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Subject: Re: Building 2pi Towers - COMPLETE!

Posted by [Wayne Parham](#) on Fri, 18 Oct 2002 18:19:53 GMT

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Room modes in the basement are probably the culprit, actually. Try your system upstairs in the living room and you'll probably find that it sounds much different. Basements have rigid walls, and that make room modes strong and well-defined. It's almost impossible to get smooth bass in a room like that. My suggestion is to add false walls with framed drywall panels having insulation inside them. The bass will vibrate the panels, so they absorb energy which damps the room modes. Basement walls are usually highly reflective at MF/HF frequencies too, so sound is sometimes too sibilant, even harsh. You may want to add absorbent wedges on the damper panels to reduce MF/HF reflections. Most North American homes have framed drywall construction which actually goes a long way towards damping room modes. As a result, the acoustics in most rooms aren't terrible, with a couple of exceptions - basements and rooms with raised hardwood floors. As I said above, basements usually have strong room modes that are poorly damped. The other culprit is raised hardwood floors with a crawlspace underneath for access to pipes and what not. The crawlspace acts as a resonator and often causes response anomalies worse than the room modes. In essence, it creates two sets of room modes that are tightly coupled, and the modes in the crawlspace are severe because it is rigid and poorly damped.