
Subject: Room modes

Posted by [Wayne Parham](#) on Thu, 12 Jun 2008 03:58:24 GMT

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Sounds like a well-built structure, but it also sounds very rigid. I'll bet your room modes are very well defined. If that's the case then any speaker with some bass will energize the modes and they'll stand out. Best thing to smooth room modes is multiple subs and/or room damping. Bass damper panels will improve damping, and that's an important way to smooth room modes. Since every boundary of your room is very rigid, I think damping should be added regardless of anything else you do. No speaker can really sound good in the modal region, at least not a single speaker or a pair. They'll either be weak in the bass and so not energize the modes, or they'll put enough energy into the room to make those nodes stand out like a sore thumb. So I think damping panels should be done, no matter what other steps you might take. Since you say your room is packed, I'm assuming that adding a couple more woofers isn't an option, but if it is, it's another good solution. A couple of LAB12 woofers, each in a 4.5ft³ cabinet, added to what you have now would greatly smooth the modes. You could easily model the room with CARA, trying a few positions to find where energy distribution is smoothest. Either panel dampers or multiple bass sound sources will provide improvements in the form of smoother bass, but both together will most certainly provide the best bass possible.
