Subject: Re: Cool article on TNT-audio by a single driver nut...Thanx Martin!
Posted by Martin on Thu, 19 Feb 2004 02:06:16 GMT
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Hi akhilesh,Lets face it, in the world of full range drivers I am way out on the end of a limb completely by myself. My approach is completely at odds with the generally accepted enclosure design approachs. I can live with that and I have been told I am completely full of crap many times. But keep watching the high efficiency forums and the full range single driver forums. There are a few other people inching out along the same limb and starting to join me out there flapping in the breeze. I have read the review and found it very interesting. But coming from my perspective, I had a slightly different take. Both of us are reading what we want to see into the review and without hearing or seeing what Scott did it is hard to draw a conclusion. I was asked via e-mail for my impressions this afternoon, here was my response :"I saw Scott's review and found it very interesting and a little disappointing. Based on his description of the filter component sizing he did, his choice of using a tube amp, and the slight loss of detail he reported I believe he blew the filter construction. The filter I use is intended for high damping factor solid state amps. For his tube amp, he should have used a lower resistor value. Without knowing exactly what he used I cannot say for sure but I believe he could have achieved better performance.As for the Medallion, I read that part as a big complicated expensive enclosure that immediately required his 15" sub woofer. No bass? Why build a back loaded horn if a sub is going to be used, a much simpler approach would be to size a closed box to give a complimenting acoustic roll - off to cross over to the sub.My somewhat biased opinion is that Scott reported what the politically correct position would be and did not really look to try the different and non-traditional approach. He did the safe thing to maintain credibility. I am happy for the attention, positive conclusion, and my site has lit up the past few days but I think he missed the boat."Now you and I can debate our differing points of view on what should or should not be best for our respective speaker/amp systems until we are blue in the face and probably not get any consensus. So let me propose the following test. For a couple of dollars you can build your own correction circuit and assess its performance for yourself. Maybe it will screw your system up or maybe for a few dollars it will be a huge improvement and your world will be rocked. Everything you believe to be correct will come into question. Is it worth a couple of dollars to try something that is easy and reversible? Are you up to trying something that cannot possibly work.For a first pass here is how you can size your own correction circuit. Ignoring the Zobel for this first cut, you will need an inductor and a resistor for each channel. Here is how the inductor should be sized.WB = baffle width in inchesf3 = 4560/WBL = Rdc / (2 x pi x f3)so for example if your driver has a Rdc of 8 ohms and your baffle is 10 inches wide.f3 = 4560/10 = 456 HzL = 8 / (2 x pi x 456) = 2.792 mHI would recommend starting with 3 dB of baffle step correction so the resistor is sized as follows.R = Rdc x (10^(dB/20) - 1)so for 3 dB of attenuation to go with your tube ampR = 8 x (10^(3/20) -1) = 3.3 ohmsNow the trick is to adjust the resistor value up or down to fine tune the result. Increase the resistor if the speaker sounds to bright (4-5 ohms) or decrease it if the speaker sounds lifeless or dull (2-3 ohms). When it is right, it will be obvious!What do you think? Are you up for this experiment?Martin