
Subject: Theater 4 crossover upgrades
Posted by [jimbop](#) on Mon, 21 May 2007 01:35:22 GMT
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I've been upgrading the caps in my Theater 4 crossovers, and the only one I have not done yet are the 20 uF shunt caps on the woofers. These can get expensive. Any recommendations for good caps to use here?Thanks!JD

Subject: Motor Run Caps from Ebay <nt>
Posted by [Skip_Pack](#) on Mon, 21 May 2007 12:26:49 GMT
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Subject: Same values, or different?
Posted by [jimbop](#) on Mon, 21 May 2007 12:41:29 GMT
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I've never used motor run caps, so I'm not sure what to look for. Can you explain why I should use these, rather than standard film caps?Jim

Subject: Re: Same values, or different?
Posted by [Skip_Pack](#) on Mon, 21 May 2007 17:11:56 GMT
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Same Values, usually the voltage ratings will be higher than you need for crossovers, but that's not a problem. Motor run caps are (at least the new ones) metalized polypropylene, just like the less expensive conventional polypro caps, but I believe they are oil filled. In any case, they are very smooth, and available in large values (10-40 uf) for not too much money. If you want startling detail and smooth, Obligato might be the only somewhat more expensive route before you succumb to VCaps, Mundorf, . . . They are big, but that's no big deal in a speaker. I glue in a little shelf and then use a tie-wrap anchor and tie-wrap. I wouldn't let them dangle. Skip

Subject: Re: Theater 4 crossover upgrades

Posted by [Matts](#) on Mon, 21 May 2007 17:45:50 GMT

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Bill Epstein recommended these- I ordered some for a xover and got them right away, although I haven't installed them. others at Bottlehead forum like them a lot, too. They're a good price.

Hong Kong caps

Subject: Re: I don't want to pick on Mundorf, but...

Posted by [Bill Epstein](#) on Tue, 22 May 2007 01:28:04 GMT

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...I tried Mundorf Supremes in the Pi attenuation circuit and couldn't hear any improvement over Auricaps. I also tried surplus Aerovox motor runs in the 8 and 20 uF positions of the 1600 Hz crossover and didn't care for the way they 'darkened' the sound and smoothed over detail. Just for fun, the other night, I priced VH Teflons for my Cornet II board and the total, \$900, was 3 times the total parts cost! For a possible incremental improvement? I think not. Perhaps just \$100 for .10 by-passes? I remain unconvinced that by-passing has any reward and, in fact, there's a school of thought that says it has a deleterious effect on the electrical function of the main cap. "A capacitor stores and releases charge over time so that only the ever changing audio signal will pass through it on the way to the outputs, blocking the DC from the tube. Differing values of capacitor charge and discharge in different times. The two different values are said to have different time constants. The small bypass capacitor charges and discharges faster than the larger value cap, thus it affects the higher frequency sounds. The effect of this is to render the highs brighter since they have been stretched over the two different time constants." -Matthew Anker, SACDMods.com; E.E. student and well-known modifier I can easily recall the clearly audible improvement in changing the Bottlehead Paramour coupling cap from a ceramic to a Solen Film cap and the Solen, in the Pi attenuation circuit to an Auricap. There was no such change with the Mundorf. Some have said that the Auricap sounds bright and/or brittle. I haven't heard that but I haven't heard sounds above 14kHz for years! The Obbligato oil caps may be smoother on top than the Auricaps and equally 'musical' throughout the audio band. I find them at least equal in the crossover of the Batspeakers, and, in larger values represent a cost savings.

Subject: Re: Motor Run caps....tried it

Posted by [Frank Mena](#) on Tue, 22 May 2007 17:52:00 GMT

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I've replaced the caps in question with GE motor runs in the crossover but also bypassed the motor runs with much smaller auricaps I had around as well. For the life of me I can't remember the values of the smaller Auricaps except I know they were about 1 to 10%(?) of the value of the larger cap. Please don't quote me on those values as my memory ain't what it used to be! I'll have to take a look inside the cabinets again and see what I did. I do know the sound became

louder at the same volume setting with this new set up in the crossover. They have been in my Theater 4 pi's for about a year now and are not coming out. I do remember at the beginning I didn't like the motor runs until I added the smaller bypass caps which seemed to quicken things a bit and give me a bit more detail. Was it my imagination? Time for break-in? Who knows, I just liked it better with the auricaps in the crossover. You may have a different take! But I have to say Brothers in Arms (side 2 on vinyl) sounds fantastic over these puppies. Have fun and experiment. Frank M
