Subject: System and motor damping and some other stuff....
Posted by Adrian Mack on Sat, 28 Jun 2003 02:11:04 GMT
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Hi everyone,I have some idea on this topic, but I've yet to find any real facts on what system and motor damping is, and also how the amplifiers damping factor relates to this. Maximum impedance affects motor damping and high amplifier damping factors are required for high Zmax woofers, but I'm not too certain on what system and motor damping actually is/how it works. Also, exactly why are high Qts motors a "bad" thing? (using the term loosely). That is, besides having poor cone control (because of high Qms?) and being a pain in the ass to get frequnecy linear with low THD. Is there any way you could use well a high Q motor (I think some of the Pi speakers have high Qts motors like the Alpha 15 in some of the bass reflex designs) in a vented box? or even sealed. I wonder why some drivers have extremely high Qts, which arn't too usable in much else besides IBs in most cases. Is there any reason not to stuff a ported box? Most people simply say that if you stuff it, it will be like a sealed box. Others just say line each wall, which is what I usually say myself too. But none have yet to offer a good reason why it cant be stuffed. Of course the apparant box volume will increase due to stuffing, and we cant really know how much this would be by, making design hard. If we did know how much increase in box volume the stuffing would contribute exactly, is there any reason not to design a ported system around this basis?What parameters affect driver voice coil inductance, Le? Is there a way to calculate Le (at 1Khz standard)? Is there a way to increase driver efficiency without sacrificing anything else? I've heard that increasing motor strength by means of flux density can achieve this, but I'm not sure. If a more-than-needed motor strength is used on a motor, why is bass response poor/driver resonance increased? Larger Vas = higher efficiency, however Vas doesn't really have anything to do with efficiecny, its the motor strength and moving mass that govern efficiency, correct? This is what Dan Wiggins said on another forum, giving the reason that Cms cancels out in the efficiency equation. Not 100% sure on his reasoning, even though it seems correct. What does "shelving" mean?Building my tractrix horns in 1.5 weeks :-) hope they sound good lol. I think they should, I'll post pictures for anyone thats interested or that can remember me building horns. Hope somebody can answer at least some of my questions :-)TIA!Adrian

Subject: Re: System and motor damping and some other stuff....
Posted by Wayne Parham on Sat, 28 Jun 2003 04:21:50 GMT
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There's lots of good stuff on these subjects in the archives, so do a search and look through each of them:DampingZmaxMotor controlUnderdampedOverdampedAlignmentPeakingSpecific peakingShelved

Subject: Re: System and motor damping and some other stuff....
Posted by Adrian Mack on Sat, 28 Jun 2003 04:55:51 GMT
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Hey Wayne,I sure had searched hard through them! In fact, I even saved a very wide range of links from browsing the this forum on topics like this after many rigours (and VERY LONG!) hours of searches, and have them all sorted out into seperate subcatergories in my favorites menu! Very interesting topics on this forum, these questions were just some of the specifics that I either missed or couldn't pick up in the posts I've seen. Cheers - Adrian