Subject: Backhorns
Posted by Bradford on Fri, 07 May 2004 14:08:13 GMT
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Are backhorns actually horns or are they more of a tapered transmission line? The reason I ask is that I can't figure out why some say backhorns are more efficient and others say no. Seems like the backhorn would add bass but nothing beyond, so it is like a tapered pipe. Your thoughts?

Subject: Re: Backhorns
Posted by roncla on Fri, 07 May 2004 14:37:33 GMT
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Well a back horn works on several principals. The first being the changing of pressure to amplitude ,which a TL dosent do.A backhorn is , in essence, a 1/2 wave resonator that has to be 1/4 wave minimum length.The higher efficency comes back from the flare rate , a very tight flare, ex. hyperbolic, can have up to a 70% conversion from electrical energy to mechanical. A conical will be quite a bit lower.However the tighter flare will increase distortion.The main factor in a horn is its ability to cover 3-4 octaves in gain, where a BR would cover around 1/2 octave, as well as the perception of "speed".You add to this the TL action and you get superior (in some designs) results. Its all in what you really want.I switched from TLs and TQWT (kinda TL,BR,horn action)simply due to the extreem dynamics and reality of the sound.ron

Subject: Re: Backhorns
Posted by Bradford on Fri, 07 May 2004 22:04:17 GMT
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Sounds like a good idea, but regarding efficiency, there is no difference between backhorn, pipe, tapered pipe and plain boxes, right? I understand the differences are in bass below 100 hz.

Subject: Re: Backhorns
Posted by roncla on Sat, 08 May 2004 00:39:23 GMT
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Not really, a BR TL,sealed enclosure is around 5% or < efficent.In my horn designs i go for around a 300 Hz roll off from the horn mouth and the baffle simulates a 300 hz OB so the baffle picks it up at that point.I also try to design a flared mouth that tapers into the baffle so there is less mechanical crossover.Its best to even have the driver in the mouth, but i havent found a realistic

way to accomplish that .....yet!!!!LOLron