
Subject: Pick the right mid/woofer

Posted by [ttan98](#) on Thu, 21 Feb 2008 04:31:23 GMT

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Hi, Wayne or anyone, I am thinking of building a 2 way speakers based on compression driver and a mid/woofer housed in a MLTL cabinet (based on MK's worksheet). I have a woofer in mind I wonder what you think about it, esp. Wayne who has experience with Eminence drivers. The model is Eminence, Deltalite II 2510 (made using Neodymium magnet), resonance freq=53Hz and spl of 96db and Vas of 52litre, Qts=0.44 Using MLTL cabinet I can get the bass flat to 40hz. If anyone can suggest alternative mid/woofers I am willing have a look at them. The following parameters apply, spl>=92db, qts>=0.33, Vas

Subject: Re: Pick the right mid/woofer

Posted by [Wayne Parham](#) on Thu, 21 Feb 2008 20:30:46 GMT

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I don't have any experience with the Deltalites, sorry. The ferrite Deltas are pretty good drivers though. They're very smooth in the midrange, which is important if you're using them as a midwoofer in a two-way design.

Subject: Re: Pick the right mid/woofer

Posted by [ttan98](#) on Thu, 21 Feb 2008 23:23:07 GMT

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Normal Delta 10A is not so suitable as the resonance freq. is a little higher than I need. Delta 10A, Rs=66Hz. At this freq. I cannot get the bass low enough for a 2 way to sound decent. The neodymium magnet technology used in Deltalite, what you think of it? will it affect the midrange which eminence is famous for? Any idea? Thanks for your input.

Subject: Re: Pick the right mid/woofer

Posted by [Barry](#) on Thu, 21 Feb 2008 23:54:36 GMT

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Hi ttan98 I have not played with the delta lites yet. Hear they are good though. Could be way off base from what you are conceiving but; Have you considered the Alpha 8a? (Haven't played with it yet but other have had good results) Disadvantage: Higher Fs so distortion might rise faster below that. Less power handling. Advantage: Flatter response. higher cross over possible. Better midrange dispersion. Should go just as low as the 2510 but at lower volumes. If it fits your design

parameters you might use more drivers. Like 4 instead of 2. Just a thought mind you.

Subject: Re: Pick the right mid/woofer

Posted by [ttan98](#) on Fri, 22 Feb 2008 02:39:43 GMT

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I am using it in box and like to keep the Vas low less than 55litre, alpha 15a(more suitable for OB) has too large Vas, hence not suitable in this design. The woofer that suits this design should be 10" or less, I used Usher 7" woofer, it seems fine however the efficiency is very low, 87db not suited for my purpose. thanks for your input.

Subject: Re: Pick the right mid/woofer

Posted by [Wayne Parham](#) on Fri, 22 Feb 2008 18:30:11 GMT

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You're right about the Delta 10. I use it as a midrange and it sounds nice, but it doesn't have the right properties to be satisfying as a woofer. The Delta 12LF is a good woofer though. As for neodymium, it is powerful for its weight, which I think is its strongest point. The Deltalite series may offer reduced distortion over their ferrite counterparts, but I don't expect big improvements there. Eminence tried to make drivers with shorting rings - the Magnums - but later abandoned them. That's an unrelated technology, but the point is I'm not sure Eminence is really focused on research and development. They are great at making good drivers with traditional ferrite structures but I don't expect them to do much development of other technologies. Perhaps in the case of neodymium, they were able to just basically mount a different magnet and that's it. But I'm concerned about thermal performance and things like that. I prefer Eminence as a bang-for-the-buck driver. They make very good sounding traditional ferrite drivers. I don't expect hi-tech motors from them, just good quality ferrite ones. But maybe their neodymium speakers are good too, and I should give them a closer look. It might be worthwhile to get one of Eminence's neodymium drivers and their corresponding ferrite driver and see how the two compare. I have not done this, and probably should. It is worth taking the time to measure them and see. I'd focus on comparing electro-mechanical specs, the shift with temperature and the ability to withstand heat without damage. I'd be interested to compare harmonic and intermodulation distortion too.

Subject: Re: Pick the right mid/woofer

Posted by [ttan98](#) on Fri, 22 Feb 2008 23:40:34 GMT

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Thanks for your input. After spending some time searching I found an alternative mid/woofer, it is

Beyma 10BR60, the spl is only 92dB, it is a compromise. the rest of the data looks very good, $R_s=45\text{Hz}$, $Q_{ts}=0.47$, $V_{as}=47\text{l}$, etc, also it can crossed above 1.5kHz, close to 2-3kHz. Wayne, I thought may like to know this.

Subject: Re: Pick the right mid/woofer

Posted by [Wayne Parham](#) on Sat, 23 Feb 2008 00:10:51 GMT

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Thanks for keeping us posted. Please let us know how it works out if you go that route.
