Subject: Eminence Beta12LTa -- best cabinet?
Posted by Derro on Wed, 07 Sep 2005 17:48:45 GMT
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Having acquired a pair of Eminence Beta 12LTA .... which would be the best cabinet for these, or are they in fact suitable for any of the Pi cabs? I think that the PiTwoTowers are likely candidates and would like any comments please.Also how do I obtain cabinet plans for the Two Pi Towers?Any help would be most appreiated.thanks to one and all.DerrO

Subject: Re: Eminence Beta12LTa -- best cabinet?
Posted by Wayne Parham on Thu, 08 Sep 2005 05:03:11 GMT
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2.0ft3 to 10.0ft3 box, port tuned to 30Hz - 35Hz. PiAlign recommends 2.4ft3 tuned to 33.75Hz. It further suggests cabinet dimensions of 24" x 16" x 10.75", plus whatever wood thickness and offset for internal displacement required. The port it suggests is 2.5" diameter and 2.75" long.

Subject: Re: Eminence Beta12LTa -- best cabinet?
Posted by Sean on Fri, 09 Sep 2005 06:17:52 GMT
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Why would you want to vent this driver other than to try and reduce excursion on it at low frequencies? Doing the math without aid of computer simulation, this is VERY much a sealed box type of driver. Sean>

Subject: Re: Eminence Beta12LTa -- best cabinet?
Posted by Wayne Parham on Fri, 09 Sep 2005 07:20:24 GMT
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You could do sealed, sure. The Beta 12LT works very well in a sealed box. But it provides deeper bass extension in a vented box of the same size. Compared with sealed cabinets, vented boxes reduce excursion between fb and fh, which is a large portion of the bass range. Excursion only increases below fl. See the posts called "Port vs Sealed" and "Resonance".Sealed alignmentsCabinet size f3 f10 peaking (100Hz - 200Hz)==========1.5ft3 70Hz 50Hz +2dB2.0ft3 70Hz 45Hz +1dB3.0ft3 65Hz 40Hz4.5ft3

65Hz 37Hz6.5ft3 65Hz 35Hz9.5ft3 65Hz 33HzVented alignments (Helmholtz frequency = 35Hz)Cabinet size f3 f10 peaking (100Hz - 200Hz)==========1.5ft3 70Hz 47Hz +2dB2.0ft3 63Hz 40Hz +2dB3.0ft3 55Hz 35Hz +1.5dB4.5ft3 45Hz 28Hz +1dB6.5ft3 38Hz 27Hz9.5ft3 33Hz 27Hz

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Subject: Re: Eminence Beta12LTa -- best cabinet?
Posted by Sean on Fri, 09 Sep 2005 15:08:03 GMT
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Thanks for taking the time to respond and providing some form of comparison charts. Having said that, i have a few more questions for you. That is, if you don't mind :)1) Are these measurements taken using you Pi alignment for duct tuning? If so, what do the Q's work out to be in box?2) What are the differences in impedance in the resonance ranges of each design? This is VERY important to me as i absolutely hate high impedance peaks and the lack of loading / control that the amp has over the woofers in such a situation.3) If you have comparisons between sealed vs ported on the impedance curve, what was the sealed cabinet stuffed with and the quantity used when making these charts? What specific static Q were you shooting for in the sealed design? As you know, the type and amount of stuffing can play DRASTIC games with Q, extension and impedance peak, hence there are a LOT of variables there.4) In a 3 cu ft box for this driver, which is not very big at all and quite reasonable in size, you can see that there's not a huge difference in extension. In terms of an F3, the sealed box is supposedly "missing" 10 Hz of exension compared to the vented design. In terms of usable output, the F10 is only 5 Hz different. I will give you that the vented box looks better on paper in this regards, albeit not by much, but what does it sound like when you start throttling power into each design at or below the point of resonance??? You have to remember, we are still resonating pretty high in frequency and there is a sizable amount of energy below this point. Especially if using this driver for use in a small PA system. Realistically, an open E on the bass is 41 Hz and on a five or six string, you're down around 30 Hz or so. This is not to mention guys that are running heavily damped / tuned down 26" kick drums, etc... At that point, the vented box is "probably" going to have less output AND be drastically unloaded i.e. much higher in distortion whereas the sealed box is mechanically limited due to the "internal air spring". This is not to mention that transient response on the vented box will be a mess at higher frequencies due to the massive excursion caused from being unloaded at those lower frequencies. Given that this driver has rather limited excursion as it is, I return back to my original question. That is, why would you want to vent this driver? It is not mechanically capable of long excursion, it resonates too high unless put in a phenomenally huge box and venting it opens up the potential for increased distortion IF deep bass at any type of volume is expected from it. Venting it only looks better on paper from all practical points of view. That is, unless one is listening to chamber music at background levels. Sean>

Subject: Re: Eminence Beta12LTa -- best cabinet?

Posted by Wayne Parham on Fri, 09 Sep 2005 20:21:17 GMT
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Please refer back to the posts in the threads linked in my previous post. Each of the things you've mentioned are addressed in them.