Subject: A Really Stupid Question
Posted by wunhuanglo on Sat, 05 Apr 2003 15:03:42 GMT
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I have wondered forever about something, so I thought I'd pose the question here. I'm not sure I will be able to express this correctly, but here goes: a loudspeaker (let's assume a single driver for the moment) is a "serial" device. It gets a single voltage level at a time, sequentially driving the voice coil outward to varying positions. But what I hear is massed violins, an oboe line underneath, tympani in the background, etc... What I mean is I seem to hear a bunch of voices simultaneously, at varying pitches. But the speaker is being driven to one position at any given moment, at one frequency only. What is it, then, that I hear - a composite frequency, an average frequency at any given instant in time? And then after a few moments my brain is able to interpret multiple instruments from that frequency that is being produced by no instrument at all but all instruments at once? Another way to express what I can't understand is to say that sitting in front of an orchestra I hear about 80 or 90 independent, parallel channels. In front of a speaker I hear those 80 or 90 parallel channels reproduced serially over a single channel? How does that work?