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Subject: Re: Other Drivers and stuff

Posted by [Wayne Parham](#) on Thu, 01 Apr 2004 17:51:37 GMT

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Interesting. I didn't really expect to find throat distortion on cone-driven horns, because the compression ratio is low to prevent the cones from ripping. Titanium can stand up to higher compression, but the paper cones punch the voice coil through. I was more concerned about what might happen in the cooling vent, and whether it might introduce 2HD from pneumatic non-linearities at high output levels. This is all in response to the flux-stabilized LAB12 project I asked Eminence to work on. Jerry McNutt said that he and John Sheerin modeled the magnetic structure and found that there were two solutions for putting a flux stabilization ring on the motor. One involves making the vent hole smaller, which might increase power compression and introduce non-linear distortion from the trapped air. The other option doesn't require a reduction in cooling vent size, but it will take a couple months more to develop. If the vent is made smaller, the compression ratio between the cap and the vent will change. The concern is whether or not this feature will adversely affect power handling, thermal compression or introduce distortion. Tom Danley is going to test the flux stabilized LAB12 next week, so we can know the distortion of this version of the woofer. If it works out, perhaps Eminence will make a better low-distortion version of the LAB12 available fairly quickly. If not, the second option is to install shorting rings in the plates, outside the voice coil. It has the advantage of allowing the vent to be made larger. This option will take 6-8 weeks though, so production would have to wait a little longer.

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