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Subject: Crossovers and complex reactive/resistive loads

Posted by [Wayne Parham](#) on Sat, 04 Nov 2006 21:40:46 GMT

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Best bet is to plot response using Spice. That will let you represent the drivers much more accurately with voice coil inductance as well as DC resistance instead of just using an advertised impedance value. You can also include cabinet and/or horn resonances if you want to go to that level of detail.

The reason why this is important is that loudspeakers present a complex load to the crossover, and that modifies the response curve. You may be surprised at the response generated when a filter is in the presence of reactive loads. A purely resistive load will provide damping for the filter to provide the smooth rolloff you expect. But a complex load having both resistive and reactive components will modify the filter, sometimes substantially. So you really need to analyze the circuit in some detail to know its response.

Spice

Crossover Document

Crossover Electronics 101 Handout

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