Subject: subwoofer project suggestions
Posted by 20Hz on Thu, 18 Jan 2007 20:41:05 GMT
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Guys,I am thinking of building a woofer. It will be used with already large speakers with good bass down to 25Hz or so. It will be music only. I have heard lots of subs that do a decent job down to almost 20Hz but I listen to alot of organ and orchestral recordings made in large spaces and have found few if any that can really do the sub 20Hz stuff well without lots of port noise or motorboating, or sound just plain fake, even expensive ones. I know it will have to be big but here's what I want..something that operates primarily between 10 and 25Hz to pick up the lowest pipes, some recordings have 64ft pipes lower than 16Hz(!) as well as the massive and airy decay of really large recording spaces. I don't want something that is gasping for it's last breath at 16Hz only to produce 90db or less with 25% distorion or more. I would prefer to use smaller drivers (10 or 12 even if it involves multiples). I find them to be more transparent, but in a big cabinet. I just have yet to find a 15 or 18 inch woofer that doesn't have an obvious sound. The question is what size box and or loading scheme would you suggest? I don't need the sub to have impact at 40-80 hertz, again it wold only be used under large speakers. I also need a good amp and crossover, something that can roll the sub out down low to keep it below 20 or 25. I realize this is different than most people want. Any ideas?

Subject: Re: subwoofer project suggestions
Posted by Wayne Parham on Fri, 19 Jan 2007 17:00:26 GMT
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I like your idea of using several woofers. I'd run them push-pull to reduce harmonic distortion. I don't know if a bandpass cabinet makes sense in that frequency range, but you might check and see. If you can build a bandpass in a reasonable size, that would be best, driven by push-pull woofers. A bass-reflex box would be another good option, because you can tune it for deep bass in a relatively small size. I know a basshorn is out of the question but a folded transmission line might be reasonable.

Subject: Re: subwoofer project suggestions
Posted by Bill Wassilak on Fri, 19 Jan 2007 17:10:10 GMT
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The only thing I can think of is finding older Intersonics(Now Danley Sound labs) Contra Bass or check out Danleys DTS-20's they have a -3db down point of 17Hz but there -10db at 15Hz.

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

Subject: Re: subwoofer project suggestions
Posted by LAL on Mon, 29 Jan 2007 13:58:53 GMT
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Check out TC Sounds who are now selling direct to customers. They have several drivers that you might find interesting.

Subject: Re: subwoofer project suggestions
Posted by Zene Gillette on Wed, 14 Feb 2007 09:46:12 GMT
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20Hz .... What does sub zero stand for? Zene

Read this.

Subject: Re: subwoofer project suggestions
Posted by granch on Wed, 01 Aug 2007 03:39:59 GMT
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I would go to hsures@earthlink.net (Poh Hsu) and look at what he has to offer on his site. I have 4 of his 1220 ? model and they really do a job below 20 hz. I haven't tried that address since 2003, so I hope its good.-Dick

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