Subject: Re: Bipole cabinet loading effects?
Posted by Duke on Tue, 04 Dec 2007 06:04:06 GMT
View Forum Message <> Reply to Message

Briefly, two woofers in a bipolar configuration require twice the internal volume as a single woofer would to get comparable bass extension. It's actually a bit more complex that that once you start factoring in level-matching between bass and midrange, and in practice you can usually get away with a bit less than double the internal volume.Bipolars typically don't have the "baffle step" which can reduce the lower midrange and upper bass energy, so they often sound "fuller" than a comparable monopole speaker. Since both the front and rear woofer are pressurizing the room at the same time, the one doesn't cancel out the other except for a wrap-around dip that can occur at the frequency where the rear-firing woofer's output arrives at the listening position one-half wavelength later than the front woofer's output. This can be minimized by several different approaches (I use cabinet geometry - hence my relatively wide, shallow enclosure), and in any event those frequencies are too low to be an issue in sound image localizaton.Your observations about imaging are correct in my experience. All else being equal there is a tradeoff relationship between precise imaging and envloping ambience, and it has to do with the relative energy density in the reverberant field. In general, reverberant energy degrades clarity and imaging, but can add richness and lifelike texture. Diff'rent strokes, you know.Duke