject: Re: You've got mail!
Posted by Wayne Parham on Mon, 08 Jan 2007 18:03:15 GMT
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without a subwoofer.

Subject: Crossover choices
Posted by PPoli on Tue, 16 Jan 2007 10:41:24 GMT
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I’m still deciding if buying the JBL 2426 for the upper registry or go with a cheaper one such as Eminence 2002 or better B&C DE500 which seems to have flatter response and, mostly, I can get it locally at a good price.The main advantage of using the expensive JBL driver could be a lower admitted crossover cut, e.g. at 800 Hz, as suggested in the 2426 datasheet. I haven’t read anything about 800 Hz cut in the forum. At least using the search function: I’m going back reading the topics but it is a time consuming activity, even if really interesting.800 Hz seems to be a better cut for the couple JBL 2226-2426, but not allowed for any of the other driver

mentioned.I also found a schema for it in the documentation you gently sent me, Wayne.Can I deduct this is an available option?And in case, what would be sonically better for you, 1,6Khz or 0,8Khz?A great advantage, in my opinion, would be that the 2226 has a lack in the off-axis response over 500 Hz which became “important” (-15db) at 1600Hz.Off-axis response is not so critical in my listening environment, but I prefer to do things in the better (affordable) way.

Subject: Re: Crossover choices
Posted by Wayne Parham on Wed, 17 Jan 2007 15:24:02 GMT
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The best way to approach this, in my opinion, is to crossover where directivity is matched. The 2226 is 15" diameter and has radiating surface area of 132in2 or about 11.5" diameter. At 45º off-axis, it will be about -6dB around 1200Hz. By 2400Hz, the midwoofer's pattern will have narrowed so that it is -6dB at 22.5º or so. Directivity isn't a black-and-white thing, but you still prefer the woofer and tweeter DI to be close through the crossover region.To expound a little further, if you crossover a direct radiator to a 90º round horn, directivity is matched when wavelength is approximately equal to the diameter of the radiator. In terms of DI, a direct radiator has DI of 10 when diameter equals wavelength and DI of 16 when diameter equals two wavelengths. A 90x40 horn has DI of 11 and a 60x40 horn has DI of 12.5. That makes DI matching of a direct radiator to a 90x40 horn occur a little above 1 wavelength and a 60x40 horn about 1.5 wavelengths.A 10" driver typically has a radiating surface about 7.5" diameter, 12" driver has about 9" diameter radiator and 15" driver has about 12" radiating diameter. So the frequency where wavelength equals diameter is 1765Hz for a 10" driver, 1500Hz for a 12" driver and 1130Hz for a 15" driver. That makes a 90x40 horn matched to a 10" driver between 2.0kHz and 2.4kHz, a 12" driver between 1.8kHz and 2.1kHz and a 15" driver between 1.3kHz and 1.6kHz. A 60x40 horn is matched to a 10" driver at 2.4kHz to 2.8kHz, a 12" driver at 2.1kHz to 2.4kHz and a 15" driver at 1.6kHz to 1.8kHz.More info about crossovers and driver spacing

Subject: Re: Go Professional Series
Posted by PPoli on Tue, 23 Jan 2007 14:49:42 GMT
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I read a lot before posting a new questions, especially yours really well written “Speaker motors and passive crossover filters”.But at the end some of my doubt hadn’t been solved.I’m going to build, as you suggest, the Professional IV, with the tweeter pulled outside the woofer cabinet, with the idea of adding the mid horn soon.I’ll put the woofer some higher to keep same distance from tweeter.The biggest doubt is, as I previously told, if using the JBL 2426 rather than the B&C DE250 or DE500.I understood the crossover filter remain the same for both JBL 2426 and Eminence 2002, even if I’m not sure after reading some audioasylum tread.Is it the same even for B&C drivers? B&C seem to keep (from official datasheet) a flatter response at higher octave, especially DE500, so probably they need a lower bypass capacitor for the attenuating resistance cell (C1 in your documentation), even if not at all. They seem to have

the same level at crossover frequency.You said somewhere you where testing B&C compression drivers some months ago. Have you done it? Do you have a spice model for them?But, mainly, are they well sounding as JBL's? And is it worthwhile the cost difference? I know your point of view regarding JBL 2426 vs, Eminence 2002 but not compared with B&C.Pleas let me a couple of days more to collect the last ideas and I'll be ready to order you the components.The last question: can you suggest me the right dimensions (diameter and depth) for a circular vent (or two) for the Professional IV (maintaining the same volume)?Thank you

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Subject: Re: Go Professional Series
Posted by Wayne Parham on Tue, 23 Jan 2007 17:03:44 GMT
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I started the design process for a version of some of my speakers that used B&C components, including the DE250. But I've since abandoned it, at least for now. Other projects took priority, and I have several loudspeaker projects in the queue that I haven't dropped. The B&C work just had to be left for now because of lack of time.As for comparisons between the Eminence PSD2002 and the JBL 2426, there is more HF energy from the PSD2002 but the 2426 is smoother. They're definitely two different drivers with two different characteristics. That said, I still recommend using the same tweeter compensation circuit on my passive crossovers. The reason is that it provides the maximum augmentation possible from a passive network. With the Eminence driver, it's just enough to get flat average SPL up to 16kHz. The JBL 2426 will have falling response, even with passive compensation, but there's no more augmentation possible from a passive network. The augmentation is really just removing attenuation, so once all attenuation is removed, no more HF augmentation is possible.

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