Subject: Question for Wayne - Compensation Network Resistor Chain
Posted by Garland on Thu, 13 Dec 2001 13:33:13 GMT
View Forum Message <> Reply to Message

I've noticed in the previous postings that there are different ways to gang the resistors to come up with the required 40W power handling for the Theater 4 Pi network. I thought I would assemble 2 series pairs of 15ohm-12w mills in parallel to create an equivalent 15ohm 24w resistor network. Since I plan on driving these speakers with low powered tube amps is this the way to do it? I have 16 of the Mills 15ohm - 12w resistors so I hope I'm OK and don't have to re-order. These ain't cheap! Though I guess I could go for the cement resistors which aren't too bad. And I assume 15ohms is close enough to the 16ohm spec to work properly!?Garland (and thanks!)

Subject: I know I'm not Wayne, but...
Posted by Colin Fritzke on Thu, 13 Dec 2001 15:11:14 GMT
View Forum Message <> Reply to Message

...don't concentrate too hard on getting those resistor values such that you acheive the 40W power rating, especially if you are using tube and lower-powered (< 200 W) of amplification. Remember, Wayne's crossover designs are based on extremely high-powered applications and if you notice the Theatre Four Pi's in stock form are rated for 300W RMS on the Pi website. Both George(replay) and I have had this conversation with Wayne already and I think it would be safe to say that for the compensation network, a single 12W resistor (instead of the specified 40 W series-parallel network) for R1 and also a 12W for R2 is sufficient unless you really plan put LOTS of power behind these. I'm sorry to hear that you've made some of the same mistakes I've already made in ordering all those resistors, because I really don't think you're going to need them, unless you eventually plan to use your Pi's with some extremely high power. Wayne, do you think you might consider making application-specific notes of just how much power handling in the resistor network is necessary when you send out your speaker plans? Many of us are building some of your bigger systems and won't be pushing anywhere near the amount of power you rate your speakers for. For this reason I really don't think we need to complicate the crossover compensation sections with extra parts for the sake of power handling if they really aren't neccessary. What do you think?Colin

Subject: Re: I know I'm not Wayne, but...
Posted by Frode on Thu, 13 Dec 2001 17:58:18 GMT
View Forum Message <> Reply to Message

I use 10W resistors in my Four Pi Pro's. These are only used in a small room with a 120W amp. I haven't had any problems so far.Frode

Subject: Crossover Resistors
Posted by Wayne Parham on Thu, 13 Dec 2001 21:26:37 GMT
View Forum Message <> Reply to Message

Take a look at the crossover document. There's a section that shows the signal across each component. It was done with Spice, and shows a graph of the voltage across each part. If you aren't running a lot of power, you can use smaller crossover components, i.e. lower voltage caps and lower wattage resistors. I wouldn't use smaller conductor coils because that will raise DC resistance and change the characteristics of the speaker. But you can derate values if you don't plan to run as much power through them. I choose components that can safely handle a lot of power, so there isn't a problem even at high power levels. At low levels, these high-power components aren't being pressed hard at all.

Subject: ....I play him on TV
Posted by mikebake on Fri, 14 Dec 2001 13:14:10 GMT
View Forum Message <> Reply to Message