RAD RHYTHM AUDIO DESIGN



Enclosure optimization by Paul Kittinger

Modeling for internal cabinet dimensions of 7.5"W x 44.5"H x 10"D with the tweeter's center at 9" below the internal top. The 3-inch diameter port is now 6.25" long and its center is located 4" above the internal bottom. The top 21.5" of the cabinet contains 10-11 ounces of polyester fiber. System tuning frequency is 31-31 Hz. For an input of 35w/1m into a nominal 4-ohm impedance, and with 0.3 ohms added in series with the paralleled woofers.

108.3 105.3 -102.3 SPL or 96.3 99.3 Ð 93.3 SPL SPL 90.3 87.3 84.3 81.3 78.3 78.3 100 1 -10 10 r-dco-Hz⁻¹ 1000 Frequency (Hz)

System bass response (red line):

Woofers' (red line) and port's (blue line) responses:



Impedance (red line):





Woofers' excursion (red line):

Port air velocity:



Modeled with an internal width of 7" which provides ~222 in3 of "extra" volume to compensate for consumed volumes.

This design is basically a tall, vented floor-stander that has been optimized for drivers' and port's locations using TL design processes and is described as an ML-TL