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Subject: Other Drivers and stuff

Posted by [Adrian Mack](#) on Thu, 01 Apr 2004 08:48:05 GMT

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Hey Wayne Just modelled up a few other 18" drivers on the same horn. I found that JBL 2242, Eminence Omega 18, and Eminence Magnum 18LF show the EXACT same response curve as the 18-Sound 18LW1400 response curve in my first post. I almost thought I didn't change the T/S data in Hornresp, because they model up so identical! Great thing about all those woofers is they all have shorting rings/distortion reduced motors, except for the Omega 18. And these 18's are definitely 'top of the line'. JBL 2241, Eminence Kilomax 18, and Magnum 18HO on the other hand didn't model up so smoothly. And strangely, the response curves all looked the same as each other, all peaking and dipping in the same positions! These woofers which aren't so good in the horn showed a curve like this, the woofers being only 0.5db or so out from each other so I'll post one graph only: I guess it's not really that bad. Considering that this is a theoretical model only, it's bound to perform differently in a lot of rooms, though Hornresp is pretty accurate. Getting back to the 'good' drivers (18LW1400, 2242, Omega 18, Magnum 18LF) if it is desired, then throat size can be decreased from 500cm<sup>2</sup> to 400cm<sup>2</sup> if you want to flatten response by about 1.3db more in the 30-40Hz area. Response curve in my first post had a 500cm<sup>2</sup> throat, graph below has everything the same except with 400cm<sup>2</sup>. It's not much different from the graph in my first post. Reason why in my first post I posted the response curve which had the bigger throat, is because I think the bigger throat will cause less distortion, which I consider of more importance than 1.3db or so flatter response, which may not even be worth it by the time you consider room modes and stuff. Although 500 isn't that much bigger than 400, so it probably won't do anything to distortion (or much). Either way, they both are good. Anyway - I'm beginning to really like this horn... I think I'll take the plunge and try posting it on AA (hope I don't get any response from that loser Romy). Funny thing is I was just playing with hornresp when I was bored, not doing anything in particular, just playing around with old models I had modelled up in the past. I was just randomly punching in numbers, half falling asleep at 12am midnight. Then I saw the curve looked quite nice with 2.5M! Recently I got a cool CAD program so I could fold the horn myself, so I began playing with that. I wasn't that motivated though considering previous attempts which came out just way too dorky and bulky physically, because it is after all an 18" driver. And 18's need big back chambers (85L on the above model). I thought, the physical area taken by back chamber would be a lot less if I put the driver on top, rather than somewhere in the middle of the horn (like in the horn I posted ages ago using the same driver). With the power of the CAD program I was more than tempted to try, and it worked. That's how it all happened :p Maybe I should get bored more often, more ideas might come, haha. Adrian