Subject: new eminence catalogue
Posted by replay on Tue, 15 Apr 2003 21:44:47 GMT
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i just picked up the new loudspeaker handbook from eminence. it is much more thorough than last year's. complete descriptions of every thiele-small parameter that even myself & bill epstein can understand. also includes recommended box volumes for each driver. no wonder my theater 4 pi's have no bass, the delta pro is meant for a much smaller box! they now provide the sensitivity of each driver at various frequencies. something i found really cool was how 15" drivers start to beam frequencies at 1052hz, 18 inch woofers start beaming at 903hz. i wonder if horn loading these large woofers would alleviate this problem? they also chart each driver by frequency performance and give it a 3 to 5 star rating for performance. real cool! the new line of deltalite drivers looks interesting as well.cheers,george

Subject: Re: new eminence catalogue
Posted by Ian Douglas on Tue, 15 Apr 2003 22:49:09 GMT
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Could the Theater 4Pi's (and hence 7Pi's) really be made with smaller enclosures and still sound as good? That is actually one of the things that could be an issue for me. The boxes are a bit larger than I would like.Also, is there anywhere on their site I can request one of these handbooks?-Ian

Subject: Theater small Pi
Posted by ToFo on Wed, 16 Apr 2003 01:15:01 GMT
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Might not be a Theater 4 Pi if you changed it that much. You could go a bit smaller, but enough to really matter would reduce the output between 30 and 45 Hz considerably (3dB). Except for a bit more output around 30 Hz that would be nearly the same bottom end as a Stage series Four Pi, but I bet you want the deep bass if you want a Theater 4. Perhaps a Theater 3 would be small enough. I hear it plays deep and sounds great. Stage 4 pi has a real nice motor for the money though.

Subject: Directionality Index
Posted by Wayne Parham on Wed, 16 Apr 2003 01:15:11 GMT
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You're right about drivers directionality increasing as frequency goes up. As frequency rises, the radiator becomes larger than the wavelength of the sound it generates. It ceases to act like a point source and starts becoming directional.Horns are normally much more directional than direct radiators. But when a direct radiator starts to beam because of its size, its directionality index nears that of a horn. Because of this, you can design a speaker that mates two subsystems where their directionality is roughly equal. That's pretty much what large format two-way systems do.Check out the AES paper called "Improvements in Monitor Loudspeaker Systems," written by David Smith, Don Keele and John Eargle. It talks about this kind of design. Chapter 3 of Augsperger's "Sound System Design Reference Manual" also discusses this subject, and pages 3-4 and 3-5 are specifically about the directionality of circular radiators, i.e. cone drivers.

Subject: Delta's and Delta Pro's
Posted by Wayne Parham on Wed, 16 Apr 2003 01:44:42 GMT
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Like Thomas said, the Delta 15's really need a large box to keep 'em right. Delta Pro's are a little bit different animal. Generally compatible, but different. Either way, for the Theater fours and sevens, if you go smaller, the system will be underdamped and it'll suffer some peaking.About the catalog, I think if you'll write to someone in the "contacts" section of the Eminence website, they'd be happy to send you their new 2003 catalog.

Subject: Re: Delta's and Delta Pro's
Posted by Ian Douglas on Wed, 16 Apr 2003 02:11:28 GMT
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There isn't a Pi model with the Delta Pro's, but is it possible to make a modified Theater Pi with the Delta Pro? More specifically, is it recommended? Should I use PiAlign to compare the two drivers and get a feel for what the tradeoffs would be for the smaller Delta Pro box? I am concerned about the low frequency performance, but if the Pros gave me similar low frequency performance in a smaller box (hence higher SAF :) it might be worth the extra cost.-Ian

Subject: Re: Delta's and Delta Pro's
Posted by Wayne Parham on Wed, 16 Apr 2003 02:43:14 GMT
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They're not exactly the same, but you can swap 'em if you want. You might run the numbers using PiAlign and Boxplot. That will give you an idea of what to expect from the two systems, and allow you to make some comparisons. We've visited this issue a time or two before, so you might peruse the archives too.

Subject: Re: Delta's and Delta Pro's
Posted by BillEpstein on Wed, 16 Apr 2003 09:48:11 GMT
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I used the Delta Pro in my Theatres. Here is Wayne's analysis at that time. "...flat to 40 Hz."

Theater four Pi with Delta 15 Pro

Subject: Thanks for your help everyone...
Posted by Ian Douglas on Wed, 16 Apr 2003 15:22:24 GMT
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Thanks for your help and I've done some searching, and it looks like I'll stick with the regular Delta drivers, since the Pros won't allow me to make a smaller box and perform as well. If I had the Pros lying around, I'd use them, but I'm buying everything. -Ian

Subject: I think you'll like 'em a lot
Posted by ToFo on Wed, 16 Apr 2003 18:14:45 GMT
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They're great. As for size, Even in a smallish room, if they mesh with other furniture well, they appear smaller with age and creative decorating. Besides, they are actually made to go up against the wall. I actually have more walking area than I did with mini monitors. (My vifa's sounded good about four feet out into the room)My friend Jennifer and one of her female buddies said "damn! Huge!", but then they put on some music. I walked back in later and they were pointing at places in the soundstage and saying things about "Her voice" sounding real. Wow! Not one comment about them being huge since. Of course your mileage may vary, but if you keep them playing, I know what people will notice first :)Have fun!Thomas

Subject: Re: I think you'll like 'em a lot
Posted by Ian Douglas on Wed, 16 Apr 2003 19:27:39 GMT
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I think you're right. Since I'm going to build the corner horns, I am considering building a bookcase/display case into the front of the horns, and put the tweeter on top. That way they'll look even more like furniture. Or so is the thought. I'll have to prototype it in a CAD program or something to see how it looks, but I think I can make it look right with some effort. We need a bit more furniture anyway.-Ian

Subject: Yeah!
Posted by ToFo on Wed, 16 Apr 2003 20:34:14 GMT
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I am jealous! two good corners and a really trick design element. Way to go!You know, you gotta post photos when it's done.Thomas

Subject: Many photos :)
Posted by Ian Douglas on Wed, 16 Apr 2003 20:39:49 GMT
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There will be many photos. I always like to document stuff like this. Of course even after I get the pieces from Wayne, it'll be a while before I'm done building, so don't expect anything next week :)-Ian

Subject: Re: Delta's and Delta Pro's
Posted by Michaelz on Wed, 16 Apr 2003 23:01:08 GMT
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