Subject: Folded Horn vs Tapped Horn
Posted by mynym on Sun, 11 Jan 2009 23:34:42 GMT
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A little background:I'm coming from the home theater world. I've built a Large, Low Tuned subwoofer (13cu feet, tuned to 14hz) (http://www.avsforum.com/avs-vb/showthread.php?t=920648) which works out great for the ultra low frequencies modern movies are capable of but what I lack is the upper midbass frequencies (30 - 100hz) which are typically known for the deep chest pounding impact that is found at rock concerts.With that said, I'm looking to fill the midbass void in my home theater. Based on preliminary research I've determined that I should be looking at an efficient horn alignment and I've narrowed it down to either a Folded Horn or Tapped Horn.Can someone who has heard both describe the difference in sound, efficiency and midbass impact and offer any experiences they have have had in a home environment?

Subject: Re: Folded Horn vs Tapped Horn
Posted by Wayne Parham on Mon, 12 Jan 2009 03:07:11 GMT
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A tapped horn is like a transmission line. It trades size for efficiency, meaning you can get a low cutoff in a relatively small box but the efficiency isn't as high as a traditional basshorn. It also has higher distortion because of its high frequency artifacts. Since it is built like a scoop with a long path length, it has high frequency interference modes. Those create large ripples at the upper end of the passband. But you can get deep extension in a relatively small box.If you want highest quality and most output outdoors or in a large open area, true basshorns are the best way to go. Nothing beats them in terms of low distortion and high output. But the lower you need cutoff, the larger the cabinet must be.For high fidelity sound indoors, I suggest looking into the multi-sub approach instead. Use two or three subs placed around the room. They don't all have to be large, they just have to cover the modal range. One large sub can be used for infrasonics and another one or two smaller ones to cover 30Hz up. The idea is to smooth room modes using dense interference to average the sound field below the Schroeder frequency.