Subject: Woofer / Midrange Crossover
Posted by Wayne Parham on Tue, 19 Oct 2004 03:44:23 GMT
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The low end cutoff of the midhorn acts as a high-pass filter, and the driver is able to handle a lot of low frequency power, so that's why there is no electrical high-pass. If you're really cranking it, it might reduce IM to add an electrical high-pass, but the midrange driver is able to handle 300 watts all the way down, so it's safe.As for the woofer, that 5mH (L3) coil chokes the highs pretty well. Without a conjugate Zobel, you're right that more high frequency energy is applied across the woofer than would be if it were purely resistive. So without a Zobel, it's a "pseudo-first-order" filter. But the coil is rather large, so attenuation is about -15dB at 1kHz, where it stays pretty level as frequency rises. The signal across the voice coil drops between 250Hz and 1kHz, but after that point there is no additional attenuation and it never gets beyond about -15dB. Still, that's enough and allows the circuit to remain simple. Down this low in frequency, wavelengths are long so integration is smooth too.