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Subject: Re: General evaluation of midrange drivers  
Posted by [Wayne Parham](#) on Sun, 19 Apr 2009 05:52:16 GMT  
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cornerhorns. It's much too small for that, and flat response to 100Hz isn't required for this application. What I wanted from that design was enough smooth output to allow for blending in the lower midrange, to have the woofer and midhorn share output between 100Hz and 300Hz.

250Hz but used in corners, as intended, it produces output down to below 150Hz.

We do not put horn extensions on the flare to extend response lower, we do it purely for aesthetics. When the cabinet is finished, we use a piece of hardwood stock trim on the front edge. We match the angle of the trim with the flare angle, so it does provide a small extension. But it is done for aesthetics.

With any front-loaded horn, you can expect a decade of usable response, so to hit 2kHz you can't midhorn, instead, I chose to use a large back chamber that provides gradual rolloff. That was done by design, to obtain the desired response curve in a relatively small package. Eighth space loading helps response at the bottom end, and smoothness is desired more than extension. The result is gradually rolled off lower mids that blend with the woofer. These are some of the reasons why I needed a larger driver to achieve good low frequency response without ripple.

I designed a larger midbass horn that reaches 100Hz flat, even in freespace outdoors, with  $f_3$  of 90Hz and  $f_{10}$  of 75Hz. It uses reactance annulling for extension, but as a result, the rolloff slope is greater. It is also a much larger horn, designed to provide a 40° axisymmetrical pattern for prosound applications. The length is 32", mouth dimensions are 28" x 28", throat is 7.5" x 7.5", front chamber is 800in<sup>3</sup> and rear chamber is 1200in<sup>3</sup>. It's designed to use a 15" woofer, such as the JBL 2226.