Subject: Resources
Posted by Spinjack on Mon, 10 Oct 2005 01:03:25 GMT
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There is a lot to understand when it comes to speaker building and peaker design considerations. What are some good resources (books, websites, etc.) for learning more? Most of what I have found either assumes you know nothing and doesn't go into enough detail or assumes you are already well versed and starts off too advanced. Are there any resources that explain not only T/S, crossovers, and bass cabinet dimensions, but also how those things affect imaging, coherence, etc. Also, how the radiation patterns of different drivers and/or configurations (such as horn loaded versus direct radiating) affect the sound of a speaker.Thanks

Subject: Re: Resources
Posted by Wayne Parham on Mon, 10 Oct 2005 03:05:47 GMT
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Just like anything else, there are lots of good resources so just dig right in. I'd suggest learning electronics in addition to acoustics because you'll need a good grasp of both to understand loudspeakers. Be sure to study reactive circuits, not just DC electronics. Don't stop with a basic understanding of Ohm's law - You need to know how inductance and capacitance work too. You'll want to start off with a good understanding of basic physics, such as kinetics, electricity and magnetics. So if you're not comfortable with the interactions of inertia, mass, resonance, magnetic flux and electrical current flow, you might want to start off with some primers in physics.

Subject: Re: Resources
Posted by Spinjack on Mon, 10 Oct 2005 16:00:31 GMT
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I have an undergrad in EE, so the basics are not any issue with me. There is some refresher I need (the whole use it or lose it problem), but there is quite a bit of practical knowledge that is never taught in engineering school, especially related to outside disciplines such as acoutical engineering.Part of teh problem is that there is so much out there that it is hard to determine what is going to be useful and what isn't. Since my schedule doesn't allow me to do 'total immersion' in teh subject, I was looking for some good places to start.

Subject: Re: Resources
Posted by Wayne Parham on Tue, 11 Oct 2005 00:08:35 GMT

You're right about picking what is useful from the noise. That's where your understanding of electronics and basic physics will be useful. You'll need to separate the good info from the chatter. I think the thing for you now would be to study the way sound propogates through air. Study the ways sound is modified by diffraction slots, reflections, combinations with other sound sources (combining, additive, subtractive), doppler shifts, and things like that. Get a basic understaning of those things and you'll be able to go further. It's like anything else, you'll grow with this knowledge. At first, you'll miss subtle interactions that will come to you later. So just keep digging. A few good books to have are "Introduction to Electroacoustics and Audio Amplifier Design," by Marshall Leach, "Acoustics" by Leo Beranek and "Elements of Acoustical Engineering" by Harry Olson.