Subject: Vented would be my suggestion
Posted by Duke on Sat, 27 Jan 2007 05:45:20 GMT
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Good old-fashioned vented boxes give a very favorable bass extension vs box size tradeoff. With a sealed box, you'd need several times the x-max to reach an equivalent SPL at very low frequencies. A transmission line doesn't give as good a box size/bass extension tradeoff as a vented box, despite what the marketing departments say. I've build over 50 transmission line designs. In an application like yours, simply tune the vented enclosure low enough that it won't be driven by out-of-passband signals.I had been planning to introduce a commercial super-subwoofer that would play very loud (110 dB or so) and clean down to around 16 Hz, using an eight cubic foot vented enclosure. The driver was to be the Acoupower 15" unit, which was a fearsome beast (6" voice coil, 3 kW power handling - so negligible power compression at SPLs that would be overheating most subwoofers). The prototype I built was very encouraging. Unfortunately, Acoupower went out of business - probably due to a huge increase in the price of the neodymium magnet the woofer was built around. I was in contact with them up until just before the end, and I don't think they ever had a failure in the field. Their primary customers were prosound applications like night clubs.Anyway, my recollection from modelling several large dedicated subwoofer drivers is that, if you can live with ballpark 12 - 15 cubic feet and a long enough port (close to three feet), you can get down into the lower teens. Use a pair of 4" diameter Precision Ports, and see if you can get custom 36" tubes (the manufacturer does make them, but I don't know if he sells them to non-OEM customers). The flared ends of the Precision Ports will give you several dB more bottom end output as compared to an equal-length nonflared port due to the smoother airflow.Regarding using multiple small woofers vs one big one, I don't see why that wouldn't work assuming you still got decent x-max.For amplification, you might consider the Crown K2. No fan so no fan noise, and 1.6 kW into 4 ohms in bridged mono mode (2.5 kW into 4 ohms). I'm not sure which crossover to use - I never quite got that far. I just used big plate amps in my prototype.Duke