Subject: Re: Very interesting article/experiments
Posted by Wayne Parham on Fri, 26 Nov 2004 02:05:13 GMT
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Good link, thanks!I thought the conclusions drawn about attenuation of sounds in the cabinet with insulation were good. But using a constrained layer for absorbtion isn't something that has been overlooked by the industry. Look at Chapter 5 of the JBL Sound System Design Manual, for example.The thing is that there is limited room in a loudspeaker cabinet, and so this is something that has to be considered. But it is also why a thick insulator is required, to space it away from the boundary. It's also why using something like a thin felt attached directly to a panel surface has no effect at all.As for time alignment, I have never thought this was an appropriate expression when used to describe loudspeakers. I prefer to talk about things that reduce frequency anomalies throughout the listening area. Maybe some would say that's splitting hairs, but I think it is a very important distinction.Physical alignment is not time alignment, because there are too many other variables involved. So to compare time alignment with physical alignment is just not appropriate, in my opinion. I think it's better to show response in various positions in the listening room, which is a better indicator of what's really going on.For years, I calculated the phase angles and determined driver positions that would result in a reduction of frequency anomalies. There was always a range or positions that would be acceptable, and a range that would not. It was a pretty long and tedius process, but it was really the best method available to me.These days, a person can do it the easy way with software like Speaker Workshop. I didn't trust budget measurements for a long time, because my experience told me that budget measurements weren't worth much. But things have changed in the last few years, and programs like that make finding frequency anomalies a lot easier. The thing you're looking for is destructive interference that causes response aberrations. An absense of these is the best indication that the loudspeaker is setup right.