Subject: Needed power to drive Jordan JX92S TL's
Posted by Norris Wilson on Fri, 11 Nov 2005 11:33:46 GMT
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Hi everyone,I have a friend who is in the process of building the Jodan TL design speakers in a trapazoidal cabinet that GM has so generously shared with us.He is not finished at this point with the cabinets. So he cannot make an evaluation based on the following question below. We were hoping to solicit the experience from the Jordan owners and people who have had the opportunity to listen to them here.So, the main question is this: How much power will it take to drive the Jordan TL's to a stisfactory level playing most types of music in a 12' x 18' room with 8' cielings, with out severely clipping the amplifier or over driving the speakers?He would like to get started on building a pentode based SET amplifier designed by Pete Millett soon.Link to information is at bottom of page. But he is uncertain that this design will yield the needed output power with its rated 15 continuous watts to drive the Jordan speakers correctly.The main reason for asking this question is due to a post that Duke wrote in the high efficiency forum at the Audio Asylum.His explaination sparked some thought from our part.I will paste his quote below, and hope Duke does not Mind.Quote from Duke:Recorded music can have a voltage "crest factor" - peak-to-average ratio - of 25 or more. To hit that 25 dB peak, your amplifier will have to deliver 625 times its average power output. So let's say you're listening to typical 85 dB efficient speakers driven by an amplifier that clips at 100 watts. Let's assume a listening distance of 4 meters (about 13 feet) and an average SPL of 88 dB. Taking into account +6 dB from having two speakers, -12 dB from distance rolloff, and +3 dB (estimated) from reverberant field contribution, that 88 dB at the listening position will require 4 watts per channel. So under these conditions, the amp only has enough headroom to handle 14 dB peaks before clipping. Since 14 dB peaks happen all the time, at that volume level with this system you'd be listening to clipping "all the time". While the ear typically has a fairly high tolerance for clipping, the result will be that the system sounds a lot smoother a few dB lower in volume, and will start to sound pretty harsh if you push it up past 90 dB or so. So as you can see, it's an ugly little secret that in general audiophiles listen to clipping a hellava lot more often than we're aware of (or willing to admit). The more benign behavior of tubes as they clip is one of the reasons cited for their often being subjectively preferred over solid state, and as you can see that's not just a theoretical difference. End of quote!I am looking forward to your input. And possibly if you could please recommend an alternative tube amplifier design that will acheive the necasary power level required to drive the Jordan TL speakers?ThanksNorris Wilson
http://www.pmillett.com/elinear.htm