Subject: Re: Hmmmmm
Posted by Wayne Parham on Tue, 10 Mar 2009 22:44:12 GMT
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Passive equalization works by attenuating certain portions of the response curve. So it will reduce output in certain areas. Pete wanted to reduce the octave around 700Hz by a couple decibels, but nowhere else. I don't see any harm in doing that. So all in all, the average sensitivity would be pretty much unchanged.

The issue for me is whether or not it merits doing. The performance of the speaker with first-order crossover is good, in my opinion. I'm not sure I would want passive equalization in the crossover. If I were going to consider it, I would definitely want to measure polars, not just equalize the on-axis curve flat. Whether modeling or measuring, if you focus only on what happens on-axis, you're overlooking the bigger picture which is the total energy put into the room.

The sound in the room is a reverberent field, and the spectral balance is set by the power response, not the on-axis response. The kinds of circuits that taylor on-axis response almost always do that at the expense of power response, because of the collapsing directivity inherent in all loudspeakers not designed specifically for constant directivity.
Baffle step and collapsing directivityI think it's interesting to look at these two design philosophies. I know smart guys that design each way. Some guys use BSC regularly, and compensate for on-axis response. Others prefer to design the system for flat power response, which generally uses a different compensation scheme. Neither is more right than the other, in my opinion, but one embraces the reverberent field and the other tends to ignore it.