Subject: Cool toys
Posted by Wayne Parham on Fri, 06 Aug 2004 03:40:35 GMT
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You know, I love my cool toys. I love my big block Olds. I loved my hotrod Mazda too. Two different things, worlds apart. I really enjoy them both.Like the big block Olds, I have some really powerful and clean solid state amps and big multi-way horn speakers. It's the same gear that's used when I attend fine musical presentations. I was always impressed with that kind of gear, so I bought it myself. The power is awesome, and this kind of system simply would not have been possible in the WWII era and before.And speaking of the WWII era and before, I have several nice tube amps that I really enjoy. Lots of old tube radios too. The radios are so nastalgic, I find myself listening to them almost every day for a little while. And the tube amps I have are really nice to listen to, especially with vocals and intimate music.To me, my hifi tube amps are kind of like Mazda's rotary engines. They're different than the big iron, and they'll really surprise the uninitiated. They are simple and they have finesse. I just love 'em. The booklet called "A Taste of Tubes" does a good job of describing the feeling I get when the tubes are glowing.So my point is that I usually find good things in more than one approach. Each has its strengths and its weaknesses.I certainly feel this way about loudspeakers. I enjoy some single driver designs. I enjoy some large multi-way horns. There are many speakers of different design types and price points that impress me. Naturally, I'm biased towards my own design choices. I've spent a lot of time developing them. I made choices I thought sounded best and performed best. But I do realize also that there are many design choices that have merit.The amplifier and loudspeaker form a filter circuit. There's no way around it. One can minimize it or embrace it. Either way, it's a fact. For that matter, the loudspeaker itself is a filter, even if the amplifier is a perfect current source. The loudspeaker is highly reactive and nonlinear over a great deal of its range.So to me, the real issue is not whether passive components are good or bad. In a sense, I don't have any choice in the matter. The speaker itself is a reactive passive component, acting like a fairly complex LRC network. I can manipulate the loudspeaker's virtual LRC network values with my cabinet and the driver's electro-mechanical properties. I can also manipulate the LRC values by including electrical components. Both are reasonable design choices, in my opinion.I can sure understand the choice to use only raw drivers in the output circuit, avoiding additional passive components like Terry describes. This means the only reactive component is the driver itself. That's cool.I can also understand Martin's choice to use passive components in the design. After all, the amplifier/loudspeaker circuit is a complex filter even if there are no extra passive components. So it makes some sense to tailor that filter. Adding a 1 ohm resistor, for example, is like having a voice coil wound with a smaller conductor. It's an easy way of having your OEM build a whole new driver without having to do that. So that's cool too.