Subject: Re: manipulation of horn calculation
Posted by Dean Kukral on Tue, 19 Apr 2005 22:58:08 GMT
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This equation is for the cross-sectional area, A(X), of the horn as a function of length from the throat, X, to the cross-section and of lambda, which determines the expansion rate, i.e. whether the horn is long and thin or short and fat. One does not "change it" for half-space, etc. If you had a lathe, you could carve out the horn based on this equation.Then, when you put your final, built horn into the world, you have to examine the effects of the world. That is where half-space, etc come into play. Now, the equation is no longer relevant.I hope this makes sense.I am not sure how programs such as Hornresp work, but, I suspect that they use an approximation method known as "finite elements." These approximate a solution of the wave equation, given simplifying assumptions and initial values. The initial values come from the assumed shape of the wavefront eminating from the horn and the presence of boundaries (walls, etc). This can be done relatively accurately in a controlled environment given sufficient computer power and financial resources.