Subject: seriers crossovers
Posted by adavis464 on Sat, 24 Apr 2004 14:43:35 GMT
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Does any one use them?

Subject: Re: seriers crossovers
Posted by Wayne Parham on Sat, 24 Apr 2004 17:27:56 GMT
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Rod Elliot did an excellent article comparing series with parallel networks. I agree with his conclusion, that the most important thing is that the driver be included in any filter analysis. When so doing, you see the circuit less as a textbook filter and more as a hybrid of sorts.In fact, I even call a typical parallel first-order filter "Pseudo First-Order" because of this. Without a shunt element of some kind, the driver has so much influence on the response that it cannot be viewed as a purely first-order filter. But when the real impedance of the driver is considered, a circuit can be designed that provides exactly the response needed. The "Psuedo First-Order" circuit may be just what is wanted. Or some other configuration might be more in line with what is needed.I find one interesting feature of the series first-order crossover is its tolerance for impdedance shift. But since (series or parallel) first-order filters pass so much out of band energy, I don't recommend them for ribbon or compression horn tweeters. The tweeter is presented more back-EMF from the woofer in the series configuration too, making them even more fatal for frequency sensitive tweeters. But for low-power systems, it is an interesting configuration that has some benefits.In a sense, a crossover isn't really series or parallel or Butterworth or Linkwitz-Riley unless the load is purely resistive. Since it isn't, the best crossovers are usually combinations of filters, having dampers and other mechanisms to provide the transfer function desired. I think the labels we put on certain configurations are somewhat misleading, since it implies a certain behavior that really isn't there. It would be with a purely resistive load, so the labels are useful for identification, but I think it is often overlooked that each circuit performs much differently than expected when reactive and non-linear loads are presented, such as is the case with loudspeakers.

Subject: Re: seriers crossovers
Posted by akhilesh on Mon, 26 Apr 2004 13:40:31 GMT
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I use one for my super tweeter.tuned it by ear. -akhilesh