Subject: Crossover Cap Comparison
Posted by FredT on Thu, 16 Feb 2006 21:38:51 GMT
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I was wondering if anybody has done an evaluation of different brands of caps in their speakers' crossovers, especially the caps in the tweeter signal path. Looking at the brands I hear about most often I see a broad price range. For example, a 10uF Solen is $4.48. The same value Northcreek Zen is $9.35, a Sonicap is $17.60, an Auricap is $24.95, and a 10uF Hovland Musicap is $43.85. My experience with cap comparisons has been limited to Solens, Northcreek Zens and Auricaps. I replaced the Solens in my Maggie 1.6's with Northcreek Zens and heard a significant reduction in treble harshness. I also tried a single Auricap (they don't recommend bypassing) and they provided greater resolution, but they sounded artificially bright in comparison to the Northcreeks. Didn't like them at all. I have also heard good things about Sonicaps from others but have not done any comparisons with them.Has anybody else upgraded caps in a speaker crossover? What did you replace, and what differences did you hear?

Subject: Re: Crossover Cap Comparison
Posted by Wayne Parham on Fri, 17 Feb 2006 14:46:43 GMT
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I've been meaning to side-by-side some of the better parts too. I have swapped Solens with generics, and Black Gates with no-name electrolytics. In those cases, I could hear a difference. But I've swapped Kimber Kaps for Audyncaps and couldn't. Swapping polypropylenes with small value NP electrolytics makes a big difference, of any brand. But I'm still wnting to do a side-by-side test of the caps you've mentioned, and add Audio Note caps in for comparison too.

Subject: Re: Crossover Cap Comparison
Posted by Damir on Sun, 19 Feb 2006 20:37:27 GMT
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No experience with crossover caps, but I recently tried some coupling caps in tube amps. I also found "Auricap" little "hard" and "bright" sounding, but not too much.If you`re looking for more "silky" and "mild" sound, but detailed and transparent (and price/dimensions are of no concern) you can try Mundorf Supreme capacitor.

Subject: Re: Crossover Cap Comparison
Posted by FredT on Mon, 20 Feb 2006 00:06:28 GMT

I am looking for "silky" and "mild", but price is an issue. I just refuse to spend more on tweeter caps than I spent on the tweeter.I had the same experience with Auricaps - they seem to work ok as coupling caps in low power SET amps that tend to soften the highs, but in a "high end" application they sound unnaturally bright and harsh to me. I tried the in my Magnepans and they were unlistenable. So far my favorite bang-for-the-buck cap is the Northcreek Zen. It's much smoother than a Solen and isn't outrageously expensive. I replaced the Solen with a Zen in each of my EZ as Pie speakers and the change is clearly audible.

Subject: Re: Crossover Cap Comparison
Posted by Manualblock on Mon, 20 Feb 2006 20:20:30 GMT

Say Fred; ever try them in the Pi 3's?

Subject: Northcreek Caps in Pi Speakers
Posted by FredT on Tue, 21 Feb 2006 10:45:55 GMT

There's no doubt in my mind that upgrading the caps in the tweeter signal path is the most cost effective upgrade you can do with any speaker that uses Solens or other low cost caps. It's far more effective than upgrading cables. I went the semi-economical route in the Pi 3's: I used Solens bypassed with 1uF Harmony's in the tweeter signal path. For the .47uF L-pad resistor bypasss cap I used a Dayton film and foil cap. I'm glad you brought this up. I have been meaning to replace the Solesn in the 3 Pi's, and since I plan to take them to the GPAF I now have a deadline for doing it. I'm using a Fountek ribbon on top of the 3 Pi's as a supertweeter, and since the only cap in that crossover is a low value (1.0uF) I could afford an Audiocap Theta film and foil, and that upgrade made a world of difference compared to the Solen I started with. (It's much cheaper to upgrade the caps in a supertweeter tweeter that crosses over at 12khz than the one for the Eminence compression driver that crosses over at 1.6khz).Do you recall I built a pair of 1 Pi Towers recently. I already had a matched pair of 10uF Northcreek Zens, so last week I upgraded the tweeter caps, and the difference is clearly audible. That change made a significant improvement in the treble smoothness. By the way, those speakers sound remakably good for the $200 it cost to build them. I wish I had room in the truck to bring them to the GPAF - after hearing them I believe Wayne might rename them the "One Pi Buttkicker Bass Option" and start offering the tower plans as an optional enclosure for the One Pi kit:)

Subject: Re: Northcreek Caps in Pi Speakers
Posted by Manualblock on Tue, 21 Feb 2006 18:08:57 GMT
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Nice information Fred; I see you have tried several different brands of cap. Is that due to availability or do you have a preference?How did you mount the Fountek if I may ask; or is it sitting on top?

Subject: Fountek Ribbon With 3 Pi
Posted by FredT on Tue, 21 Feb 2006 22:07:26 GMT
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Here's the link to a picture:
3 Pi With Fountek Supertweeter

Subject: $$$ Cost of Upgrade to Northcreek Parts
Posted by FredT on Tue, 21 Feb 2006 23:00:27 GMT
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I priced the parts needed to upgrade the tweeter crossover in the 3 Pi Theater using Northcreek parts. They don't have the exact cap values needed, so it will be necessary to "cascade" values (e.g. use a 6.0uF and a 2.0uF to get 8uF), but that's what they recommend anyway. Total cost to upgrade all the caps, including pricey $14.70 Crescendo caps for the .47uF L-pad bypass, upgrading the 25 ohm L Pad series resistor to two parallel 50 ohm Northcreeks, and rewiring everything with their TefFlex teflon insulated wire, will be $124.90 for both speakers. That may seem like a lot of money for a tweeter crossove upgrade, but the 3 Pi sound quality is up there with my Eros MKII's and Selah Audio line arrays, so I belive it's justified. I'll report on the results when the changes have been made and given time to settle in.

Subject: Re: Fountek Ribbon With 3 Pi
Posted by Manualblock on Wed, 22 Feb 2006 02:21:31 GMT
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Nice; I see you made a nice housing for it. A little more air and definition? Nicer detail retrieval?

Subject: I like Solens
Posted by GarMan on Fri, 24 Feb 2006 18:39:05 GMT
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Hey Fred,I'm a fan of Solens. Not because they're the last word in caps. But because they deliver a great deal for the price. If you're willing to spend more, there are certainly better caps in the market. But despite all their shortcomings, Solens' are still a hugh improvement over caps found in most mass produced speakers.gar.

Subject: Detail
Posted by FredT on Tue, 28 Feb 2006 23:06:38 GMT
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That's what I'm hearing more of with the cap and resistor upgrade in the tweeter crossover. I was just listening to some Vivaldi cello concertos, and on one track there's a harpsichord playing a very quiet contiuno. The harpsichord was audible before, but it was almost lost in the sound of the strings. Now the notes stand out more clearly, both in audibility and as a point in the soundstage. Until today I assumed the Eminence compression driver and horn couldn't resolve detail of like comparably priced dome tweeters such as the Scan Speak 9500 and ribbons like the Founteks. There's still a difference, but with the cap and resistor upgrade the Eminence tweeter is much closer to the other types. This $100 upgrade was worth the cost.

Subject: Re: Detail
Posted by Wayne Parham on Wed, 01 Mar 2006 14:42:03 GMT
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Thanks for the heads-up. Can't wait to hear this combination at GPAF!

Subject: Re: Detail
Posted by FredT on Wed, 01 Mar 2006 21:03:07 GMT
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I kid you not, Wayne, the cap and resistor upgrade has taken these speakers to a whole new level. Do you remember my story about the Magnepan 1.6's? At a Houston Audio Society meeting we played my upgraded 1.6's side by side in an A/B comparison with another member's non-modded pair (with the stock Solen caps). The unanimous conclusion was that the modded speakers (also using Northcreek caps and resistors) were so much smoother and more detailed

they didn't even sound like the same speaker. Ditto for the 3 Pi's. I had been using a Fountek ribbon as a supertweeter, but with the upgrade to the Eminence tweeter crossover the Fountek adds nothing; in fact, it actually detracts a bit.

Subject: Re: Detail
Posted by Wayne Parham on Wed, 01 Mar 2006 22:10:02 GMT
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I'm really anxious to hear that, Fred. I've been meaning to try various components, but never seem to have the time. I've tried several of the obvious choices, Solens, Auricaps, Musicaps and Kimber Kaps. I've used Black Gates in certain situations. But there are a lot of components I haven't tried yet, and your combination is one of them I haven't tried. So I'm very eager to hear your speakers.

Subject: Re: Detail
Posted by dB on Mon, 20 Mar 2006 10:38:48 GMT
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Hi Wayne,Check also with Wima's (Germany) MKP4 series. Mr. Crawford use's them in the Kurre 4 speaker. I never used them, I know were to buy from Wima distributors, but I don't know the price or quantities. He used Solen's bebore in Legend Acoustics speakers. As he says: "...I find capacitors frustrating because although I can hear differences between different capacitors I cannot measure any differences." (in Australian Hi-Fi, equipment review)Best Regards
WIMA USA

Subject: Re: Detail
Posted by Wayne Parham on Mon, 20 Mar 2006 18:58:35 GMT
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Great link, thanks!

Subject: Re: X over caps
Posted by Ron Bradley on Tue, 06 Mar 2007 03:16:11 GMT
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check out the website "Humblehomemade Hifi" google search. He has evaulated about 20 different caps. For the money I'm buying Clarity Caps. I'd like Delund but...Wayyy to much money for a cap. $200+Ron
http://www.humblehomemadehifi.com/Cap.html