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Subject: No size limit on HT subwoofer, help please  
Posted by [Rick P](#) on Sun, 06 Jan 2008 12:48:34 GMT  
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I finally have a dedicated HT room in which my wife has agreed to let me design, so speaker size or looks is not a problem. (I have a great wife!) I want to build a subwoofer that goes as low and has much pressure as possible, are horns the best?. My room is 13x23x8.5 and is sealed with an exterior door, it has 2x4 double walls and ceiling, double drywall on interior wall, r-13 insulation in both walls with a 3" air gap in between, and a concrete floor at this time. (brand new with nothing in it yet) Also I could use help on acustical devises such as bass traps ect. to keep the sound from going throughout the house. Thaks in advance for all your help.Rick.

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Subject: Re: No size limit on HT subwoofer, help please  
Posted by [Wayne Parham](#) on Sun, 06 Jan 2008 14:50:09 GMT  
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very large arenas and is overkill for home hifi. But if you want the most powerful, lowest distortion and highest fidelity possible, it's the sub for you.

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Subject: Re: No size limit on HT subwoofer, help please  
Posted by [Rick P](#) on Sun, 06 Jan 2008 22:19:09 GMT  
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The 12pi is one I am considering, but it only appears to go down to about 30Hz. Can the horn be modified along with different speakers to reach into the 10Hz range? What about an IB speaker set up? Does an IB rattle everything in your attic?Thanks, Rick.

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Subject: Re: No size limit on HT subwoofer, help please  
Posted by [Wayne Parham](#) on Mon, 07 Jan 2008 00:52:43 GMT  
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frequencies you're talking about. I suggest a large driver with low Fs, or more likely several of them. For use at infrasonic bass frequencies, you really need low resonance and high displacement. Infinite baffle mounted in a wall or ceiling would probably be a good way to go.

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Subject: Re: No size limit on HT subwoofer, help please  
Posted by [Bill Epstein](#) on Mon, 07 Jan 2008 07:15:35 GMT  
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If strictly for HT, the dayton Titanic is hard to beat. Sucks for music, tho', always muddies the mid-range. Mine, in a 4 cu ft box with 4"x 17" port is flat to 17Hz and shakes the building effortlessly.

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Subject: Re: No size limit on HT subwoofer, help please  
Posted by [Wayne Parham](#) on Mon, 07 Jan 2008 16:15:31 GMT  
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Looks good. If I wanted response down to below 20Hz for home theater, I'd do the same thing. It is tuned right for the deep notes and isn't too big.

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Subject: Re: No size limit on HT subwoofer, help please  
Posted by [steve f](#) on Tue, 08 Jan 2008 03:36:34 GMT  
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Rick,Take a look at [www.rythmikaudio.com](http://www.rythmikaudio.com). Brian caters to the DIY crowd and his design can hit 14 HZ. The site is filled with a lot of useful information. I purchased a kit over a year ago, and being too busy these days, just started construction a couple of days ago! The kits appear first rate. The woofer is custom built by TC Sounds. I can't imagine a better solution for both home theater and music. A big plus is a very reasonable cost factor.Steve

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Subject: Re: No size limit on HT subwoofer, help please  
Posted by [rickp](#) on Tue, 08 Jan 2008 13:52:38 GMT  
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Looks good thanks for the help.Rick.

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Subject: Re: No size limit on HT subwoofer, help please  
Posted by [Wayne Parham](#) on Tue, 08 Jan 2008 14:29:28 GMT  
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I like that servo drive system. It's a true servo system (using feedback) rather than just a name. Without some mechanism to reduce distortion, subwoofer distortion is usually high double digits or reduces distortion and makes it capable of very high output, 105dB/W and 138dB max output. Other good subs reduce distortion with shorting rings or differential drive. Without some mechanism to reduce distortion, subs can really sound flabby to me.

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Subject: Re: No size limit on HT subwoofer, help please

Posted by [Rick P](#) on Wed, 09 Jan 2008 01:33:44 GMT

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Steve thanks for the web sight, you are right there is a lot of good info there. Please let me know how you like yours. Thanks again , Rick

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Subject: A tapped horn should do an honest 20Hz easy

Posted by [zobsky](#) on Fri, 11 Jan 2008 00:20:58 GMT

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... and built vertically, wouldn't occupy much of a footprint. Plenty of discussion on building your own at diyaudio.com , if you have the patience.

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Subject: Check the distortion

Posted by [Wayne Parham](#) on Fri, 11 Jan 2008 15:51:23 GMT

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Have you ever measured the distortion of a tapped horn? For some reason, every distortion chart I've seen of a tapped horn shows high distortion, from 4x to 10x higher than a traditional basshorn through the passband. As an example, a popular commercial tapped horn sub produces 10% - 15% distortion at 28v. On that horn, 28v is approximately 200w, less than 1/100th of its 2400w rated power limit. Ten percent distortion at one percent power is not particularly impressive. Traditional basshorn subs are between 1% and 5% at the same drive level and push-pull driven folded horns have even lower distortion. I'm not sure what causes the increased distortion from tapped horns, if it's an unusual loading that does it or what but I am sure that the distortion measurements of commercial tapped horns have been noticeably higher than most other basshorn subs. Maybe DIY'ers will have better luck with them.

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Subject: Re: Check the distortion (charts)  
Posted by [Zeno](#) on Tue, 01 Apr 2008 18:06:04 GMT  
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amazing nobody measures tapped horns! if they do they don't post them. i searched everywhere for distortion charts. almost nothing! weird isn't it? the only thing i found was here--  
th215 distortion chart (and others too)

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