Subject: Basshorns verses direct radiators - It's a question of size.
Posted by Wayne Parham on Thu, 26 Jul 2007 18:31:29 GMT
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isn't for everyone. I think it's the best thing out there for large outdoor environments and is great in very large indoor areas too, like covered (or partially covered) football stadiums. But it's overkill for a bar or anyplace less than about 4000 sq. feet.In smaller environments like that, I usually recommend direct radiators. That position doesn't endear me to other horn enthusiasts but it's what I think. The reason is that direct radiating subs almost always produce truer (flatter) response down to a lower cutoff point than small basshorns do. By "small" basshorn, I mean anything under about 25 cubic feet. That's large, I know, but compared to wavelength, it's acoustically small in terms of mouth area and sometimes in terms of path length too. So it will be peaky and may not hit the low notes.It's easy to design a direct radiating subwoofer that will be flat to somewhere between 30Hz to 40Hz in a 10ft3 cabinet (or less) but a basshorn of this size will be horribly peaky or won't go deeper than 60Hz or both. So if you're in a place that's smaller than 4000 square feet, I'd suggest a direct radiating subwoofer.I don't care much for "small" basshorns because of the reasons I said above. At least, not when they're used individually. But one thing makes them make sense, and that's when they are used in groups. That's how you can take advantage of a small basshorn. When an undersized basshorn is used in enough quantity, the system has enough mouth area to have good, flat bass response down to a reasonably low frequency. This allows guy to use a physically small box that's relatively easy to carry and still take advantage of horn loading. That's the only time I think a "small" basshorn (under 25ft3) makes sense.In my opinion, a small basshorn is worse than a direct radiator if it isn't used in groups. That's the problem I have with them. If you have to pack a sub into 10ft3, my opinion is you lose the option of horn loading. If you can triple or quadruple that space, only then you can begin to even consider using horn loaded subs. If you have 40ft3, you can use a pair of large basshorns or four smaller ones, and you can get acceptable response from them. Better still if you have double or quadruple that amount of space. Basshorns need size. So but if you have a small place to setup in, don't use basshorn subs cause they'll be peaky boom boxes that are easily outperformed by a simpler direct radiating sub setup.