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Subject: Compensation networks - Photos

Posted by [Wayne Parham](#) on Thu, 24 Jan 2002 23:53:25 GMT

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Here are some photos of the compensation networks used in speakers I've built. It shows how I make the cable assemblies for both the woofer and for the tweeter. Tweeter cable assembly, including compensation components R1, R2 and C1. The tweeter compensation components R1 and R2 are soldered together and physically arranged in a "block" which is then wire tied together. The capacitor C1, spade lugs and a couple feet of interconnect wire are then soldered to the resistor block to complete the tweeter cable assembly. Woofer damper cable assembly, including compensation components R3 and C5. There are two woofer connections for those that include an RC damper (Zobel), and only one for those that do not (Pseudo Butterworth). In either case, the crossover PCB connects to the woofer using a straight interconnect with spade lugs on each end. There is no point in making a photo of a simple cable. But for those containing a Zobel, there is an additional connection to the RC damper cable assembly. Resistor R3 of the woofer damper is mounted to the cabinet floor, just as the crossover PCB is. Capacitor C5 is laid on top of the fiberglass insulation where it cannot vibrate against any hard surface. Similarly, the resistors that form R1 and R2 (and capacitor C1) are laid over on the fiberglass insulation so that they cannot vibrate against the baffle or run against the crossover circuit board. The resistor block is actually supported by the rigid leads of the components soldered into the spade lugs, but this is a flexible support and the cable assembly will touch the fiberglass insulation which helps keep the heavy resistor block suspended away from the cabinet and crossover PCB.

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Subject: Re: Compensation networks - Photos

Posted by [replay](#) on Fri, 25 Jan 2002 00:11:54 GMT

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thanks wayne, can you send a set to rudi? maybe that's his problem:) cheers, george

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Subject: Re: Compensation networks - Photos

Posted by [Adam](#) on Fri, 25 Jan 2002 00:55:59 GMT

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Looks very clean Wayne, but wouldn't having the resistors in such blocks cause heat problems? Just curious. Adam

Subject: Re: Compensation networks - Photos

Posted by [Wayne Parham](#) on Fri, 25 Jan 2002 10:34:28 GMT

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They won't dissipate as much as if they were positioned in such a way as to allow air to flow freely around them. But we aren't skimping on the quantity or dissipation rating of the components used, and so we don't need to promote more efficient air cooling around them. The only other solution I would have been happy with is to use two large 100 watt blocks like what is used in the woofer compensation network. If this style tweeter cable assembly hadn't proven to be a good solution, using a pair of 100 watt parts might have been an option. But it is difficult to find a variety of resistance values in such large power components and forming two 40 watt parts for R1 and R2 using 10 watt parts allows more flexibility in component resistance values. Mounting them as I have done makes the cable assembly less cumbersome to work with and I find it to be a good solution.

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Subject: What I wished for, thanks, Wayne

Posted by [Bill Epstein](#) on Fri, 25 Jan 2002 18:28:37 GMT

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I now know that I actually configured my networks correctly! From word pictures of resistors on the beach! Caramba!

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