Subject: Re: 3 Pi plans
Posted by Wayne Parham on Fri, 01 Mar 2019 16:11:29 GMT
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Flanking subs are really just "helper woofers" except that they are generally tuned to provide deep extension. That way you get both benefits - Blending in the 75Hz to 150Hz range gives SBIR smoothing and extension below that gives more deep bass nodes. That allows one or two distant subs to complete the total multisub package.

But for SBIR smoothing, you only need to blend in the upper midbass range. You could get a pair of Alpha 10 drivers and put them in 3-5ft3 cabinets tuned to 40Hz. Set 'em up a couple feet beside, behind and below the mains and send each the requisite signal (100Hz 2nd-order low-passed copy of the main speaker being flanked). Or you could get another pair of Delta 12LF drivers and do something similar.

The main thing is that the acoustic center be a couple feet away from the mains in all three dimensions. That makes bass horns unsuitable for flanking subs because they're too long. The acoustic center can't be made close enough to the mains. Could be done with delay, but I would rather see hornsubs be used as distant multisubs.

As for constant directivity cornerhorns, if you have the right room, that's really the best way to go. They don't even need flanking subs because they don't suffer from self-interference from the nearest boundaries. They are acoustically close to the nearest boundaries, so they're more like vertical ground planes than reflectors. See the links below for more information:
Speaker placement and wavefront launch
Room modes, multisubs and flanking subs