Subject: Re: Why do you not use summed bass for flanking subs?
Posted by Wayne Parham on Tue, 29 Jan 2013 22:10:04 GMT
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I think if it works, then it's a good solution. Modal smoothing with dense interference is as much an art as a science. I mean, there's "science" in it, of course, but we're mitigating interference problems rather than solving them, so it's a solution that has many possible paths. Whatever makes the modal range act more like the statistical range is what we want.

Flanking subs and distributed subs have some similarities and some differences. The main similarity is that sound sources are blended. The difference is flanking subs are pretty much tied to the mains they're flanking but distributed subs are not.

Down low, you really can put sound sources all over the place - random, ordered, symmetrical, asymmetrical - and you can expect it to work pretty well. If you optimize source positions with measurements, all the better. Smoothing can be accomplished very nicely, and there is no chance of localization as long as the subs are low-passed below 100Hz.

The transition region is a little different because you can't put the helper woofers "just anywhere". They can't be far away, and they probably need to be symmetrical with respect to the mains. They need to be close to the mains, but far enough away to mitigate the self-interference notches from nearest boundaries. And the low-pass frequency has to be high enough to blend in the transition region, but low enough to let each of the mains become point sources from the Schroeder frequency upwards.

Essentially what we're doing here is making an array of speakers that is large and spatially-distant at low frequencies and becomes smaller and closer-spaced at transition frequencies. As the frequency rises into the statistical range, the array is faded out leaving only the point source mains.