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Subject: Re: Flanking subs

Posted by [Wayne Parham](#) on Tue, 14 Jan 2020 23:40:45 GMT

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Your flanking subs should work well there. I visualize the mains on stands, toed-in 45°. The flanking subs are just outside, on the floor. Each of the mains and its flanking sub are pushed out nearly to the side wall. This is a good setup. Then put the other sub far from the mains, maybe at the opposite wall midpoint or in a random location in the room. Make it a coffee table, perhaps.

If that's what you are going to do, I think your setup will sound quite nice. Run the mains full range, with no crossover at all. Send each flanking sub a low-passed copy of the signal sent to the main speaker it is flanking. The low-pass should be 100Hz, second order. A miniDSP does this very easily, and it can be connected to a plate amp. But if you have an external crossover - the miniDSP - be sure that you can disable any crossover in the plate amp. You don't want two crossover filters in line.

If you have a sound processor of some sort, the distant multisub can be sent the LFE channel. If not, send it a summed signal that is low-passed at 50Hz, fourth-order.

Understanding loudspeaker charts isn't hard, but interpreting the data can be. The ideal speaker given a set drive voltage would provide equal SPL from a very low frequency, say 20Hz, and it would generate the same SPL all the way up past 20kHz. It would provide this over a specific horizontal and vertical angle, say 90° x 40°. Outside that, the speaker would not generate sound, so you could put the sound exactly where you wanted it without unwanted reflections. The ideal impedance chart would be a flat line of fixed impedance from DC (0Hz) all the way up in frequency beyond audibility. There is also distortion to consider - various kinds of distortion, actually - and ideally the loudspeaker would have no distortion of any kind.

You can find a write-up about what I think matters most in loudspeakers in the whitepaper called "High-Fidelity Uniform-Directivity Loudspeakers." Also, you might search this forum (and the internet) for threads on the audibility of distortion, constant directivity, and loudspeaker impedance fluctuation. There is a lot to learn about what matters most in each of these aspects.

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