Subject: Re: Transient Perfect Crossover's
Posted by Adrian Mack on Mon, 13 Oct 2003 06:41:40 GMT
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Hey Wayne,Another thing that has been on my mind, say we have a passive crossover, a zobel network, and an attenuation circuit that all need to be hooked up to the same driver. Does it matter what order these circuits go in? As an example, say we took a simple MTM speaker so theres 2 mid's and one tweeter. Since the two midranges play in the same frequency range, then I'd assume it would use a 2-way crossover and the midranges would just be wired togethor and hooked to the midrange output, and the tweeter to the tweeter output of the crossover. The impedance of the two midranges connected togethor is either half or doubled (parallel or series), but what about the reactive impedance of the device? Is the impedance at resonance and also the rising impedance caused by Le remain the same as that for a single driver? Or will it be doubled because there are two midranges hooked togethor on the same circuit? I ask this because I want to know if the same formulas for a Zobel filter (or series notch filter) can be used when two drivers are going to be connected to that same filter, or if there is something I have to do first. The box, weather sealed or vented changes where the impedance peak is, and adds another one if it is vented. In the Pi Crossover Document, it mentions that for the bass reflex speaker or a horn speaker that a seires notch filter/RC damper is not attractive because of the multiple impedance peaks. What came to mind though, is that the formula's required to calculte the values for C, L, and R require the parameters Fs, Qes, Qms, and Re. The formulas for a series notch filter don't include anything about the box, so I'm pretty stuck here. Does this filter formula just assume the person is running the driver with no box so it just damps the peak at resonance as if it was in free air? That would seem a bit strange to me?!Lastly, can Spice model the complete crossover combined with driver response? Do you know of any (free) programs that can model the filters combined with driver response?Thanks!Adrian