Subject: Re: Not for me
Posted by Wayne Parham on Sat, 12 Jun 2004 13:56:13 GMT
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I agree about first-order crossovers. They are inexpensive and sonically forgiving but they just don't remove enough lows for tweeters.I like first-order and pseudo-first-order filters for bass and midrange drivers, but not for tweeters. What I'm calling "pseudo-first-order" filters are those that have the reactive component in series but no impedance compensation in shunt. This makes the driver itself have so much influence on filter characteristics that I like to make some distinction of the configuration. So for me, first-order requires a Zobel or damper resistor. Without it, I refer to the circuit as pseudo-first-order.Most tweeters I've used just don't handle the power with gradual slopes. They're not designed for that - They're designed for high frequency use only, and can't handle much excursion. I suppose that with tiny flea-power applications, it really doesn't matter. Maybe I like to listen louder than most, but I always smoke tweeters on first-order filters almost immediately. I honestly don't understand the practice of using a single series capacitor on an expensive compression horn tweeter. Don't even get it near me, 'cause it won't last long.Aside from that, I've used JBL 2105's having first-order and pseudo-first-order circuits with a great deal of success. These little 5" mids don't handle a lot of power anyway, only about 40 watts. But they're pretty durable and tolerant of low frequency energies. I crossed a lot of them at 500Hz 1st order, and they work just fine that way. If that's what you're thinking about doing, they'll work very well for you. They're a very good sounding driver. But if you're going to crossover much below that, you may want to go with a higher-order slope.Most larger midrange drivers and nearly all midwoofers don't need any crossover at all. It is sometimes appropriate for frequency response issues, but rarely for power handling. Sometimes I run woofers, midwoofers and large midrange devices with first-order filters, but sometimes I use higher slopes and sometimes none at all. I generally look at this on a case-by-case basis and design the crossover to match with the rest of the system.