Subject: Horn Mouth Diffraction
Posted by M on Thu, 06 Oct 2005 00:59:25 GMT
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Dear all,It is rather well understood that a finite aperture of a horn/wave-guide causes diffraction effects, [1]. However, neither this reference nor another paper [2], which at least tangentially touches on this issue, gives any insight on computation of a mouth shape that would give an optimal (whatever the criteria) diffraction.I am also aware of the work of Jean Michel Le Cleac'h [3], but this appears to be concerned with the entire horn contour, and not only the mouth shape. As such, it appears inapplicable to a situations, where a horn contour is pre-determined, e.g., constant directivity.I would appreciate if anyone, who aware of any theory/papers/software dealing with this issue, could post references.Thank you,M[1] Geddes, E., R.: "Sound Radiation from Acoustic Apertures." JAES., vol. 41, pp. 214-23 (April 1993)[2] Henwood, D.J.: "The Boundary element method and Horn Design, JAES, vol. 41, pp. 485-496 (June 1993)[3] http://ndaviden.club.fr/pavillon/lecleach.htm