Subject: Speakers and room as a system
Posted by Wayne Parham on Fri, 16 Jan 2009 00:07:00 GMT
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I generally design speakers to be slightly overdamped in the bass. This yields a response curve that rolls off gradually, which is useful in most cases. For one thing, it is tolerant of electro-mechanical shifts due to increased power. As power is increased, the speaker may shift towards being less damped, but it cannot shift far enough to become underdamped and sound boomy. For another thing, the gradual rolloff is close to a conjugate of room gain, so it sounds natural in most environments.

You can also add subs, which can increase bass extension and make bass smoother at the same time. Room modes are hopefully reasonably well damped in the room, but you can almost always improve energy distribution by distributing bass sound sources. Proper placement of the mains and the subs can yield a uniform sound field that covers a wide listening area.
Positioning and subs