Subject: Re: Heavy-cones verses light-cones in basshorns, yes!
Posted by Tom Danley on Fri, 01 Sep 2006 20:59:22 GMT
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Hi Wayne, allThe advantage / reason for using a massive driver is because for a given bandwidth, the heavier / stronger driver has a different acoustic impedance and requires a higher compression ratio. A higher compression ratio means more acoustic power for a given cone excursion. At low frequencies, in horn loading it was usually the case that one runs out of Xmax well before power handling, causing the famous bass horn distortion (like the famous W bin). This was blamed on “throat distortion” but was actually the driver reaching xmax and beyond.Hence using a heavy driver made sense to me here given the available power capacity and the desire to maximize the “undistorted” output..The BT-7 horn was aligned with a 3:1 compression ratio, the Lab-12 was only heavy / strong enough to need about a 2:1 compression ratio in a similar bandwidth and low cutoff.Alternately, if one scales up mentally, one finds the 10:1 compression ratio in a typical compression driver, is needed to get the wide bandwidth from what is (up high) a massive driver also. Cheers,Tom Danley