Subject: Re: Multiple Subwoofers
Posted by Wayne Parham on Fri, 19 Feb 2010 17:24:13 GMT
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Crawlspaces are a problem because the chamber underneath the floor forms a resonator that can cause peaky response. It will suckout some sub frequencies and leave others very loud. Other than that, if you have a concrete foundation, I'd say the flooring is not real significant at bass frequencies. It can be too reflective for midrange and treble though, so I usually find carpeted rooms sound best. If you have hardwoods, it can sound congested in the midrange and/or edgy in the treble, but sometimes just a thick throw rug between the speakers and listening position can help.

Back to bass, I think it's best to have a concrete floor where possible, to avoid crawlspace resonances. Those are tough to deal with. Then there are the walls and ceiling. While it may seem counterintuitive, it is best the walls are lossy, which is why framed drywall construction helps. They can absorb some energy and damp room modes. If the walls are solid, like concrete, brick, plaster or stucco - it is probably best to install a panel absorber, basically just a false wall that can absorb some energy. This smoothes room modes.

Multiple subs aren't necessarily used to increase SPL. For modal smoothing, what you're trying to do is to put sound sources in different places throughout the room. One sub may be enough for the desired SPL level, but it impossible to avoid amplitude fluxuations because the modes are too widely spaced. By using several subs in different locations, you introduce dense interference, which in turn fills in the gaps from self-interference. That's the biggest reason to use more than one sub in the home, in my opinion. It's for smoothness, not for SPL.