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Subject: We've discussed this before

Posted by [Earl Geddes](#) on Thu, 23 Feb 2006 16:38:19 GMT

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I did a simulation for a small room and one to several subs and looked at the frequency response and the spatial average. Once one reached four subs the average was as good as it gets, and it made no difference where the subs were placed just so long as they weren't clustered together. I also found in this study that at least one of the subs needs to be up off the floor. With three subs you could get a comparable quality, but placement became more critical. One in a corner, one along a side wall and the last one 2/3 the way up to the ceiling along another side wall. This worked pretty well. In this same study I allowed each of the woofers a totally independent amplitude and phase and let a computer find the "ideal" for each sub. The most interesting thing was that if I took the three woofers and made the amplitude and phase at two of them completely random, I got about the same result as the complex adaptive one. But think of the advantage. The complex adaptive one has to be set for each room, but the random approach works the same in any room. I'll leave the concept of making a random filter as a task for the reader (Here is a hint: its called a decorrelation filter).

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