Subject: Re: Do R1 and R2 change with a 16 ohm driver?
Posted by Wayne Parham on Thu, 10 Mar 2005 02:51:54 GMT
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It isn't quite as simple as that in practice, but that's the idea. The thing is that R2 sets the load for the crossover, so as the value is increased, the Q of the circuit increases. That raises the peak at resonance, and sets the bottom part of the response just like the port in an EBS cabinet does. We're looking for a shelf of constant amplitude, and setting the load to do it. Then, the value of R1 basically sets the attenuation. The balance between R1, R2 and the driver's impedance all come together to set the amount of padding, and the lower shelf. You want that part flat. Then capacitor C1 and resistor R1 work together with rising driver impedance (from voice coil inductance) to create the rising response for top octave compansation.

That's why I sometimes recommend Spice. The models are already made and included in the archive, so all you have to do it to plug in your values of driver impedance and inductance and for R1, R2 and C1 and it will plot a response curve for you.

But you might like just giving the iron some heat and trying values of R1=50, R2=16 and C1=0.33uF. That's a pretty good starting point, and it's set to use the 8 ohm crossover. I ran the numbers on Spice one time and that's what I came up with. It was probably for a 95dB woofer or thereabouts, so it will probably be a good starting point.
16 ohm tweeter crossover values