Subject: Loudspeaker re-design help needed!
Posted by Mikey on Wed, 10 Nov 2004 20:00:11 GMT
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Hi Guys!I'm looking for some opinions on how I could improve my current loudspeaker system.Each loudspeaker is made up of the following components:- JBL 2446J 2" compression driver with a JBL 2380A horn- Cetec Gauss 4583A 15" wooferThe JBL driver is crossed over at roughly 500Hz, with a 12dB slope. The crossover consists of a 10uF Solen cap and a 10mH air core coil, followed by an L-pad, followed by impedance compensation, followed by a shelving network.I'm quite happy with the JBL's performance, very dynamic and 'live' sounding. I haven't experimented with any horns other than the 2380A's yet.The Gauss woofer is mounted in a 5 cubic foot ported box, tuned to 38Hz. The box is lined with a combination of R-13 insulation up near the woofer, and acoustic foam elsewhere. It's crossed over to the 2446 at roughly 500Hz, with a textbook 12dB crossover. I also added impedance compensation to the woofer network.It's here that I think the system falls short of its true potential…the bass doesn't seem to keep up with the JBL's. The Gauss woofer is a fantastic driver, so I suspect a problem with my implementation.Two ideas I've considered are:1. Doubling up on the woofers (like the TAD-Pioneer Model 2401 Studio Monitor)2. Horn loading the woofer somehowAny other ideas to consider?Can any of you point me to some plans for horns for the Gauss woofers?Thanks in advance,Mike
TAD Model 2401

Subject: Re: Loudspeaker re-design help needed!
Posted by Wayne Parham on Wed, 10 Nov 2004 20:35:21 GMT
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Hi Mike,If you have two good corners, I'd go for a cornerhorn configuration. I like it best, since it lets the room work for you.On the other hand, the configuration you have now is a good one too. You might just need a little bit of an adjustment of box alignment or crossover, or maybe you would prefer a different midwoofer.Wayne

Subject: Re: Loudspeaker re-design help needed!
Posted by akhilesh on Thu, 11 Nov 2004 12:15:03 GMT
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One option may be to use an active sub to handle the frequencies till 60 HZ, and use the Gauss as a mid to high bass driver. The active sub will have a high pass filter for the speakers. SOmething like a Hsu. thanx-akhilesh

Subject: Re: Loudspeaker re-design help needed!
Posted by Magnus on Sat, 13 Nov 2004 11:45:21 GMT
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One thing I really would suggest you to do is to Bi-Amp (active xover) these very fine drivers. The benefits are huge IMO and as a bonus you also get very good control over the frequency response. You might want to add a supertweeter as well (I use and love the JBL2405 as per Wayne's recommendations). I find these large compression drivers/horns very beamy in the top octave.Another awesome upgrade is a digital EQ like the (cheap but nevertheless good) Behringer DEQ2496 for fine tuning the overall fq response.Just gotta love those 2" JBL compression drivers!/Magnus

Subject: Re: Loudspeaker re-design help needed!
Posted by MATT HAWKINS on Sat, 11 Dec 2004 23:16:27 GMT
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THE GAUSS 4583 SHOULD BE LOADED INTO A SMALL PORTED ENCLOSURE.GAUSSONLY MADE TWO 15 INCH WOOFERS THAT WAS MADE FOR HORN LOADING THESEARE THE 4582 AND 4562.I THINK BI-AMPING IS THE ANSER.