Subject: Q. for Wayne - Spice Models
Posted by John B. on Mon, 31 Dec 2001 11:17:43 GMT
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Wayne:How do you derive the LCR values for the mechanical reactances shown in the crossover document. I'd really like to be able to generate them for other drivers.Thanks,John B.

Subject: Determining mechanical reactance values for Spice models
Posted by Wayne Parham on Mon, 31 Dec 2001 20:39:03 GMT
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that impedance at resonance is 50 ohms and the resonant frequency is 40Hz with a Q of 5.0, then resistance must 50 ohms and inductive and capacitive reactances must be equal at 40Hz.A similar procedure is used to determine reactance values for the impedance peaks caused by horns, where the frequency and Q of resonant events is not expressely stated. In this case, the impedance graph is used to determine resonant frequency and Q values for each peak that is to be simulated with a corresponding tank circuit. Q is relatively easy to determine - it is resonance divided by bandwidth - so the frequency of each peak is divided by the width of each peak (at 70% amplitude) to determine its Q. This gives you resonant frequency, Q and amplitude, which is everything you need to know to express the reactive nature of a device.

Subject: Re: Determining mechanical reactance values for Spice models
Posted by John B. on Wed, 02 Jan 2002 08:44:45 GMT
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Wayne:Thanks, and a happy new year!John B.