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Subject: GPAF 2006

Posted by [Bill Agee](#) on Tue, 09 May 2006 19:58:17 GMT

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Thanks to Wayne and his helpers for all the effort spent putting this together, and to Akhilesh for his hospitality, I really enjoyed it. I must say that the two speakers I enjoyed most were Jim's line arrays and the Maxxhorn Immersion. The line arrays were not driven to the levels I like to listen to, so I don't know if they had the bottom end to stay with the treble, but I really liked what I heard. I think they could have benefited from a better room (as most speakers would) and a higher drive level. I have heard line arrays that use larger midbass drivers and they really delivered on the bass so I don't know if an array of 4.5"ers is up to that task or not, but the midrange and up was very nice and detailed. The Immersions really did it for me. I was really surprised to find that a coaxial driver was that capable (not to discount the crossover design). In my mind it was the best sound of the show. Although I listened both ways, I thought the integration of the sub with the mains and room was excellent; so good in fact that I was not aware that all of the bass was NOT coming from the Immersions. I really didn't get a feel for all of the different electronics that were there, other than looks. However, when I was listening a setup in the Abraxas audio room, (electronics driving Brines FB 16's) I thought the system ran out of steam reproducing the clarinet glissando on "Prelude II" off of Dave Grusin's "The Gershwin Connection"; just no top end or dynamic range. I don't know whether to attribute that to the speaker or amp or CDP. I also liked the room with the TT setup and playing. I was impressed with the quality of reproduction coming from the TT and am looking forward to getting mine setup and running. The reproduction chain in the Azzolina room was interesting. I've been hearing about just such a setup, but had yet to see or hear one. Technology changes so fast it hard keep up. Bill

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Subject: Re: GPAF 2006

Posted by [Jim Griffin](#) on Wed, 10 May 2006 01:48:20 GMT

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Bill, I'm glad that you enjoyed the line arrays. Regarding their output levels and such: I think that a lot of your comments likely was due to program material. I don't recall that we played much material all weekend that was heavy into the bass area. I'm at home now listening to a few tunes from Richard Thompson and there is plenty of bass for me without a sub but I guess that one can never have too much bass. These arrays were designed with sealed boxes and 4.5" drivers so the absolute lowest bass octave was not a major priority. The goal was to achieve snappy (dare I say fast) response with these small cones (each has 4.6 g moving mass and 6 mm Xmax) and facilitate a smooth transition to the ribbons. Thus any time delay (energy storage or group delay) was minimized in this design with the intent to better integrate with the very low moving mass of the ribbons. While I could have used larger woofers in the array, the tradeoff is that you need a much larger box, more moving mass, and would likely might have to resort to a ported configuration to push more output on the low end of the band. Others who have used ported drivers in their arrays and perhaps peaking of the bass area. On first listening you might think that you have what is perceived as more bass. But upon more listening time, you realize that the price to pay is overly bloated (slow) bass performance. Bottom line is that real bass needs to a system

that is optimized for the listening room and for larger rooms you'll need a subwoofer or multiple subs with these arrays and most others as well. For the GPAF the room size was only 10 by 12 feet so I felt that a subwoofer was not needed. I have integrated these arrays with subs and have achieved very good results but I based the sub needs on whether the room size necessitated any augmentation. In the hotel room at Tulsa I first measured the room response of the system and equalized the lowest room mode. Next an area of peaking in the 100-200 Hz range was removed. I then added 6 dB gain below 30 Hz to increase the bass response of the arrays so that they were down 3 dB at 20 Hz. With these corrections the bass was essentially flat down to near 20 Hz. Overall conclusion is that any speaker is a tradeoff between lowest bass and optimized mids/highs. Adding a sub would have perhaps addressed your concern of any bass shyness. Jim

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Subject: Re: GPAF 2006

Posted by [Bob Spence](#) on Wed, 10 May 2006 02:30:38 GMT

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Thank you, Bill, for sharing your favorable comments on the MaxxHorn Immersion back-loaded horn loudspeakers and the BassMaxx subwoofer. With the many excellent loudspeakers present at GPAF 2006, we are pleased to be mentioned on your preferred list. Bob Spence

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Subject: Re: GPAF 2006

Posted by [akhilesh](#) on Wed, 10 May 2006 13:47:46 GMT

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I myself thought the bass was fine with the line arrays. In fact I was amazed there was no sub in the room. A very clean sounding speaker system that actually imaged pretty well (& with line arrays that is their weak point usually). -akhilesh

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Subject: Re: GPAF 2006

Posted by [Bill Agee](#) on Wed, 10 May 2006 17:49:59 GMT

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Hi Jim, it was good to see you again. Don't get me wrong, I liked them very much as they presented themselves. Yes, I suspect the program material had some to do with the impression of a lack of bass, but by the same token the upper bass to upper treble was very pleasing and detailed with the cuts used. I guess if it were me, I would have EQ'd the low end a little differently, but that's personal taste. I understand the trade-offs in the design (I think). I'm guessing that the C-T-C spacing is somewhere around 5.5" for the woofers, which limits the choice of crossover

frequency to around 2.5K max, and that the tuning was around 65Hz before EQ was applied. It doesn't look like the WR125S has any response problem for at least 1.5 or 2 octaves above that, so a smaller diameter woofer works great in this regard, plus the bonus of improved off-axis response for the smaller driver. All at the expense of a higher F3. I don't know how low the G3's will cross, but I suspect much lower than 2.5K, which goes a long way towards diminishing the combing effect and producing good off axis response. I also suspect that G3's can cross lower in an array than in single driver use which also helps. Well anyway, enough of that. I just wish I had had more time with them. Bill

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Subject: Re: GPAF 2006

Posted by [Jim Griffin](#) on Wed, 10 May 2006 18:42:11 GMT

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Bill, FYI: The c-t-c spacing for the WR125S is 5.25" in the array while the crossover for the GPAF demo was at 1500 Hz 8th order linear phase. Jim

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