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Subject: tractrix horn/driver throat matching

Posted by [Thomas Agerbaek](#) on Fri, 11 Nov 2005 08:33:39 GMT

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Hello PISpeakers Forum, I'm putting JBL 2445 and 2426 compression drivers on circular wooden tractrix horns integrated into the baffle of the cabinet. The 2445 horn mouth is 240mm (ca 9.5in) dia, the 2426 horn is 110mm (ca 4.5in) dia. The problem is, the drivers' throats are conical, with exit angles of about 5 degs. However, the contours of the above tractrix horns will have throat entry angles of some 12 degs at the corresponding diameters (1in and 2in). This means that there is an abrupt change in the flare rate at the junction. Intuitively this is not good, because it would lead to jumps in the acoustic impedance, reflections, etc. It would be much better to have the angles matched, but this would entail making compromises wrt the tractrix contour, by departing from the mathematically correct curve. Any input which could help me make an informed decision as to the best compromise wrt the horn contour would be greatly appreciated. TIA Thomas

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