Subject: Re: 2Pi Off-Axis Response
Posted by Wayne Parham on Tue, 03 Jan 2012 14:10:54 GMT
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These don't have horns and weren't designed for constant directivity so I didn't record off-axis measurements every 10° like I do with my larger uniform directivity designs. But I have, of course, measured off-axis casually and can tell you that the horizontals aren't too bad but the forward lobe in the vertical is only about 30° tall so I would not suggest you lay them on their sides.

The horizontal pattern doesn't narrow as much as some cone/dome speakers because the midwoofer hasn't really started to collapse before the tweeter is brought in. So they are blended in a region where both have pretty wide off-axis response. It only begins to narrow at higher frequency where the tweeter's directivity begins to beam. However, the vertical is clean only through about 30°. Above and below this there are nulls in the crossover region, especially the higher end. Down low, the nulls are further apart, of course, but they draw together above 2kHz. The blended overlap region tends to improve the horizontals but hurt the verticals. I find this to be a useful compromise because I don't think the vertical beamwidth needs to be very tall.