Subject: Re: Pipe modes
Posted by 16 on Fri, 24 Jun 2005 04:14:41 GMT
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Hi Wayne, thanks for your post. If we take an example horn of length in the range of 250mm to 300mm, depending on the chosen geometry and mouth size there will be resonances loosely centered in the 400Hz-500Hz range, the 800Hz to 1kHz range, and the 1.2kHz to 1.5kHz range. I think the point you are making is that if we are using the device such that we are filtering it pretty high, then the resonances will be less of a problem as the higher harmonics are of less magnitude than the fundamental mode. On paper this is correct, although it is fair to say that the second mode (which is still of considerable magnitude) is still in the picture. I also agree that intuitively one can't help but feel that a 3" conical throat truncated abruptly is something to be avoided like the plague. Well, the thing is, is that I kept telling myself this over and over again, and at the same time was spending many hours listening to the 4001 raw and thinking "this sounds bloody good, but I am looking forward to hearing it when it is properly coupled to a suitable horn". The plain fact is that when I started playing with horns I was never able to achieve certain subjective characteristics that were apparent with a hornless implementation. Just like the comparison of wide baffles giving more loading and support to a woofer, and narrow baffles losing some of that support in trade for a more "open and spacious" presentation, so it is that using a device like the 4001 without horn can open up a world of alternative sonic possibilities. The other interesting thing is that during our subjective evaluations we had all of TADs drivers on hand simultaneously. This meant that we had drivers such as the 4002 and 4003 which have vastly shorter throat sections than the 4001. As mentioned earlier, the 4002 has virtually no throat to speak of so you actually get to hear the thing speaking to you right off the phase-plug. Once again, I thought many times that either you should have a fully developed and extended horn, or no horn at all like the 4002. The in-between situation of a 4001 with no horn was intuitively the worst of both worlds. Well all I can say is that I just listened and listened and could not in the end ignore the sheer musical energy the 4001 sans horn was capable of.Don't they say something about the bumble-bee not being aware that the scientists say it can't fly...so it just does?