Subject: Alpha drivers and more (long)
Posted by aborza on Fri, 06 May 2005 15:53:31 GMT
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I am a newbie here. I found this forum three days ago and have spent about 12 hours searching and reading posts as well as the info and pdfs on the Pi site. All I can say is thank you all. Special thanks goes to Wayne for making this Forum possible and giving all the help he does. I must say that in the 40 odd years I have been a Hi-End diy speaker guy, Wayne's "Speaker motors and passive crossover filters" is the finest exposition of crossover filter development I have ever had the privilege to read. Kudos Wane. Two thumbs up. And thanks again.The reason I am here is that a friend has purchased one of those low power SET amps and has no speakers suitable for the amp. He has asked me to help make up some high quality high-efficiency speakers to use with the amp. The only problem is, I have no experience with high-efficiency drivers or horn tweeters.Doing some research I found the Eminence Alpha drivers and they seem to fit the general requirements I am looking for. But Eminence puts out little information on their drivers other than some TS specs, Freq Response and Impedance. At least that is all they gave me. So here are some questions. Has anyone done linear distortion, non-linear distortion and stored energy tests (Linkwitz style etc.) as well as polar response tests on the Alpha 8", 10" and 12" drivers? Can someone point me to those tests or share them with me?My goal is to develop a heigh efficiency dipole from about 100-150 Hz to about 1.5 KHz with an Alpha type driver (perhaps even in MTM format but I would need 16 ohm drivers for that) and then cross to a horn tweeter like the Eminence unit used in the Pi speakers. The bottom end of the system would be handled by a powered woofer of more conventional design.It will be an interesting task and with some help I may find some drivers with good specs that will be good candidates for the system. I appreciate any help you all can give. Suggestions, criticisms, hints and especially driver data will be greatefully accepted.Thanksaborza

Subject: Re: Save some trouble....(unabashed plug)
Posted by Matts_ on Fri, 06 May 2005 17:56:52 GMT
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Wayne's kits using the Alpha series are very good for SET and very inexpensive for what they are. Depending on the tubes and topology of your friend's amp (??), and the room, he may be able to use the other offerings as well. Get one of Wayne's kits that your friend can afford, assemble some cabs, and he'll be very happy.

Subject: Re: Save some trouble....(unabashed plug)
Posted by Wayne Parham on Fri, 06 May 2005 18:30:48 GMT
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tweeter, they're startlingly accurate speakers. Give 'em a try, the price is dirt cheap.You mentioned building dipoles, and the large Alphas - the 12 and 15 - have such high Q that they do pretty well on open baffles. Being a dipole, the bass will have dual lobe directionality and then up high, the circular radiator will start to have collapsing DI so you can match directivity with the horn. With the right baffle size, you could probably do a pretty good job of making DI fairly uniform throughout the band this way, with of course the exception of the rear dipole lobe.For additional specs, contact Tom James, Jerry McNutt, or Scott Diehl over at Eminence. Being a circular radiator, the polars are fairly predictable. As for nonlinear specs, not many manufacturers are publishing nonlinear parameters yet, but Eminence has a Klippel system, so they can probably provide a dataset of nonlinear parameters for you.

Subject: Re: Save some trouble....(unabashed plug)
Posted by aborza on Fri, 06 May 2005 18:52:33 GMT
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Matts, Thanks for the "unabashed plug". Nice try. But after 40 years of rolling my own, I'm not going to stop now.In the past, Joe D'Appolito and Sig Linkwitz have been very kind and helpful to me. In fact, Joe even calibrated one of my measurement mic's. JD'A and SL are masters of the speaker art. And from following their advice I have built many awesome speakers over the years and all the drivers were well documented, as they should be. Unfortunately, none of them are high enough efficiency to do the job I need done now.From what I have read from his writings, Wayne is also a master of the speaker art. So I presume that he, or somone else, has quantified his production driver specifications to a "T". Hopefully, he, or one of you, will be able to share that data with me. Rest assured that I will not bite the hand that feeds me. If the Alphas and PSD2002 have appropriate distortion, polar response and stored energy figures, I will be asking Wayne for a quote on the parts I need. I do hope I can get along, "with a little help from my friends". Well, maybe a lot of help. And I hope to be able to call all of you my friends, even though I am only a newbie on this Forum.BTW, if anyone has measured FR and IMP files in text format for the Alpha drivers and the PSD2002 horn I would love to import them into my CALSOD optimizer. It would be a great companion to Wayne's Spice work in his crossover article. I will be happy to post the results.Thanksab

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Subject: Re: Save some trouble....(unabashed plug)
Posted by aborza on Fri, 06 May 2005 19:47:12 GMT
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Wayne,Thank you for your reply.Yes, the larger Alphas seem like a good choice for dipole use. They do have nice TS spec's for the purpose, but distortion and delayed energy (not to mention cone breakup/frontal lobeing) are serious issues too.Yes, uniform frontal horizontal response as far off axis as possible is one of my goals. Re: front vs rear lobes, most high-end guys (Linkwitz

and others) feel it is not desireable to duplicate the frontal radiation above about 1.5 KHz. It seems the HF power response into the room will be too hot by the additional energy above 1.5 KHz. On the other hand, a simple tweeter can be used on the backside for additional "air," if necessary. I have found it is not necessary.Yes, polar response is essentially determined by driver diameter. But quality polar plots can tell you a great deal about cone breakup. That is the reason for my interest.The Eminence guy that replied to my info request was Chuck Banta. I suppose he is a customer service guy. Do you have an email address for the guys you mentioned. Or should I call and ask for them directly?Thanksab

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Subject: Re: Save some trouble....(unabashed plug)
Posted by Wayne Parham on Fri, 06 May 2005 20:26:01 GMT
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Agreed about cone breakup behavior. That's one of the main concerns when building a DI matched two-way because the crossover point is rather high. As for E-Mail addresses, I do have them and intended to include them in my last post. But I've noticed they've taken down employee direct E-Mail links from the Eminence website, so out of respect for their privacy, I didn't include them. Maybe they were having problems with SPAM or something. They're very easy to contact though, just give 'em a call and ask for them by name.

Subject: Re: Save some trouble....(unabashed plug)
Posted by Matts_ on Fri, 06 May 2005 20:56:15 GMT
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hey ab,Not trying to plug Wayne's speakers to get him a sale, as much as save you some time. From your inquiry, you seem very sophisticated in general, but starting out in the SET world. If you enjoy the process, by all means have at it. Maybe you'll find something new that will be a big help to all of us. But, judging from your questions, I was guessing that you might end up somewhere where Wayne already is (mean that as a compliment.) I think Wayne has some of the best prices on Eminence products, so he doesn't really need a plug to sell them. What type of amp does your friend have, and what power tube and iron does it have?

Subject: Re: Save some trouble....(unabashed plug)
Posted by aborza on Sat, 07 May 2005 00:28:01 GMT
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Matt,No problem.Not sure about the amp. It is some Oriental item. I haven't seen it yet. But it is supposed to top out at about 6 Watts max, which is probably over rated.Been a long time since I

worked on tube gear. Hmm. It was before the Army sent me to Viet Nam. And I got back in 1964!.It should be fun.

Subject: Re: Save some trouble....(unabashed plug)
Posted by Matts_ on Sat, 07 May 2005 03:09:18 GMT
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Welcome Back!! I've got 2A3 SET's & Pi 2's- maybe 3.5 watts. Lots of people here have SET's or other varieties of tube amps. Sound great with horns and bass reflex speakers.

Subject: Re: Save some trouble....(unabashed plug)
Posted by Crazy Dave on Mon, 09 May 2005 14:33:24 GMT
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Hi Wayne,What kind of unequalized base response can you get out of an Alpha 12/15 on an open baffle of reasonable size? I'm also curious if a Delta 15 would also work on an open baffle. What do you think?TIA, Dave

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Subject: Re: Save some trouble....(unabashed plug)
Posted by Wayne Parham on Mon, 09 May 2005 21:23:47 GMT
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Naturally, it would all depend on the baffle size. I'll bet they sound pretty good mounted on a solid wall.
