Subject: Re: Crossover document - Rough draft
Posted by Wayne Parham on Thu, 20 Sep 2001 20:17:34 GMT
View Forum Message <> Reply to Message

That's exactly what this paper describes. However, it is a "work in progress" and is not intended to promote the first order slope specifically. It was merely intended to be used for illustrative purpose. A discussion of second and third order passive filters will be added to this document in the next few days. This document, and an executable copy of Spice and of the models for these crossover filters will then be added to the Pi Speakers website, similar to the links for PiAlign, BoxPlot and Hornresp.The crossover used within Pi Speakers uses a third order filter for the tweeter and a matching filter for the woofer, with crossover point and slope dependant on the woofer chosen. In addition to the basic crossover frequency-splitting high-pass and low-pass filters, top-octave compensation is employed for compression drivers for response shaping, to make power response flat.I highly encourage you to download a copy of the accompanying executable Spice models, which are currently available and online. That way you can manipulate the models shown in this document yourself - changing crossover components to modify crossover frequency and filter slope. There are models of the sample filters shown in this crossover document, and there are models of the specific crossover designs I recommend for use in Pi Speakers shown as well.Be sure to check periodically for additions to this document. When it's done, it will have second-order and a third-order designs and a discussion of the strengths and weaknesses of each. It will also show the power across each part used in Pi crossovers, so a person can know how to select appropriate components.