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Subject: Ever wondered what makes tubes sound different from transistor amps?

Posted by [Adrian Mack](#) on Fri, 14 Jan 2005 15:11:56 GMT

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If so, then you should read this:<http://users.ece.gatech.edu/~mleach/papers/TubeVsTrans.pdf> It involves a series of AB tests on experienced guitar players in terms of judging frequency response, ripple distortion, electrical impedance effects, and a number of other areas. It actually turns out according to this article the main reason that a tube amp sounds so much different from solid state is the different frequency response created from the speaker impedance load.

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Subject: I saw something similar to this...

Posted by [PakProtector](#) on Fri, 14 Jan 2005 17:12:41 GMT

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Jacque Cousteau was sitting at the dinner table with survivors for the Andrea Doria and conducting a survey of their opinion as to if it was a mine or torpedo which was responsible for sinking her...The idea of asking a bunch of pro guitar players to judge the effects of valve v. SS is about as likely to arrive at a useful conclusion IMO.If I were going to build a guitar amp, I would absolutely enlist the help of some players so as to determine how to tune and adjust the response of the circuit. But not to analyze said circuit...regards,Douglas

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Subject: Re: I saw something similar to this...

Posted by [Manualblock](#) on Fri, 14 Jan 2005 22:14:54 GMT

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They might of been Classical players with good acoustic instruments.

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Subject: Salt, pepper, pickles and gravy with our roast beef!

Posted by [g.r.hughes](#) on Sun, 16 Jan 2005 19:49:47 GMT

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This paper doesn't strike me as a SCIENTIFIC finding! There are hosts of distortion mechanisms; very numerous. It would seem to me impossible to account for them all, but then that is just an opinion. It is really left up to what people want to listen to and subject their ear-brain mechanism to. Some people like salt, pepper, pickles, and a lot of gravy with their roast beef. For a scientist or engineer to suggest that we are idiots not to like our roast beef dry, with no salt or pickles or gravy is ludicrous. I for one feel if you remove all the distortions from anything, then what you are left

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with is rather uninteresting to most of human kind. Ray Hughes

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Subject: Fender Twin Reverb

Posted by [Wayne Parham](#) on Sun, 16 Jan 2005 22:12:54 GMT

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I'm not a person to say either technology "wins hands down." I assumed with this document being on Marshall Leach's website that it would be a pretty accurate comparison. I've seen most of these kinds of comparisons made, so to be honest, I didn't bother to read this until just now. But because of the reactions, I thought I'd give it a quick read through. I noticed the underdamped response curve right off the bat. That indicates a serious underdamping in the tube amp's output circuit, and probably represents a nearly worst-case situation. The transistor amp is pretty well damped, so its response curve is flat. But the tube amp circuit droops in the midbass and peaks in the bass. If this paper were written to describe all tube amps, I would have objected to this as an oversimplification. Not all tube amps and loudspeakers will exhibit this anomaly. It's an obvious condition of high output impedance with a reactive loudspeaker load. It's a textbook case, really. This is what happens when you drive a reactive circuit with a constant current source. There are things that are done to address this in a high-fidelity tube sound system. But this paper was written about guitar amps and not about hifi. It was written specifically about the Fender Twin Reverb amplifier. It's a nice amp and was popular with guitar players when this paper was written. I'd have to say that I agree with the author completely. It does exactly what he says it does. Not a bad thing, mind you. It's perfect for what it is used for.

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Subject: Knowing the color of your parachute!

Posted by [g.r.hughes](#) on Mon, 17 Jan 2005 15:07:35 GMT

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Adrian, I know Marshal Leach and he is a prince of a guy, a scholar and gentleman but I have some real concerns with this article. Every unique amp and unique load is different and the way they behave is different. I've been an audiophile since I was 7 and I'm now 54, and every amplifier I've ever auditioned with my speakers and my cables and preamp sound slightly different to my ear. The speaker cable and the load at the end is quite a complex equation. Most loudspeakers and their crossover networks are reactive. This article doesn't strike me as VERA SCIENTIFIC.

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