Subject: Re: Need help with a center channel
Posted by Duke on Sat, 16 Dec 2006 09:34:22 GMT
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I presume you're going to set the center channel to "small" in your processor, so that it won't be receiving a full-range signal. Might as well use all four drivers, to get as much headroom as possible.If you set the center channel to "small", what's the cut-off frequency?A sealed box of .6 cubic feet will be -3 dB at about 100 Hz, with as stuffed-box Qtc of about .7. A vented box of 1.2 cubic feet tuned to 60 Hz will be -3 dB at about 60 Hz. This is what I'd do, as I'd rather have the center channel's inherent rolloff well below the frequency where the processor cuts it off.In my opinion, most center channels have a flawed driver layout. Horizontally spacing two midwoofers on the same baffle narrows, rather than broadens, their coverage pattern. The center channel should have a wide enough pattern to give uniform coverage throughout the seating area, and very few do.You can make a better center channel by building a splayed array. Have two of the drivers firing about 22.5 degress to the left of the centerline, and the other two firing 22.5 degrees to the right of the centerline. Each pair is in a vertical rather than horizontal stack. This will give fairly uniform coverage across a 90 degree horizontal arc. The vertical coverage will be narrowed by stacking the drivers, but that's seldom a problem in home theater. You can use either a convex or concave arrangement to get the splay. Both will work - and both have advantages and disadvantages. Below is a link to a prosound speaker that uses a concave splayed array for the woofers. Looks to me like the splay is closer to 15 degrees. That 22.5 degrees isn't carved in stone - it can be more or less, but I wouldn't go over 30 degrees.My $.02.Duke
http://www.reyaudio.com/index.html