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

Subject: Re: Needed power to drive Jordan JX92S TL's
Posted by Wayne Parham on Fri, 11 Nov 2005 14:46:02 GMT
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Better get one of those Stoetkits.

Subject: Re: Needed power to drive Jordan JX92S TL's
Posted by akhilesh on Fri, 11 Nov 2005 15:19:36 GMT
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If I am using somethingthat's 85 db, and need live listening levels, then I'd get a 200 watt per channel amplifier at least. Try an old Carver or get a new MOSfet/FET type amp, like a tube hybrid (depnending on your budget). Or, of course, just use higher efficiency speakers -akhilesh

Subject: Re: Needed power to drive Jordan JX92S TL's
Posted by Norris Wilson on Fri, 11 Nov 2005 22:54:57 GMT
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Hi Wayne,The Jordan's are my friends in Seattle, slow going but he is getting to the last hurdle, the finish.He likes the sound of SET amplifiers with good wattage, but is reluctant to build a 845 SET with 900-1000 Volts. You are pretty well limited as far as output tubes are concerned when trying to get 20 class A watts out a single tube. And the price of EML 502's are pretty steep at $500 a pair.Thanks for your input and am looking forward to see you and all of the group at the Great Plains audio meeting.Norris

Subject: Thanks akhilesh for the suggestion-
Posted by Norris Wilson on Fri, 11 Nov 2005 23:02:43 GMT
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I think my friend is a little concerned about clipping and compression from a 15 watt amplifier if used to drive the Jordan's.I know he would not like a big solid state amplifier, he is vacuum tube biased. He is afraid that he might even melt that little 5.5" Jordan down with such a beast.I hope he can get his speakers completed soon and find somewhere to borrow a 20 plus watt amplifier to find out for sure.ThanksNorris

Subject: Re: Needed power to drive Jordan JX92S TL's
Posted by GTF on Sat, 12 Nov 2005 19:00:29 GMT
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I had a pair of Carolina Audio JTM's.They have been replaced with a pair of JSM's anda pair of 7" Jordan transmission line subs.I have heard the JTM's with a small tube powered amp,don't recall the name and have heard them with whatI use. A Carver LightStar 2.0 While the small amp works, the larger amp allows them toplay stronger?, and louder. Not Dynaudio 1.8 loud, just louder.15

watts. I don't know. Not for me.GTF

Subject: Thanks GTF (nt)
Posted by Norris Wilson on Sun, 13 Nov 2005 03:23:18 GMT
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nt

Subject: Re: Thanks akhilesh for the suggestion-
Posted by akhilesh on Mon, 14 Nov 2005 18:52:26 GMT
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HI Norris,Not a problem. As you know, more speakers get destroyed by clipping than by overdriving. Tube amps of course clip more gracefully, but they also clip a LOT more, if they are low watts. I am not sure if the difference between a 15 watt abnd a 20 watt amp will justify the search, the 20 watt will clip 1 to 2 db higher than the 15 watt, but that's about it. I doubt if he will melt the Jordan with a 200 watt amp, unless he drives it at high watts rms for an extended period, at which point the user would be TRYING to wreck the driver. THe old Carver amps, like the TFM-45 were built to replicate some of the tube sound with an output impedance of 2-3 ohms. Or you can just put a 2-3 ohm resitor in series with the amp & driver, to get some of the tube sound. Just my 2 cents. -akhilesh

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Subject: Re: Needed power to drive Jordan JX92S TL's
Posted by GarMan on Tue, 15 Nov 2005 14:23:18 GMT
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This goes against the single driver concept, but the use of an active subwoofer with a high pass on the mains can substantially reduce clipping and therefore power requirements of the main.Rod Elliot has a great article on bi-amping on his site. Sections 1.3 and 1.4 explains power requirements.gar.
Bi-amping
