summer to drag one outdoor to measure. I'm a little slower doing that these days with the little 3-year-old Eddie running around. I did, however, make a video of the process I use to measure

thought it would be interesting to DIYers building similar matched-directivity loudspeakers, so I posted it online:

response chart is clearly visible on the computer screen in the foreground of the video. This was done indoors, so room modes are clearly evident below 200Hz, but you can still easily see the overall response curve. It would just be smoother down low in an anechoic environment, a smooth gradual rolloff like T/S sims show. I wasn't really worried about room modes in this test, because it was a study of behavior in the crossover region. Again, I'll take these speakers

Please forgive the car analogies, my mother's side of the family owned several Chrysler dealerships and has for three generations. Had Packards and Studebakers when those companies were still around too. My Dad opened the first large Porsche dealership in Tulsa in the early seventies, so I grew up around them, drove in the very first 930 Turbo that was delivered in 1976. I was always at the race track with Peter Gregg in the late 1970's, as his Brumos legacy made history on the track. He and my father were friends. So cars are in my blood.

The reason I drew the analogy to the Porsche and Ferrari is, like both of those car companies, JBL and AE are both known for making excellent products. Also, like those car companies, one is known for its reputation for building its products with hand-fitted parts using fine craftsmen, the other more for its precise mechanical approach. I think most would agree that both car companies make fine products, just different approaches, each having its own unique traits. But in spite of their differences, both perform well and are a joy to drive. Likewise, I find that both loudspeakers are excellent, both sound great, both are a joy to own and neither has anything about them that makes me want to look for something more. I could live with a pair of either model of speakers, and used with some good subs, I think I would be happy with my sound system for the rest of my life.

When I brought in the AE woofers for evaluation, my thinking was I'd measure them and if they were good enough to use as upgrade parts, I'd add them as an option but if not, I'd silently shelve them and just not mention it. The JBL woofers have been my favorites for a long time, sort of setting the standard for me for top-of-the-line midwoofers. If the AE's fell too far below the JBL's in performance, as I said, I'd shelve them. Or if they left the JBL's in the dust, I'd probably look at replacing all JBL woofers (i.e. 2226) with an AE part for an upgrade path.

The things to watch for are harmonic distortion, primarily at the low end but also through the passband and breakup in the top end of the scale. Harmonic distortion will tell you how well flux

modulation is controlled, how good the Faraday rings are. That's not a trivial thing, because you have to balance getting enough conductive material in the motor, in the right place, to counter flux modulation without putting in too much and making the motor weak. Cone breakup characteristics are determined by cone shape and composition, including the dustcap. Finding the right shape and cone material is probably difficult enough, and then doing it reliably and consistently is another thing as well. In both of these areas, harmonic distortion and upper end smoothness, the AE woofers did very well, and were consistent between two samples.

Is the AE woofer better than the JBL? It is an excellent woofer, made by passionate people. It is impressive, and it's cool looking too. Does it embarrass the JBL? Is it a hand-down better woofer? No. The JBL parts are very good too. Which speakers do I personally like better, my

930 or a 308 today?...