
Subject: Re: Tube amps and SS amps may be indistinguishable!

Posted by [TC](#) on Sat, 07 Aug 2004 15:30:05 GMT

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>>! BTW, tube amps, to the best of my knowledge, are VOLTAGE amplification devices. ==No, they are what is being referred to as "non-optimal" current sources. KYW writes (@diyhihi.com) about this now resurrected technology (below):>. Funny that this is how they made high sensitivity speakers in the 1930's, 40's and 50's, which they build with suitable damping in the driver and the enclosure and then drove with SE Class A Pentodes (current sources). If you need good examples look into many an old radio (until they started throwing tons of feedback in and separating the speakers from the amplifiers). Interesting that Nelson Pass's approach is basically the same thing again 50 or 60 years later. I guess what goes around comes around....>>SO the 45 amp is a voltage amplification device, as opposed to a SS amp. I am sure you knew this, but somehow from the post, which again mostly went over my head, it seemed maybe you were comparing a 45 SET to the new Nelson Pass Solid State design, and calling them equivalent. ==No. The 45 in class A is only 2 watts with large *current* swings. And why it is probably the only tube I firmly recommend for the larger fullrangers like 208, 206. 45 operates as a near current source, and why it sounds so dynamic and well balanced. A 45 SET has its own limitations. I do compare a 45 to the new firstwatt amp directly, because the big reason is *Class* -A- operation, NO feedback used, as in most SS amps. SET and Nelsons amps share class A operation and like little else. There is only 1 gain stage in Nelsons amp, 2 in most well designed SET's. In a solid state amp there are innumerable gainstages inserting phase adjustments to the source at each stage. The cost for all this Class A operation? Heat and energy consumption. They are not efficient amps. They are the "funny car" equivalent to a "commuter car". The F-1 is definitely clocking 5 second 1/4 milers. 45's are waaay cheaper to build and implement than a solid state device running class A, and low power high impedance output. Cool thing about 45 too is you can keep beefing the power supply making it perform MORE as a current source making it even more dynamic and beautiful. By beefing the PS you enable the impedances at the extremes to be supported in the frequency domain giving wider bandwidth which translates to balanced "fast" sound with more detail. Your ears are not lying. Only 45's are 45's. They will run out of gas. But what a great ride.TC
