Subject: Re: 12Pi v2
Posted by Wayne Parham on Thu, 21 Feb 2008 19:53:35 GMT
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I had originally thought about making the throat be a long slit, spanning the width of the horn. But the truth is the wavelengths involved are from 10 feet to 40 feet long. So having two 27 sq. inch holes that are 5 inches tall and spaced a foot apart is acoustically the same as one long thin 54 sq. inch hole.  It was easier to do and just as good.It's a matter of scale. Since the wavelengths of sound passing through basshorns are large, small features don't matter. That's why you don't need curved flares, exponential/hyperbolic flares can be approximated with a few straight segments. Same thing with mid/tweeter horns, but at a smaller scale. Ever notice the grains in ABS plastic tweeter flares? They're acoustically small compared to the wavelengths passing through the horn. Small features are like grains in film, which are too small to see. If you enlarge a photo enough, you'll see it has grains like pixels of a computer screen. They're just not visible at the scale the photo is used at. This is kind of the same thing with acoustics, if features are small

measurements.  Both are available at the link below.  The model describes a perfect horn with a curved flare and a throat at the apex, just like the Hornresp schematic shows.  The actual physical horn has four segments and the throat begins with a long thin apex and two square holes cut near

to the sections on development, construction and test results)