Subject: X-over Cap Voltage rating
Posted by blvdre on Fri, 16 Jul 2010 18:13:54 GMT
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Wayne,

I have a question concerning your recommended voltage rating of at least 250v for crossover caps (specifically for the 4pi x-over); you spec at least 250v. Are there any exceptions, and if I'm running low power SE amps (~5W), could I get away with a 200v rating? The reason I ask is, it would open up more options as far as selection. If anyone else wants to chime in, by all means.

Subject: Re: X-over Cap Voltage rating
Posted by Wayne Parham on Fri, 16 Jul 2010 20:27:08 GMT
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Just like resistors can be derated for low-power applications, so can capacitors. Then again, 200v is fine, and shouldn't really be considered "derated". I spec'ed 250v because it is a common value, but 200v is plenty.

Subject: Re: X-over Cap Voltage rating
Posted by blvdre on Fri, 16 Jul 2010 22:25:51 GMT
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Thanks Wayne, I appreciate the quick response. Sonic Craft is having a clearance sale, so I'm going to get my x-over caps while the getting is good. If anyone else is interested, the sale is on until the end of the month.

Subject: Re: X-over Cap Voltage rating
Posted by blvdre on Fri, 16 Jul 2010 22:33:57 GMT
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Almost forgot, I have another question. Does it make good sense to spend less on C5 and C6, as they are in a shunt position, and more on C1, C2 and C3?

Subject: Re: X-over Cap Voltage rating
Posted by Wayne Parham on Fri, 16 Jul 2010 23:03:54 GMT
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That's a tough question. Common sense makes it seem that's true, since series components are in the signal path and shunt components aren't. Seems like maybe they're more "important". But considering even shunt reacatances form "bleeders", if one is way off, you have a real problem. For this reason, I'd prefer that all be good components.

Think of the analogy of a fork in a stream. The series path is like a large stream having the majority of flow and the shunt path is like a smaller branch going somewhere else. If everything is right, you can expect the proportions of flow to be consistent. But if something changes either branch, the proportion is affected, ultimately having an impact on the larger "series" flow. If the minor "shunt" or bypass branch starts taking a heavier-than-normal flow, then the main "series" path is reduced. If the bypass is dammed up, then the series path takes more flow than normal. Either way, the main signal is modified by a disturbance in the branch.

Subject: Re: X-over Cap Voltage rating
Posted by blvdre on Sat, 17 Jul 2010 11:30:13 GMT
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OK Wayne, thanks for the analogy.

More to the point, my plan is to use good quality poly's all around, but was thinking that if I wanted to splurge a bit, the money would be better spent on the series caps.

Subject: Re: X-over Cap Voltage rating
Posted by Wayne Parham on Sat, 17 Jul 2010 13:35:23 GMT
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I think the main thing is to have good quality polys all around. Even the moderately priced polypropylene caps are very good. Solen, Jantzen and Erse all make fine caps at reasonable prices. As for the boutique crossover parts, I wouldn't discourage you but I'd definitely upgrade the woofer and tweeter before I'd upgrade the crossover parts.
Upgrades
Crossover Components

Subject: Re: X-over Cap Voltage rating
Posted by blvdre on Sat, 17 Jul 2010 13:58:02 GMT
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Yes, I've already decided to go with the JBL 2226H and the B&C DE250 combo. I don't have much in the way of woodworking experience, but have a friend that does (His brother has a full shop, and builds harps, among other thing). He has also dabbled in speaker building and filter

design, so it was an easy task getting him interested in the 4pi project! Of course, we both have children, so I figure the project should be finished within a year (that's probably wishful thinking

Thanks for the suggestions Wayne.
