Subject: Couple of answers
Posted by Wayne Parham on Mon, 31 Mar 2003 02:53:55 GMT

An infinite horn is just that - infinite. So you can't build it. Modeling it will show you what a finite horn of given shape and characteristics might approach if mouth size is sufficiently large, or if several are used in a group. Besides this, there are spatial constraints that you can model with

any boundaries. Half-space is a common configuration as it is what a single horn standing on the

"ANG" field and it is the condition a horn will be in if it is against two boundaries, like on the

and it is what the horn will act like when placed in a corner.As for a 20Hz horn, you have a problem if you want to truly horn-load the bottom octave. It has to be huge. So before you even worry about flare shape, you might want to set some design goals. If your goal is 20Hz f3, you're stuck with only options that are very large. One of my favorite solutions is to use room corners because they form the largest horn one can possibly fit in a room. Hyperbolic or exponential expansion loads the diaphragm lower than a linear expansion for a given length, but again, the room's corner is the biggest horn you can possibly fit into a room. So it makes a lot of sense to take advantage of it.