Subject: Output Impedance of my Son of Zen amp - Compatibility with Pi 7 setup
Posted by Super_BQ on Fri, 31 Aug 2001 06:24:32 GMT
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In response to http://www.audioroundtable.com/PiSpeakers/messages/1116.htmlNelson Pass has replied to me and said that the SoZ has an output impedance of "about 16 ohms". So I'm not sure what that means in terms of damping factor or it's ability to drive 15" size woofers (low zmax?) at high SPL ? If you're there Wayne - is 16 ohms pretty high?

Subject: Re: Output Impedance of my Son of Zen amp - Compatibility with Pi 7 setup
Posted by Wayne Parham on Fri, 31 Aug 2001 13:20:36 GMT
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Output impedance of 16 ohms is pretty high. Even speakers with low Zmax will peak higher than that. I would expect some response fluctuation using any speaker on that amp.

Subject: Re: Output Impedance of my Son of Zen amp - Compatibility with Pi 7 setup
Posted by Crazy Dave on Fri, 31 Aug 2001 15:48:24 GMT
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Keep in mind that there are two differnt (at least) Zen amps out there. One is a triode wired, single-ended, EL34 tube amp. The other one, designed by Nelson Pass, is a single-ended mosfet amp. Both have a low damping factor.Dave

Subject: Re: Output Impedance of my Son of Zen amp - Compatibility with Pi 7 setup
Posted by Wayne Parham on Fri, 31 Aug 2001 16:47:30 GMT
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Most amplifiers act like constant voltage sources. Amps with high output impedance are more like constant current sources. As such, I would think they probably work best with high efficiency speakers that don't fluctuate much in terms of load impedance with respect to frequency.

Subject: Nelson Pass's "Son of Zen" is like a differential MOSFET pair
Posted by AudioLapDance on Fri, 31 Aug 2001 17:29:51 GMT
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Tooooo many Zens!! "Zen this" and "Zen that"! "What the Zen?"

To clarify...

Steve Deckert of Decware (www.decware.com): Single Ended Tube amps: Zen A, B, C and Select; and Zen Monos

Nelson Pass of PassLabs (www.passlabs.com): MOSFET power amps: Zen, Zen revised, Son of Zen, (maybe even Zen Cousins)!

The Son of Zen is a single gain stage differential MOSFET pair biased by power resistors. To see the circuit:Web pagehttp://www.passlabs.com/projects/sonofzen.htmor PDF (page 2)http://www.passlabs.com/pdf/sonofzen.pdfHope this helps,I like to be of assistance now and zen, ;-)Cheers,Jeff

Subject: Re: Nelson Pass's "Son of Zen" is like a differential MOSFET pair
Posted by Super_BQ on Fri, 31 Aug 2001 21:53:59 GMT
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Thanks for the clarification and URL's. You're right about the confusion all those Zens cause.Mine is shown at my homepage (below). I will take an updated picture as soon as I get back to New Zealand (in a months time). I get e-mails every week or so inquiring about where I got those heatsinks from.

http://www.geocities.com/super_bq/HiFi.html

Subject: Re: Output Impedance of my Son of Zen amp - Compatibility with Pi 7 setup
Posted by Super_BQ on Fri, 31 Aug 2001 21:58:29 GMT
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The Son of Zen (by Nelson Pass) is a balanced line mosfet amplifier. http://www.passlabs.com/images/projects/sozenf1.jpgshows a + and a - output (unlike single ended).

Subject: Re: Output Impedance of my Son of Zen amp - Compatibility with Pi 7 setup
Posted by Super_BQ on Fri, 31 Aug 2001 22:03:49 GMT
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Hi Wayne,Here's a quote from the circuit design of the amp taken from Nelson Pass's website (Son of Zen project):"First, the damping factor is quite low, on a par with some of the tube amplifiers on the market. If you need an amplifier with a high damping factor, look elsewhere. You can improve the damping factor of the amplifier by scaling the resistor, but only at a heavy efficiency penalty."

Subject: Re: Output Impedance of my Son of Zen amp - Compatibility with Pi 7 setup
Posted by Wayne Parham on Sat, 01 Sep 2001 05:04:46 GMT
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Low damping factor means high output impedance, moving closer to constant current and away from constant voltage. Just like he says, that's like a tube amp.