Subject: Re: Pipe modes
Posted by 16 on Sat, 25 Jun 2005 01:14:10 GMT
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Yes pipe modes are caused by abrupt terminations, and it is also true that many commonly used horn flare geometries at some point or other manifest these sudden transitions. The fact that any horn, by virtue of the fact that it IS a horn, loads a driver more severely then any baffle (and we all know that even baffles have diffraction effects once the wave reaches the point of zero support) means that at some point you have got to start making the transition to a baffle...i.e. increasing the flare angle towards the end of the horn (unless as you mentioned earlier you decide to filter the driver such that it is operating way above the cut-off frequency of the horn in question). How successfully this transition is accomplished is I guess in simple terms the reason why people experiment with curves like circular mouth tractrix flares and the like in the first place...they are looking for that ideal smooth acoustic impedance transformation.I'm pretty happy with what I've been able to accomplish in subjective terms with the Model 16 concept. As far as adding an extra little radius section to the front of the 4001...I did try it actually and I didn't like it as much...and on another occasion I sent a 4001 to the CNC shop to radius the end of its throat a little (which required filling behind its plastic throat with resin as well as accepting the fact that I would be cutting slightly into the iron magnetic return path...don't really wanna go there again...but if anyone else wants to try it and let me know the results I look forward to it...)Best regards,Hassan.