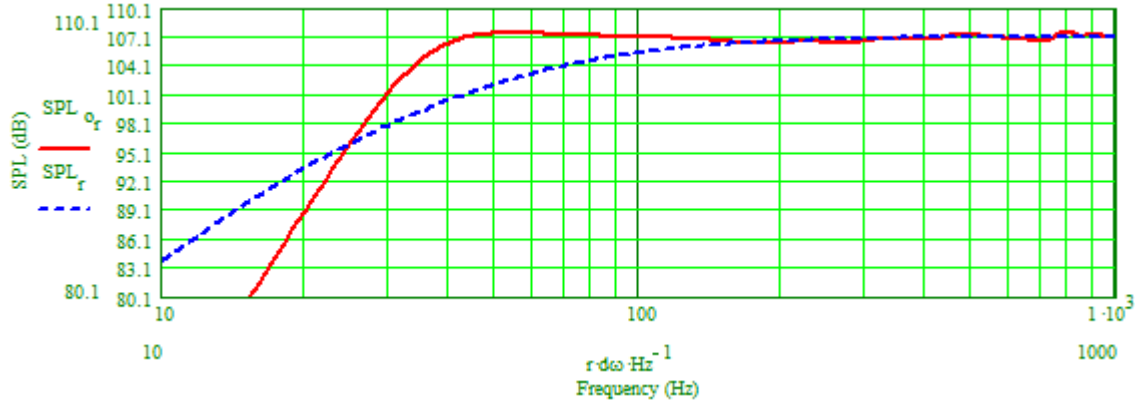


## TAURED MTM TOWER SPEAKER

Internal dimensions of 7.5"W x 9.5"D x 43.5"H with the tweeter's center located 9" below the internal top and the port's center located 4" above the internal bottom. The port has a diameter of 3" and a length of 6". With the mid-woofers wired in parallel and the top 21" of the cabinet stuffed at 0.75 lb/ft<sup>3</sup>, here's the predicted anechoic system bass response with an input of 50 watts (re: 1 meter):



You can see  $f_3$  is about 33 Hz,  $f_6$  is 30 Hz and  $f_{10}$  is  $\sim 27$  Hz. The output SPL will be less than the 107 dB after BSC is incorporated. The system is tuned to 32 Hz. This 50-watt input causes the mid-woofers to reach  $X_{max} + 15\%$  at 48 Hz with the port's peak air velocity hitting 17 m/s at just over 30 Hz.

If you wanted a lower  $f_3$ , the box volume would need to be increased but, then, the excursion will either be greater, or less SPL will be available. For instance, increasing the cabinet depth to 12" and decreasing the port's length to 4.75" to maintain the same tuning frequency, results in an  $f_3$  of 30 Hz but with the mid-woofers reaching  $X_{max} + 15\%$  sooner at 51 Hz, then increasing further, while the port's peak air velocity increases to  $\sim 21$  m/s.

Paul Kittinger

