Subject: Pi 2 Plans
Posted by Steven Cone on Fri, 06 Feb 2009 17:08:05 GMT
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Wayne,Would you please send me the plans for the Pi 2 speakers, both the bookshelf and the tower versions?Thank you!

Subject: You've got mail!
Posted by Wayne Parham on Fri, 06 Feb 2009 17:37:19 GMT
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Subject: Re: You've got mail!
Posted by Steven Cone on Fri, 06 Feb 2009 22:27:27 GMT
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Thanks!

Subject: Crossover Question
Posted by Steven Cone on Sat, 07 Feb 2009 07:25:51 GMT
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For the resistor that is across the Pi 2 tweeter, what Watt rating would you suggest? 10? 40? 100? I may run these fairly loud.Thanks!

Subject: Re: Crossover Question
Posted by Wayne Parham on Sat, 07 Feb 2009 16:22:26 GMT
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Use a 10 watt non-inductive resistor.

Subject: Re: Crossover Question
Posted by dB on Sat, 07 Feb 2009 17:02:55 GMT
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Steven Cone hi, I dare to say, after Wayne has answered your question, that he mentions this fact on his paper "Speaker motors and passive crossover filters" on page 74.Steven, what are the ohmic values for R1 and R2?

Subject: Re: Crossover Question
Posted by Wayne Parham on Sat, 07 Feb 2009 17:40:57 GMT
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You're right, power handling is discussed at the end of the Speaker Crossover document. It is really geared more for the crossovers used in the larger speakers though, the ones with CD horns. The speakers Steven is talking about use a soft-dome tweeter and a simple first-order crossover. The resistor is used for damping only.

Subject: Re: Crossover Question
Posted by Steven Cone on Sat, 07 Feb 2009 18:16:10 GMT
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Thanks for your reply.OK, I looked at the Speaker Motors document, and I think I found the answer I was looking for; however, as Wayne indicates the crossover I'm working with is not exactly the same as the ones in the doc.Using one of the Pi 3-7 crossovers, 300 W RMS put 100 W RMS across the tweeter resistor. But, practically speaking, 40-50 W power rating for the resistor has been found to be sufficient, because of the usual balance of energy in program content.In the Pi 2 crossover, however, there is only a single capacitor leading to a tweeter resistor. No inductor.If that does not mess up the calculations, then I could run four ten-watt resistors in series to make the required power dissipation. Right? I would never plan to run more than 300 W RMS into the speakers--probably quite a bit less.Thanks again. Just trying not to set my speakers/house on fire....

Subject: Thanks
Posted by Steven Cone on Sat, 07 Feb 2009 18:17:08 GMT
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Thanks, I'll look at the document.

Subject: Re: Crossover Question
Posted by Wayne Parham on Sat, 07 Feb 2009 19:03:16 GMT
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It never hurts to add power handling by adding more components in the way you've described. So I wouldn't try to talk you out of it. It adds protection in cases where higher-than-normal spectral density is sent to the parts in question. It reduces thermal shifts, distributes the heat among more components and reduces the chance of failure. Reducing heat is always good. That's why my horn tweeter crossovers use R1a, b, c and d components where almost everyone else uses just

10 watt damper resistor. They're only designed for 100 watts total, and most of this goes to the midwoofer.

Subject: Re: Crossover Question
Posted by Steven Cone on Sat, 07 Feb 2009 19:05:59 GMT
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Thanks, again!Do your kits include the crossover materials?

Subject: Re: Crossover Question
Posted by Wayne Parham on Sat, 07 Feb 2009 19:08:06 GMT
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Yes, kits include crossovers, assembled and ready-to-install.

Subject: Re: Crossover Question
Posted by dB on Sat, 07 Feb 2009 19:11:26 GMT
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So as you say your circuit does not have the R2 resistor.If you use one 10W R, as was said, or you think you need more power for some reason, say another application and you only have that wattage available, use 4 Resistors in series-parallel. Many manufacturers have 40W in their stock, but price goes up very fast, let's name only two (I am in Europe) MUNDORF and VITROHM. The other way (if you are afraid) of protection, is the use of a light bulb or a PTC in the xover (this may not be fast enough with the first being more common).

Subject: Re: Crossover Question
Posted by Steven Cone on Sat, 07 Feb 2009 20:06:15 GMT
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Thanks, again, to both of you. While I may run the speakers loud, I don't plan to hook them up to the wall outlet....I was planning to build the Pi 4s, and had bought the JBL 2226H drivers. Due to changes in funding (recession, etc.), I may try to sell those drivers and build the Pi 2s.