Subject: Four Pi plans and a question
Posted by dbeardsl on Sun, 24 Feb 2002 22:08:49 GMT
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Wayne, I'm halfway through your Crossover document. This is very interesting stuff and I understand most of it (whooo hoo! good job!), I was planning to make a 3-way project using a 1st order butterworth. Now I think I'd like to use your Theater series Four Pi plans (if you wouldn't mind emailing them to me).Question: How does a compression driver sound compared to a high eff cone driver in the 1-6k region, the only place I've heard compression drivers is at shows or concerts where it is way too loud to evaluate sound quality.Nother question... I've noticed in a lot of Eminence's woofers (specially the LF ones) there is a big dip in the reponse between 30hz and 60hz. Whats up with that?Also, would there be any advantage to using the Delta 15LF instead of the 15A in them Four Pi's?Oh, also do you reccomend any parts suppliers for caps and resistors?

Subject: You have mail
Posted by Wayne Parham on Sun, 24 Feb 2002 23:02:32 GMT
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When comparing a compression horn to a cone driver designed to cover the same range, you will find that the cone driver is incapable of providing the same dynamic range, or probably even anything close. It also can't beat the horn's low distortion. There are some technologies that improve distortion of a direct radiator, like shorting rings, but they can be used in a horn driver too. So the horn beats the direct radiator in terms of dynamic range and distortion. The only thing a direct radiator can offer is greater bandwidth, but that's not necessarily a good thing, since increasing bandwidth necessarily increases intermodulation distortion.About Eminence woofers and their measurements, I had a discussion with them about consistency (and therfore, the reliability and accuracy) of their measurements. One thing I learned is they are installing the drivers on an infinite baffle for measurement, and that is likely a big contributor to response problems below 100Hz. Not all drivers are well suited for infinite baffle use.

Subject: Questions
Posted by dbeardsl on Mon, 25 Feb 2002 05:29:26 GMT
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In the Plans, The two calculated values, R3 and C5. I'm guess the power rating should be the same as the others? 40W and 200V?Also, have any suggestions on horn flares for the PSD2002?

Subject: Answers
Posted by Wayne Parham on Mon, 25 Feb 2002 13:17:11 GMT
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R3 should be 8 ohm, 100W. C5 should be 20uF, at least 200V. Use the Eminence H290 or the Peavey CH-3 horn. The H290 mounts on a PSD2002 but the CH-3 mounts on a PSD2002(S).

Subject: Sealed Four Pi?
Posted by dbeardsl on Mon, 25 Feb 2002 15:26:18 GMT
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I've always liked the transient-response in the low end from Sealed boxes (and the lessened distortion below the port tuning freq.), of course they have to be generally much bigger cabinets, just not sure if it would be a worthwhile trade off.Anybody ever thought of sealing the FourPi's?I suppose I could just build em with a port and try plugging it up.I'm worried that I'll build these great speakers then see the woofers flapping when I put in more than 20 Watts.

Subject: Super tweetie bird on Four Pi's
Posted by dbeardsl on Mon, 25 Feb 2002 16:02:10 GMT
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I'm a young feller and can hear pretty well in the upper region 16-20kThe theater four pi's are listed as 25-18k. How steep is the roll off up there? Anybody ever measured it?Anybody thought

of augmenting a piezo or a eminence APT Supertweet?Jeez I sure talk a lot for never having heard them...

Subject: The "Pi Alignment" is a ported alignment
Posted by Wayne Parham on Mon, 25 Feb 2002 16:08:08 GMT
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Theory" document is a paper written that specifies a certain alignment, and it is a ported alignment.

Subject: Re: Thanks Wayne!(nt)
Posted by dbeardsl on Mon, 25 Feb 2002 16:40:15 GMT
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Subject: Re: Super tweetie bird on Four Pi's
Posted by Wayne Parham on Mon, 25 Feb 2002 17:51:23 GMT
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You can add a super-tweeter if you want. My biggest problem with it is there's no way to get the super-tweeter close enough to the compression horn to be within 1/4 wavelength. It causes an interference pattern that sounds "phasey" to me.

Subject: Re: Sealed Four Pi?
Posted by Adam on Mon, 25 Feb 2002 21:05:30 GMT
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Unless you're using the basic Eminence drivers or a few select other eminence motors, you're asking for trouble.These are P.A. woofers designed with generally high FS values and lower Q values. Very bad for sealed box operation. The enclosures will be very small, but extremely shallow on the bass and simply won't sound right. A few Eminence woofers (Kappa 18A, Kilomax) would work okay in a sealed box, but they don't have the xmax for high volumes.Adam

Subject: Are Mylar Caps Evil?
Posted by dbeardsl on Mon, 25 Feb 2002 23:16:02 GMT
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Are they Evil for use as C1?(two 1uF 250V in seires is pretty close to .47)I found a good source.. www.goldmine-elec.comThey also have sandstone power resistors. Will prolly buy a zillion 68ohm 25W sanstone resistors. 7 in parallel to make R3 and 4 in parallel to make R1 and R2.

http://www.goldmine-elec.com