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Subject: Re: Basshorns verses direct radiators - <i>It's a question of size.</i>

Posted by [Wayne Parham](#) on Sat, 28 Jul 2007 02:48:36 GMT

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If you're interested, last year we measured a couple of direct radiators. The quad-18 Soundbridge 7218S was nice, measuring about 98dB/M/2.83v from 40Hz to 60Hz, gradually rising to about 100dB/M/2.83v from 60Hz to 100Hz. It's an excellent product, in my opinion. We also measured a dual-18 JBL SRX728S. I liked it even better, but I've always been partial to JBL gear. It has a slightly overdamped response curve which makes it sound tight indoors without being boomy. Plus it is a very low distortion design, using push-pull drive (electro-magnetic by way of dual voice coils). It had output of about 98dB/M/2.83v, rising steadily from a 35Hz f10 to 45Hz f3. Another excellent product. As you can see though, these are 10ft3 boxes that generate about 98dB/M/2.83v in half-space. If two or four of these generate enough output to satisfy, then I think they're a great solution. That makes top output be about 125dB/M. If that's enough - like is probably the case indoors in clubs that aren't too large - then I suggest the direct radiators. Using big basshorns would be overkill but using just one or two small basshorns would be too peaky. If you're doing a large outdoor show then basshorns start to make sense. Imagine using 16 direct radiators. This is like 160 cubic feet. You could fit five big 30ft3 basshorns or eight 20ft3 basshorns in the same space. In either case, your maximum SPL from basshorns would be 10x to 50x greater, something like 10dB to 15dB more SPL. The larger 30ft3 basshorn will likely have much deeper cutoff too. Now imagine a situation that requires 16 basshorns like this. You would have to use a wall of direct radiating subs to try and achieve the same output with them. It would become a problem of logistics, even if you could solve the acoustical problems of arranging this many woofers without introducing weird lobing problems in the audience.

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