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Subject: Complex reactive/resistive loads

Posted by [Wayne Parham](#) on Wed, 08 Jan 2003 17:52:11 GMT

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One must either measure or model the circuit pretty accurately to know what to expect here. To calculate response requires making a virtual circuit of the Altec horn (including the compression driver). In the old days, the best way was to plot a bunch of points by hand, but nowadays it's much easier to do with computers using a program like Spice. You may be surprised at the response curves given 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 pretty substantially. And the loudspeaker itself is a complex load, which the compensation circuit modifies. The bottom line is that the loudspeaker is an integral part of the filter circuit, and all components are inter-related. So you'll need to analyze the circuit in more detail to know its response.

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