Subject: Pi 18 in Bim finished
Posted by Bridgetown on Thu, 10 Apr 2003 01:42:13 GMT
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WayneI have finally finished my Pi 18 consisting of the Eminence PSD3003 on an Edgar 500Hz horn and a bass subsystem with JBL 2241 18" in a bass reflex box.Subjectively, the sound is somewhat of a disappointment due to the seemingly weak bass. My spouse commented that it sounded "light" relative to the Pi7 that I had previously built, using JBL 2226 and Peavey XT22 compression driver. I may have to re-look at the tuning of the bass, or perhaps at the crossover attenuation of the HF unit. I am open for suggestions that might help.Anyway, apart for the seemingly lack of gut wrenching bass, the HF unit consisting of the PSD 3003 and the Edgar horn sounds absolutely marvellous, it simply rocks. With a couple coats pf polyurathane varnish, the Edgar horns looks great.I would have liked to post some pictures if I knew how.BTW Bim is the local abbreviation for Barbados

Subject: Re: Pi 18 in Bim finished
Posted by Wayne Parham on Thu, 10 Apr 2003 03:44:00 GMT
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I'm really glad to hear you got those speakers done. And I'm glad the PSD3003's and the Edgarhorns arrived OK and are working well for you. Please E-Mail me some pics and I'll make sure they get posted. Alternately, you might check some of the free webservers that allow you to upload image files.I'm surprised about your bass cabinets. JBL 2241's are excellent woofers, very strong and clean. Are you sure they are in good shape? What is your cabinet tuning and what are you using for a crossover?

Subject: Re: Pi 18 in Bim finished
Posted by Wayne Parham on Fri, 11 Apr 2003 04:55:41 GMT
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The reason I asked about your crossover is I want to know is whether you have installed any sort of level matching mechanism, i.e. attenuator for the HF or biamp. Without it, bass will be 12dB or so below the level of the mid/tweeter.

Subject: Re: Pi 18 in Bim finished
Posted by Bridgetown on Fri, 11 Apr 2003 07:48:59 GMT
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I am using a pair of Pi crossovers, however, I know you use a different horn than I'm using. I did not install the damper, but I believe this would have little influence on the low end of the bass. Subjectively the HF seems louder than the bass, I don't have any instruments to back up this claim - just that it seems to be producing more output to my ears. I suspect that's why my spouse remarked that it sounded "light".

Subject: "sensitivities of subsystems"
Posted by Sam P. on Fri, 11 Apr 2003 09:30:59 GMT
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Something always seems to go ary between the paper specs, and real world performance of the subsystems. Example in point, my altec 902/909's are never rated more than 106/108dB/watt. The jbl4648a-8's are rated variously at 97 to 100dB/watt. With MY meter, in MY room, the actual difference between the two shows to be 12dB. The altecs consistently do 112dB/watt or so, the jbls 100dB/watt. Level wise, after calibrating the output controls of the XM9, I've consistently found the best tonal balance, across the widest musical spectrum and variety, to be with the HF padded 14 dB's below the LF using 909's. With the slightly less sensitive 902's, only 13dB of pad is needed. Too bright? Change your HF pad resistors to the next lower level(actually, the next HIGHER amount of attenuation). Samdid I already mention VERIFY YOUR REFLEX TUNING frequency? a quick run around the block with "boxplot" will convince you that being off by a few Hz. IS a BIG DEAL as far as low end capability is concerned...

Subject: Re: "sensitivities of subsystems"
Posted by Wayne Parham on Sat, 12 Apr 2003 01:29:24 GMT
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I think Sam is right. I suggest changing the R1/R2 values and possibly omit the C1 component altogether. Your tractrix horn has collapsing directivity which provides some acoustic EQ. My crossover is designed for CD horns and provides electrical EQ to compensate for falling power response. So your speaker has twice the compensation, one in the crossover and another in the collapsing DI from the tractrix horn beaming at HF. The speaker isn't the same as designed, and I think the solution is to modify the R1/R2/C2 values as appropriate for the horn used.

Subject: if the woofer is
Posted by Sam P. on Sat, 12 Apr 2003 11:47:11 GMT
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at the lower end of the manufactures sensitivity spec, and the other driver/HORN combo is at the upper end of the nominal sensitivity, an unexpected difference exceeding 2dB could easily be encountered. Sometimes you just need to make adjustments, but his setup should be awesome regarding bass. I wonder how much of the difference is due to dispersion issues related to the round horns on axis response vs. a 90x40 one. Sam

Subject: Re: if the woofer is
Posted by Bridgetown on Sat, 12 Apr 2003 18:40:09 GMT
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Thank for the all the help ... I will look at the crossover compensation values as you have suggested.