Subject: Re: Three 4Pi's in Basic Black for Home Theater Build Thread
Posted by Wayne Parham on Mon, 30 Aug 2010 23:28:59 GMT
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BigmouthinDC wrote on Sun, 29 August 2010 21:55Thanks for the positive comments and thanks for making your plans available. Without the plans this effort wouldn't have happened.

I haven't forgot our discussion about the use of foam. When the horns were loose I made a cardboard template of the inside profiles of the horns so that I could attempt to fashion a foam plug. My plans are to make a plug, but to also send you a larger sheet of foam along with a piece of the screen fabric so that you can do some measurements of what might be the best strategy for behind screen placement. This assumes you still have an interest.
Absolutely. Send me some of the screen material and foam and I'll make some measurements. It will be an interesting study.

My gut feeling is we want to span the gap between source and screen with a material that is as close to the same acoustic resistance as the screen as possible. The idea is to prevent an acoustic transitions from source to freespace to screen. To achieve this goal, we will want foam filling the entire horn, all the way back to the phase plug at the entrance of the throat. This should extend out past the horn to reach the screen.

The midwoofer won't need quite as much attention as the wavelengths are longer, but it does reach up high in the midrange into the overtone area where wavelengths are just a few inches. So I would place a block of foam that spans the distance from the baffle to the screen, covering the woofer. You don't want the woofer to rub the foam, naturally, but you do want the foam to be as close to the woofer as possible, without actually touching it.