
Subject: "Pi Pad" implemented with series xover
Posted by [Sam P.](#) on Tue, 12 Feb 2002 20:02:44 GMT
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I decided to try using Wayne's 12 dB "Pi Pad" instead of my adjustable lpads in a system using a series xover at 1200 Hz. Since the knobs were set to -12 dB w/ the spl, I figured installing the fixed 12 dB would work too. Sound from left to right stayed balanced (only did left side), so that part was cool. I'll play w/ comp caps once I get the other side done. Since I just can't leave well enough alone...EUREKA...I had built the network using all 8 ohm resistors...three in series for $R1=24$ (ok, 25 would have been nice), and two in series for $R2=16$ ohms. All parts were rat shack 20W 8 ohm non-inductive (PE p/n 271-120). NORMAL/BRIGHT switch COULD be used to short out one of the three that make up $R1$, giving 16 ohms, I.E. we now have a -10 dB "Pi pad" profile instead of -12 dB...HF output goes up +2 dB in the bright position. Alternatively, users with 10 dB pads who feel their setup is a bit bright might want the option of a NORMAL/SOFT switch, good for late night listening, better tonal balance? Toning down that occasional shrill CD? Wayne, now tell me the down side...or is this what Replay, Till, or somebody was asking about a few weeks ago? Sam

Subject: Re: "Pi Pad" implemented with series xover
Posted by [Wayne Parham](#) on Tue, 12 Feb 2002 22:07:46 GMT
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Some people like having an L-Pad or other adjustable control on their loudspeakers. Personally, I don't like them, because they change the crossover and compensation network's electrical filter characteristics. I prefer the user who wishes tone control to use the tone control on their preamps instead. If you look at the $R1/R2$ ratio, it controls the amount of peaking of the filter formed by the tweeter, its compensation circuit and the crossover. Play with these values using Spice and you'll see what I mean about affecting filter Q by changing these values.

Subject: I'm just suggesting utilizing the
Posted by [Sam P.](#) on Tue, 12 Feb 2002 22:48:56 GMT
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the values shown in the xover doc, using the R1/R2 network to split the power. The only difference is R1 was shown in one to be 16 ohm (10 dB) in series with the driver, the other has 25 ohms (12 dB). Both used the same 16 ohm R2 and 0.47 uF cap. Then I used the network for the HF portion/load in a series xover I use, in place of the adjustable lpad. I want to play some more, with extended listening, to determine if 10, 11, or 12 dB will work out with the widest range of material in regard to overall tonal balance between the bass and HF in my listening environment. Discrete steps will be easier to get more consistent results with than the wide range, from bad to OK to bad, of adjustable ones. I agree with Wayne, adjustable l pads have no place on a speaker where curious fingers may stray...Sam

Subject: Re: I'm just suggesting utilizing the
Posted by [Adam](#) on Wed, 13 Feb 2002 00:29:38 GMT
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Well, Part of the point really is to match up the sensitivities with the amp gains. You could do what you propose... But an active circuit would still be better. You're really killing half (at least) of the point of going active by throwing in an lpad post-amplifier. Adam

Subject: these are my HT left/right speakers
Posted by [Sam P.](#) on Wed, 13 Feb 2002 11:47:00 GMT
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that use passive xovers. I am working on triamping my main music system, but the HT, with five speakers, too much "gear" would be involved to go active. But I am "upgrading" the HT from 5 inch tall speakers w/ 3 in. woofers (all 5 of them!) driven by my dolby prologic 6 channel amp; to dual 15's for left/right, quasi 4 Pi pro's (single 15's) for the rear surrounds, and maybe will go EV 15W woofer, 8hd/T-25a mid, and t-35 tweet for center channel (basically a Khorn without the horn loading). Total of SEVEN 15's, and we haven't even gotten to the subwoofer yet. All around 100 dB sensitivity. And it was loud enough before, with the tiny speakers that were under 90 dB sense probably. One of those rare instances that "a fantastic difference" from the upgrade was audible...even in my neighbors living room...across the street...with their windows closed...just kidding. But with just the left/rights working (jbl 4648A-8's w/ 511 altec horns), on sat tv concerts, sound is so OVERWHELMING/NICE I want to buy albums from people I've never heard before,

like jewel, bb and the fleck tones (INFUKINGCREDIBAL DRUM GUITAR), wife even sat thru Willie Nelson live from amsterdam (poor people there in the audience were so broke, some of them had to share a single, hand rolled cigarette!). Yep, I'm almost as enthusiastic as a new SET convert, and that says a lot. Sam

Subject: Re: these are my HT left/right speakers
Posted by [Adam](#) on Wed, 13 Feb 2002 15:16:17 GMT
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I understand now. Don't know how I got it in my head you were running active xovers.Adam