Subject: Re: Relationship Between X Max And Efficiency Questions
Posted by Bob Brines on Sat, 09 Jun 2007 13:11:08 GMT
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First, about your expectation:Your current subs rattle the room, but do not provide enough "impact". This is because "impact" or "slam" is not in the sub-bass, it is up around 80Hz, and your subs may well be crossed out by then. Upping the output of the low bass will not increase "slam", but will give you a much better potential to do structural damage to your house. You need to play with cross-over points and levels of your various drivers. THEN consider changing out your subs.Acoustical power output doubles with every 3dB of efficiency. Excursion goes up with the square root of the power increase. Perceived volume doubles every 10dB. Do your own math, but it looks to me that the difference in perceived volume of the two drivers is of little consequence.I suspect that you did your modeled the ported box with a max flat model. This is a guarantee that you will have boomy bass. You WILL get room lift, and you need to roll off the bottom to match the room lift to get flat in-room. Actually, a sealed sub with F3 around 30Hz is usually a pretty good fit with room lift unless your room is very large. Look at the F10 point, which is a good representation of the in-room F3. I'll bet that the Dayton sealed and ported models cross at near the F10 point. I do ported and quarter-wave cabinets myself, and I try to get EBS type roll-offs that start as high as 100Hz and round off the knee at cut-off.Finally, given efficiency or brute force, always choose efficiency. This will give you more headroom throughout the signal chain. IMO, anyway.OK, there's some comments.Bob