Subject: as per Adam, you can de-rate
Posted by Sam P. on Fri, 05 Jul 2002 23:19:37 GMT
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the resistors somewhat if you are not running over 100 watts or so. 47 ohm Mills combinations work nicely for what you are building. The series R1 of 25 ohms can be made using a pair of 47 ohms, for 23.5 ohms "actual" at 24 watts. The parallel R2 of 16 ohms takes 3 of the 47's, for 15.7 ohms "actual" at 36 watts. A 12dB pad means you are using 15/16 of the input power to heat those resistors, more or less:) So when the CD horn driver is playing at 100 dB(1/16 watt to the HF voice coil?), the resistors are handling a max of 15/16 of a watt? 10 watt amp, now you're hitting 110dB? Driver still under 3/4 watt input, resistors are not even warm with 9.4 watts or so of heat. Jump to 100 watts, and heat load in the resistors goes to 90 watts...NOT REALLY, music is dynamic, and does not stay at a steady level, so heating is much less than you would assume. Also, music won't contain 100 watts of HF energy coming out of a 100 watt amp. I seriously doubt you would overheat the Mills resistors used as I describe. Zobel resistor wattage might depend upon the driver somewhat, but some JBL examples used as little as a single 10 watt resistor like the 2035 woofer in the 4671B system, a 150 to 300 watt capable speaker. I'm running a 48 watt zobel resistor network, and never could detect any temperature rise during testing, even with sine waves. Be sure to use a good poly cap for the zobel, a 25 volt electrolytic won't cut it there. Good luck, Sam