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Subject: Re: Heavy-cones verses light-cones in basshorns

Posted by [DMoore](#) on Mon, 11 Sep 2006 21:14:06 GMT

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Don Keele Jr. stated that in order to achieve the widest bandpass that a prospective horn driver should (indicatively) have a  $Q_{ts}$  below .30, which indicates a strong magnet to moving mass ratio; I'm assuming whether this ratio is achieved by using a "light" cone in relation to the mediocre magnet structure or a "heavy" cone and a really powerful magnet structure, it doesn't matter especially, although theoretically the moving mass component will effect the upper bandpass capability, of course. I think that boils down to what you want to do with the  $F_{ch}$  that determines the appropriate-ness of a driver for your desired application. Daniel Plach reported that for a front-loaded horn (sealed  $V_b$ ), the use of a linear motor with a low  $F_s$  is desirable, the bandpass being somewhat more limited and subordinate to the efficiency and lower distortion the loading is capable of. He said that the  $V_b$  could be practically reactance-annulled (for a Hyperbolic/Exponential flare), the course of which naturally raises the  $F_s$  of the driver, and therefore, the driver should start out with an  $F_s$  below that of the horns  $F_c$ . He also said that for back-loaded horns, the use of a driver with a rising response curve was in order with  $F_s$  above the horns  $F_c$ , because it could not be reactance-annulled due to tuning requirements ( $F_r$ ) of the back chamber usually being much lower than the horn's  $F_c$ . DM

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