Subject: Re: I have to Ask
Posted by Martin on Wed, 02 Aug 2006 22:40:59 GMT
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I think there are a couple of things going on with this text.First, Benson was probably writing as an academic for an academic audience which really means that the elegance and complexity of the derivations is elevated. People who write in these circles are all extremely talented and the style tends to be as important as the content. You see similar styles in articles in most professional technical society Journals. It satisfies a certain community and can unintentionally exclude the average person trying to learn the sunject. The author is demonstrating his or her skill and completeness in mathematical derivation and documentation and this is required to remain and florish in academia. Anybody pursuing a technical Phd is probably well schooled in this style of writing. As an aside, early in my career I wrote an internal company paper on bending of bolted joints and closures for nuclear pressure vessels. I tried to explain it so any other engineer could understand and use the simple equations/methods I had derived. A month or two after the paper was distributed, I got a copy of an article put together by a Phd based on my work. Everything was a variable including the shape of the bolts. He had derived the equations to include square bolts! Totally impractical and crazy.I am not trying to imply that Benson's work is either impracticle or crazy, it is really a very nice book but aimed at a limited audience. I have the same book on my shelf and have read it but not used it very much.The second thing to remember is that people trained in this type of work can read Benson's text and not struggle too much. Somebody with an electrial engineering, mechanical engineering (like me), or maybe a physics education has seen this type of math modeling of systems in school. I make my living analyzing structures and hardware mathematically and have worked on several different products using the same set of skills. When you look at a closed or ported box system, you are really working with the simplest of these type od math models. One (the driver) or two (the driver and the air in the port) mass systems with a couple of springs (driver suspension and air volume in the box) are as simple as it gets in math modeling. These math models can be derived and solved by hand, then they can be easily prgramed to make nice response plots (think Boxplot, WinISD and my MathCad worksheets). This is why they are "not rocket science". Now you can add more and more complexity to the models and the predictions that will make the solution more accurate and at the same time more complex. But basically, closed and ported speaker systems are fairly simple systems compared to the work most analytical engineers/physicists do at their day jobs.Hope that helps,Martin