Subject: Crossovers.....
Posted by pickle on Mon, 27 Aug 2001 20:29:33 GMT
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Okay, Wayne, I gotta get this stuff outta my head. I have the 2225H's and 2425H/2370A's in a JBL 4560BKA box, as discussed before. All the stuff is pretty much like new condition. The crossover was constructed by the guy who helped me sort through what would work to upgrade this box. (Used to be a 3 way with E140, 2345 cast horn, etc)I have read your requirements for crossovers and attenuation for high fidelity sound. When I asked the gentleman awhile back what the x-over consisted of that he made and sent to me, he said quote "The crossover is a clone of the one found in the JBL 4725A - I use higher voltage caps, heavier gauge coils and a little different HF attenuation ckt." end quote.Being utterly ignorant about crossovers, what more specific information should I ask for in order to know if it meets your requirements for x-overs, so that "Unlike other pro systems, the Pi horn speaker has truly excellent high frequency response. Our compensation circuit and titanium driver are precisely matched with the low frequency motor, so frequency response is remarkably good. "!!

Subject: Re: Crossovers.....
Posted by Wayne Parham on Mon, 27 Aug 2001 21:12:07 GMT
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The biggest things is to pick the crossover and slope that will provide good summing. This is the job of the frequency-splitting high-pass/low-pass filters. Simple symmetrical slopes work pretty well for some direct-radiating two-way speakers. But this is not always the case with horns. In my experience, I rarely find the best solution is a symmetrical crossover when horns are used, and I have never found a good symmetrical crossover when horns are combined with direct radiators, as in the case of a DI matched two-way speaker like the 3 Pi or 4 Pi speakers.The next most important thing has to do with the tweeter horns used. The power response falls, so you need a conjugate filter in the tweeter circuit. Top-octave compensation is a requirement for CD horns. It's actually pretty simple to do passively, because a good quality direct-radiating midwoofer is generally about 10dB-12dB less sensitive than the tweeter horn. So the top-octave compensation network simply attenuates the tweeter by that amount, and then removes attenuation at 6dB/octave above 4kHz or so, providing HF augmentation.

Subject: Re: Crossovers.....
Posted by mikebake on Mon, 27 Aug 2001 21:50:32 GMT
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I don't know if he has installed a suitable attentuation circuit....

Subject: Re: Crossovers.....
Posted by Wayne Parham on Tue, 28 Aug 2001 00:31:02 GMT
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Yes, super. Just grab a few 10 watt non-inductive resistors. Perhaps a few 5, 10, 20 and 30 ohm parts. That way you can combine them in different configurations to form any value you need. Then also grab a few 250V polypropylene film, metal foil capacitors in 0.47uF and 1.0uF values. This will get you where you want to be.I've included a link to a previous forum post that contains a chart of resistors and the attenuation you can expect from them. The post is called "Compensation circuits"

Subject: Please see compensation chart
Posted by Wayne Parham on Fri, 07 Sep 2001 21:05:52 GMT
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Please see the thread called "IMPORTANT - Compensation component values."