Subject: Re: On axis measurements in nearfield listening
Posted by Wayne Parham on Tue, 22 Sep 2009 03:16:57 GMT
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I've used computer models (both electro-mechanical and acoustic) to help me design crossovers and loudspeaker systems through the years. I've been using computers to help me design loudspeakers since the 1970's. But I always try to work with their limitations, and to understand what they can and cannot do. Computer models rely on simplifying assumptions so they become less accurate as system complexity increases. Things like diaphragm material and shape aren't included in the models, so there is an assumption of pistonic motion without consideration of breakup modes, and directivity and acoustic summing is over-simplified as well. It would be fairly complicated to include all the detail required to model these kinds of things.

I remember not so long ago when the systems required to do good acoustic measurement was prohibitively expensive for DIYers. Now there's some really good stuff out there for under $1K and some decent systems that work with a PC sound card are even free. I would encourage anyone that doesn't have this capability to get it and study - it isn't as difficult and expensive as it used to be. Still not trivial, by any means, but certainly within reach for the dedicated enthusiast.