Subject: TAD 2 way.. need crossover.
Posted by plocke on Tue, 06 Mar 2007 03:22:21 GMT
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I have a pair of TAD TL-1102 mid/bass driversh ttp://www.pioneer.co.uk/uk/products/43/203/1083/TL-1102/index.htmland a pair of TAD TD-2001 with Martinelli Wood horns (800hz) on there way in the next week or two.I need to build a 2 way crossover and wanted to use Wayne's design.Any advice on where I should crossover? Anyone have experience with these drivers?Was thinking 1200hz would be a good place? Wayne did send me plans for a 1200hz crossover some time ago.not sure what components to substitute to accommodate a 94db efficient driver with a 109db efficient horn though?again.. wonder if anyone has tried this already and could send.. perhaps... a parts list?Thanks!

Subject: Re: TAD 2 way.. need crossover.
Posted by Wayne Parham on Tue, 06 Mar 2007 07:09:22 GMT
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You can use the 1kHz, 1.2kHz or 1.6kHz crossover with good results.

Subject: Re: TAD 2 way.. need crossover.
Posted by plocke on Tue, 06 Mar 2007 14:46:50 GMT
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thanks Wayne.have you got the 1.2khz crossovers in stock?

Subject: Re: TAD 2 way.. need crossover.
Posted by plocke on Tue, 06 Mar 2007 18:26:30 GMT
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Looking thru my files and realized the documents I have don't include a schematic or attenuation component values for a 1200hz crossover.. Wayne could you send me those if you have em? I believe need to attenuate roughly 17db to make up for the mid/bass drivers 92-94db (in) efficiency.Thanks a lot I really appreciate it.

Subject: Re: TAD 2 way.. need crossover.
Posted by Wayne Parham on Tue, 06 Mar 2007 18:32:17 GMT
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No, I don't stock a 1.2kHz crossover. We have the 1.6kHz crossover in stock though. And to be honest, I would crossover higher than 1.2kHz anyway. The radiating surface area dictates directionality of the midwoofer, and I think it would be better to crossover to a 90x40 horn at 1.6kHz than 1.2kHz. That will give you a better DI match between midwoofer and horn.

Subject: You've got mail!
Posted by Wayne Parham on Tue, 06 Mar 2007 18:38:27 GMT
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You've over-estimated the sensitivity of the tweeter horn. I suggest the 14dB compensation circuit, which you'll see in the charts on the crossover document.

Subject: Re: TAD 2 way.. need crossover.
Posted by plocke on Tue, 06 Mar 2007 18:43:04 GMT
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Ahh! Thanks. Duke at AudioKineses crosses these mid/woofers over about 1600 too.. will go with that and use the schematics you sent a while back. Great. Or I could order the ones you have in stock - I'd still need to swap out R1,C1,R2 for attentuation and then C5 & R3 based on the drivers LE/RE etc. .right?

Subject: Re: You've got mail!
Posted by plocke on Tue, 06 Mar 2007 18:44:34 GMT
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Thanks!

Subject: Re: TAD 2 way.. need crossover.
Posted by Wayne Parham on Tue, 06 Mar 2007 20:42:38 GMT
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We can sell you a PXB1K6014dB crossover. Or you can build them yourself using the crossover schematic, and choosing whatever brand components you like.

Subject: Re: TAD 2 way.. need crossover.
Posted by dB on Wed, 07 Mar 2007 11:12:04 GMT
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Hi plocke, that was a nice reply from Wayne, the 1600Hz xover.But thinking about your case I didn't see information on their web site (TAD) about a frequency response curve on their drivers/speakers. In this case is a must have (simulation), unless you know the "material" output from your head. Anyway they are all very similar (construction techniques between brands having the same materials or similar types of characteristics) but I don't have that kind of experience... right Wayne?Thanks ploke.Best Regards.

Subject: Re: TAD 2 way.. need crossover.
Posted by Wayne Parham on Wed, 07 Mar 2007 14:38:45 GMT
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That's true. Having Speaker Workshop or something like it to measure the speakers would be very helpful.

Subject: Re: TAD 2 way.. need crossover.
Posted by plocke on Wed, 07 Mar 2007 17:02:04 GMT
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yES. Thanks both of you.I have response curves from the spec sheets that came with the drivers, I also have my friend DUke who sent me his own measurements of the TL-1102. He likes the 1600 crossover point too.So all in all I think this recommendation from Wayne is an excellent one and worth trying. Going to rummage thru my caps and see if I should build or buy.btw.. what are the critical components in the pi two way crossover?would it be worthwhile to put some paper in oils someplace (have an assorment) how about some heavy awq guage inductors (also have some of them or could trade for some).Thanks.

Subject: Re: TAD 2 way.. need crossover.

Posted by Wayne Parham on Wed, 07 Mar 2007 19:07:55 GMT
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The critical components are those in series with the drivers. I'd consider the shunt inductor in the tweeter circuit fairly critical too. The Zobel isn't critical, although I would try a pseudo-first-order filter on the woofer, since you're near mechanical rolloff. That will make the total crossover slope higher than just the electrical filter slope. You don't need a Zobel with pseudo-first-order crossovers, it's just a single series coil.

Subject: Re: TAD 2 way.. need crossover.
Posted by plocke on Wed, 07 Mar 2007 20:44:04 GMT
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Sorry.The Shunt capacitor is C1 ?and Capacitors in series with the driver are C3 and C4?Sorry, new at this. Was going to try and build exactly as specified on the schematic. Seemed like a good fist project.. sans any high voltages.

Subject: Re: TAD 2 way.. need crossover.
Posted by Wayne Parham on Wed, 07 Mar 2007 21:13:09 GMT
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Basically, consider all the components in the crossover to be critical except for the Zobel. When I say "critical" here, I don't mean value tolerance is small. I mean that the quality of component determines the quality of sound. Don't use electrolytics in the signal path, in other words. Don't use coils with high DC resistance. Do use polypropylene capacitors or other high quality types. Use air core coils with large guage conductors for those under 1mH, and good quality laminated steel core for larger values.

Subject: Re: TAD 2 way.. need crossover.
Posted by plocke on Wed, 07 Mar 2007 21:51:36 GMT
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Thanks Wayne!When I get it all together.. ill be nodding my head to the result and hold a lighter up to you in the recognition of your contribution. lol. really though. thanks!