Subject: Re: SPL question
Posted by James W. Johnson on Tue, 26 Jun 2001 14:36:12 GMT
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Thanks for the link Mike , I found an interesting link, these guys cater to bands such as the Red Hot Chili Peppers.Here is their take on Horn loading.....Minimize the use of horn loading. Horn loading increases output volume at the expense of sound quality.How many home stereos and recording studios use folded horns or any kind of horn loaded cone drivers? Why don't home stereo speakers use horn loaded speakers? Like talking through cupped hands for volume. Certain frequencies are louder than others, adding a honky or nasally sound. To correct this, equalization is used to reduce the volume of those frequencies. The bigger, more efficient horns, need more EQ. Cutting the loudest frequencies with EQ partially negates extra gain realized by horn loading and does not thoroughly solve the sound quality problem.
----------Making a excellent sounding system loud, rather than attempt to make a loud system sound good. In order to get horn loaded volumes from a reflex/infinite baffle system, every little bit counts. It is like fine tuning a race car engine. A lot of interrelated factors all sum together to reach the goal of reproducing sound with extreme accuracy at amazing volumes . Minimize facial area. Reducing the baffle size to the absolute minimum keeps the drivers close together within the cabinet and box to box. This increases driver coupling, minimizes phase interference and therefore, increases system efficiency. High Density. More components per box maximizes power handling per cubic foot for better coupling and more headroom. Precise component selection. We use several different manufactures in order to achieve the optimum balance between sound quality, power handling and efficiency. 5 way. Every component is utilized in its optimum operating range, where it sounds best and is most efficient. Matched and balanced power. Amplifier power is accurately matched to the components. Proper system protection. Our systems are protected by precision limiters that allow the cabinets to reach absolute maximum volume and then seamlessly engage to prevent component damage.
----------Smooth coverage of the audience. The Rat Trap 5 Array exhibits extremely well behaved coverage patterns. The small baffle/cabinet size minimizes the array size, reducing phase interference between drivers. The fly array is a spherical segment with variable angles in both the horizontal and vertical axis for smooth, even coverage of the entire audience area. Trapezoidal cabinets allow for minimum spaces between boxes in the fly array. Reducing gaps between cabinets increases coupling efficiency and reduces phase interference. The 18"s are in separate cabinets coupled to the floor, not in the fly array, keeping the system compact, improving sight lines. 4 different Rat Trap configurations: short throw, long throw, flyable subs, and ultra long throws. The Rat array is extremely versatile and can be configured to provide optimum coverage anywhere from clubs and theaters to arenas and stadiums. Their Rat trap Five seems like a real winner , I wish I could hear a pair of them.The Pic is 24 of their Rat Trap Five speakers used at a Pearl Jam concert.

http://www.ratsound.com