
Subject: Wayne, what are you up to with the mag12?
Posted by [Erik from Holland](#) on Sat, 03 Apr 2004 13:31:13 GMT
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Hi Wayne and the PI-gang, You haven't heard lot from me lately, but i'm still now and than snooping the internet for new idea`s. When i contacted you on the forum for a year ago, you where`nt into my quistions about manifold subs and so on. But know your interested in what the people on LAB-forum do, and that makes me wonder, what are you up to. Let me tell you, in my busines with drive-in shows combined with self build speakers, whe walk into the same design-problems for years now. Small and light subs don`t have enough output for large gigs, but do spear our backs. Use of double 15" cabinets, makes that you can't put more than 2 subs per side, combined with the top-speaker make insufficient stack hight. Larger heavier subs have suffisient output, combined with a matching top speaker make a great stack, but ask to much effort put in transport and carrying. For smaller gigs they are far to big. By my meanings the reason for Lab to build the lab-horn is to create a cabinet that will go as loud or louder as large 18" cabinets, with use of less space. And lighter cabinets, 2 lab12 speakers plus cabinet, must be lighter than double 18 cab. Still i think the lab sub is to large, and more ment for use in larger venneus. stacking them above 3 per side makes them most efficient. I would be very interrested in a sub that`s smaller, that combines the benifits of using a 12" over a 18", as in weight. Put in a horn loaded application, whats designed smaller than the labsub. And by my meanings the bandpass-horn principle of a manifold-like sub will do in this case. The high output of a horn, together with low extensions of bandpas, make a good team. Design a sub that when stacked with 2 per side on larger venneus, and has great output to be sufficient for 1000 people, but when used single on smaller events still makes a good stack, that would be great! Sorry for my poor English, Erik

Subject: Re: Wayne, what are you up to with the mag12?
Posted by [Wayne Parham](#) on Sat, 03 Apr 2004 15:55:16 GMT
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Your English is excellent, and it's good to see you here. What I've done is really just to commission Eminence to build a flux-stabilized version of the LAB12, which we've tenatively called the MAG12. There aren't many low Fs subwoofers out there with flux stabilization, and I always thought it was a shame that the LAB12 didn't incorporate a flux control ring. So we decided to make that happen. You can put the MAG12 in a 50 to 150 liter ported cabinet, a large sealed cabinet, a bandpass box or a horn.

Subject: Re: Wayne, what are you up to with the mag12?
Posted by [Erik from Holland](#) on Sat, 03 Apr 2004 18:19:02 GMT
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Oke Wayne, thats one thing. But i thought you where planning on designing a new sub. Since i really don`t have any kknow-how of designing, but i do know how a good speaker works and what to ask from a sub, i thought to trow in some ideas..Let me try to ask it this way:Regular double 18" PA sub:Much weight in speaker, much weight in wood, makes great stack, good output.Labsub:Reduced weight in speaker, much more wood, makes also great stack cause of the same size as double 18", much more output (if i believe the guys from LAB.Pi-sub:Reduced amount of speakers, troumendous amount of back-aching MDF, makes poor stack, good output; but not very common in use with drive-in shows.Regular double 15" sub:Reduced weight in speaker, less wood, makes poor stack, lacks in output on bigger events.What i`m looking for:Reduced weight in speaker (use mag12 speakers), reduced weight in wood (not horns as large as the labsub), Sizes that do make good stack (lets say something as single driver cabinets, wich you can stack 2 high and X-wide, +/- 2 meters high with the top-speakers on top), great output.Would something like this be possible?Kind Regards,Erik

Subject: Re: Wayne, what are you up to with the mag12?
Posted by [Wayne Parham](#) on Sat, 03 Apr 2004 18:59:29 GMT
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For a direct radiator, I'd put a pair of the new MAG12's in the same subwoofer box I recommend for a 2245H. But that's a bit large for what you're wanting. If size is a major concern, why not put a MAG12 in a 50-150 liter box tuned to 22Hz? Or maybe in a bandpass box? That keeps each cabinet small and easy to carry, and you can use as many as you need for the output required. If you need maximum SPL, then go with a horn, but if you need to keep 'em portable, a whole bunch of 100 liter boxes might work better for you.

Subject: Re: Wayne, what are you up to with the mag12?
Posted by [Erik from Holland](#) on Sun, 04 Apr 2004 13:45:38 GMT
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Hi Again,I have taken a look at some designs at a dutch PA-speaker online store at www.speakerstore.nl under option constructions, and figured that the ideal volume of such a kabinet must be around 200 liter. But that is based on half a double 18" kab. and i want to use a 12" so there must be enough room to mix in the semi-horn idea.Kabinet hight of 610mm and 470mm wide and 700mm deep must be oke.Now maybe you would be happy to help designing a horn/reflex combined kabinet for this mag12 speaker with great output? I really think reflexkabinets don`t have enough output.Thanks,Erik

Subject: Re: Wayne, what are you up to with the mag12?
Posted by [Wayne Parham](#) on Sun, 04 Apr 2004 16:33:23 GMT
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If you're gonna do a basshorn you gotta go all the way and make it big. If not, it's just a direct radiator at low frequencies. Or worse, if it's too small, it may be a peaky direct radiator at low frequencies, having a bunch of little resonant spikes.

Subject: Re: Wayne, what are you up to with the mag12?
Posted by [Erik from Holland](#) on Mon, 05 Apr 2004 15:10:48 GMT
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if you would look at the manifold design (find it at the www in thread above), you see a horn chamber, of wich the front opening is smaller than the combined surface of the drivers. And that is the hole trick of this sub. in the chamber you look at the behind (side) of the speaker, not the front. The front air displaced by the cone is channeled trough the surrounding chamber and is functioning like a reflex/ bandpass sub. working together they stand for a sub with quit straight (flat) charecteristics, it has no peak at some point. I`m using the double 15" manifold for almost 2 year now, and the charecteristics of this sub are quite nice. It does`nt have much low-end, but it rocks! certainly it has no resonant spikes. Know would'nt it be nice to design a sub working with this concept, driven by to mag12's, that has the output of a double 18" in only 200 liter of cabinetspace? Then i can use 2 per side at 2 Ohms and have great power in little space.

Subject: Re: Wayne, what are you up to with the mag12?
Posted by [Bill Wassilak](#) on Mon, 05 Apr 2004 17:50:13 GMT
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Won't work because the sensitivity of the driver's is too low. The more xmax a driver has the lower the sensitivity, and with a strong magnet to control the cone as in the MAG12 the better they are for driving a horn. Bill W.

Subject: Re: Wayne, what are you up to with the mag12?
Posted by [Erik from Holland](#) on Tue, 06 Apr 2004 18:37:13 GMT
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That is one big point i didn't see. But your right, i told i don`t know lot about designing. But i do like the idea of one sub that pulls as much as 4 double 18" subs! If we assume the guys from

prosoundweb tell the truth!The big problem for me tough is that their labsubs are so large and more build for larger scaled applications. I`m playing at gigs from 100 to maybe 500 man.Are there any more options, Anyone?Thanks,Erik

Subject: Re: Wayne, what are you up to with the mag12?
Posted by [Bill Wassilak](#) on Tue, 06 Apr 2004 18:46:34 GMT
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Check out Rog Mogales site, he has plans for various smaller horn enclosures.Bill W.
Rog's site

Subject: Re: Wayne, what are you up to with the mag12?
Posted by [Wayne Parham](#) on Tue, 06 Apr 2004 19:31:21 GMT
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50-150 liter reflex or bandpass. That's what I'd do for a smaller subwoofer cabinet.
