Subject: Re: Heavy-cones verses light-cones in basshorns
Posted by Wayne Parham on Sun, 27 Aug 2006 16:23:07 GMT
View Forum Message <> Reply to Message

Making the cone strong enough to withstand throat pressure without bending or breaking is important, to be sure.As for tuning, high mass diaphragms have low free air resonance. An example would be something like a 12" or 15" car subwoofer tuned to 20Hz or so. Low mass diaphragms have higher free air resonance. Examples would be 12" and 15" drivers with free air resonance around 40Hz and up.One school of thought is to use a high-mass diaphragm in a basshorn with a very small rear chamber to shift resonance up. Another school of thought is to use a lighter cone and to have a larger rear chamber or open back.I've made horns of both types, but some people say one is "right" and the other is "wrong." Bill Fitzmaurice, for example, regularly instructs people that high-mass/low-resonance drivers are wrong for basshorns. Tom Danley preaches the exact opposite. So I thought I'd open a thread for discussion.Personally, I think it depends what one wants from a basshorn. If purely used for subwoofer duty, the high-mass/high-excursion driver is probably a better choice. If used up through the midbass, I'd use a driver with a lighter cone. I'd also fold the horn differently for the two different types, with the subhorn having folds that attenuate higher frequencies but the midbass horn either being straight or having folds that acted as reflectors, directing higher frequencies towards the mouth.