Subject: Re: Compensation components
Posted by Wayne Parham on Sat, 08 Sep 2001 01:44:03 GMT
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There may be an advantage for their application, but for what we're doing, the RRC approach works best. The initial load resistor R2 provides a specific amount of damping for the splitter filter to provide an initial shelf of flat response, followed by 6dB/octave rising response above 4kHz via R1/C1 to compensate for the falling power response of the driver. A transformer would not do this.One benefit from using step-down transformers is they transform the energy rather than dissipating it, so they don't get as hot when current is high. On the other hand, I don't expect the Klipsch transformers are made to take a whole lot of power, so this might be a mute point. However, another aspect of this is the impedance transformation which effectively increases tweeter damping when a step-down transformer is used to lower the drive voltage to a tweeter. The output coil from the step-down transformer has lower impedance and is therefore a better current sink, providing better damping. Here again though, I'm not sure this is very relevant in practice because tweeters do not require a lot of electrical damping, particularly compression horns which are extremely well damped acoustically.