
Subject: Re: Diffraction and Baffle Spacing - critic this design?

Posted by [Sam P.](#) on Tue, 08 Jul 2003 10:07:49 GMT

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a)hf horn positioned too high
b)woofer too far from floor
c)midrange is doing 300 to 1khz?, why bother with 3 way?!
advice: look into Wayne's 4 Pi Pro design or one using the Eminence drivers. a high performance passive crossed two way will be "tweakable" by the diy builder...your biamped/passive hybrid may have you tuning from now until there is peace in the middle east...and at the 1 watt(!) home listening level don't sweat the top end numbers, have you even BEEN in front of a system running at 120dB? I've used ear plugs and muffs while running 100watts rms into the 100dB/watt quasi-4 Pi Pro's with music...120dB is loud with "double" ear protection
constructive advice: consider facing the 18 rearward towards the wall, near the floor, and position the enclosure about 3 to 6 inches from the wall. set the height of your HF and mid horns so that a point between them is at the listeners ear level, say 36 inches? Active crossover at 300 Hz. feeding a big ass sand amp for the woofer. Use a similar amp for the front drivers, just be sure it can handle the reactive load of the passive crossover OK, if selecting a tube amp use one that is not too load sensitive. throw Wayne's 1kHz. Pi crossover in there if desired. HOW ARE WE MATCHING the MID and HF levels? Expect to spend some time here swapping series R's and bypass caps for the HF, and likely working out a z peak damper for the Mid. any questions?
even better advice: again, see Wayne's 4 Pi Pro plans, or do a search on quasi-4 Pi pro's using 2035's:)
Samtrivia:the "phase loaded" wall facing woofer(sealed box, not reflex, btw) was used from 30Hz. up to 300Hz. by EV back in the 50's and "achieves almost a full added octave of bass range and completely eliminates the boomy characteristics of bass reflex enclosures", while the "wall and floor act as reflecting surfaces, close and almost equidistant from the driver cone, ELIMINATING phase difference between the reflections and the source".
useful(?) trivia:the 50's "Duchess" enclosure EV used for "phase loading" is the correct size(4cu.ft.)for Eminence's Kappa Pro-15LF 600W Driver according to my PE catalog:) but facing forward will let a hi-po 2 way be built with them! ...waiting for the "sale brochure"...hah, my PE catalog says it is a 4600 watt driver, and 100dB watt, hmmm, I need a PAIR of 5kW amps now?! even scaring myself now, time for meds!