Subject: Re: Crossover attenuation
Posted by Wayne Parham on Sun, 10 Nov 2002 06:03:58 GMT
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Bill pretty much said it like it is. The only thing I'd like to add is that "attenuation" just means "reduction of amplitude" or "turning the volume down." So if you've just installed some form of attenuator on your tweeter, then you have lowered the volume of that device.But there are two things to consider. One is "EQ on purpose" and the other is "EQ on accident." The part I'm talking about when I say "EQ on purpose" is what Bill alluded to; When you put a bypass capacitor across the attenuator, it serves to remove attenuation as frequency goes up. That then also augments the highest frequencies by contrast, and that's something you want to do on pretty much every compression horn tweeter. Some need it more than others, and some don't need it much at all. But by and large, all of our HF horns could use some boost in the top octave.The other thing that happens is "on accident." Since the tweeter is a reactive device, a resistive attenuator changes the response. It changes the damping of the circuit, and can cause the tweeter to develop a peak in response. That's the reason that the R1/R2 ratio was carefull chosen, to set the damping of the system.The best way to understand this deal is with pictures.

includes response charts to illustrate their behavior.