Part 3 : Baffle Step Correction Circuit Design

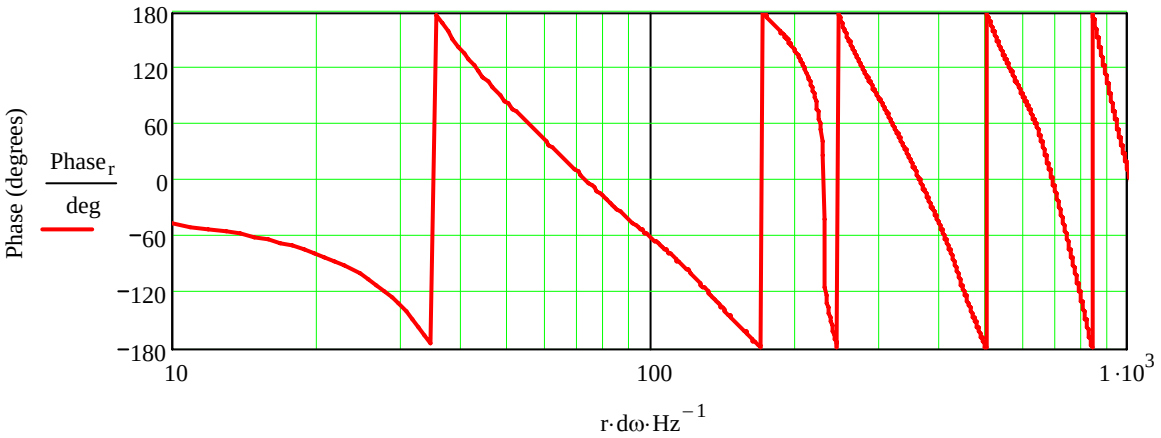
Input Center Frequency of the Baffle Step and the desired dB of Attenuation.

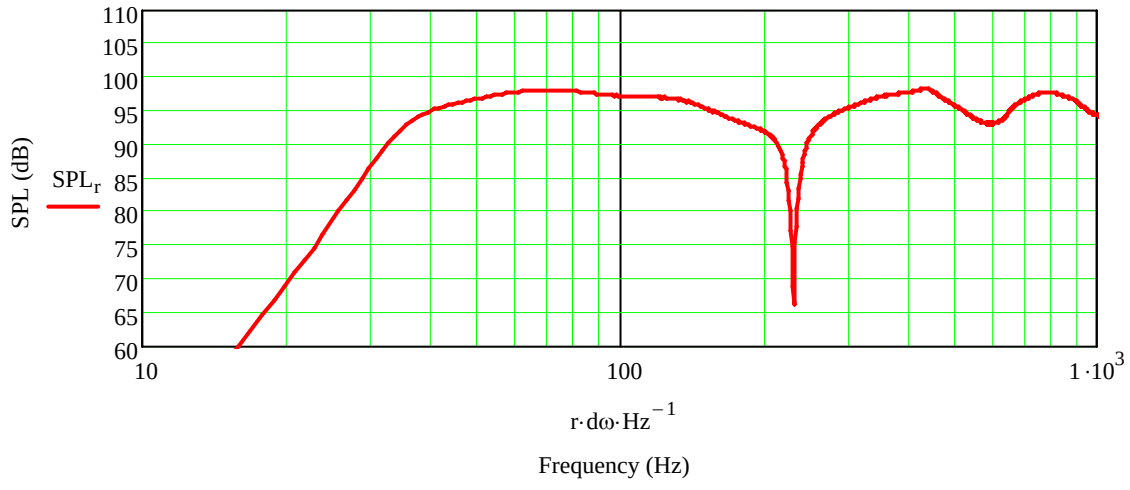
$f_{center} := 250 \cdot Hz$ <--- Input Center Frequency

$dB := 6$ <--- Input dB of Attenuation

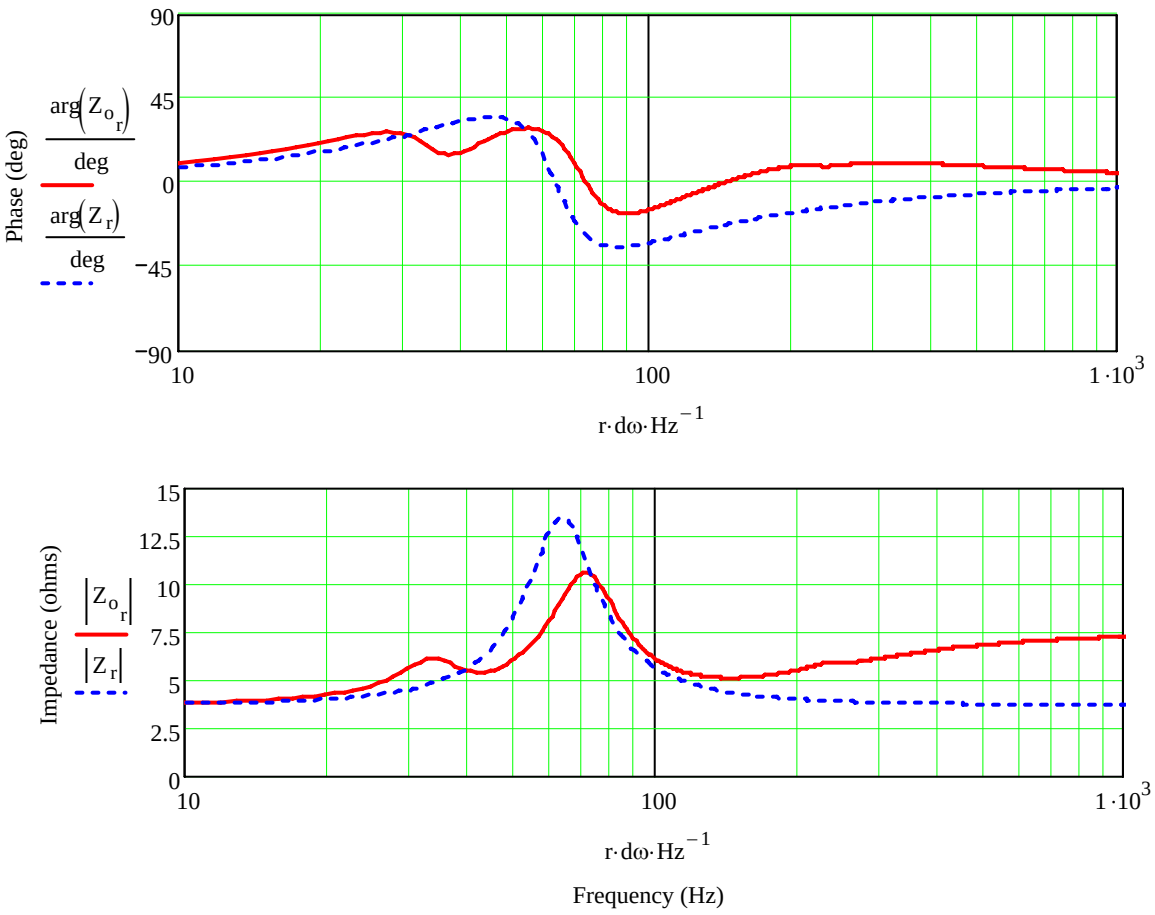
Calculated Component Values		User Assigned Component Values Based on Calculated Values at Left	
$R_e \cdot \left(10^{\frac{dB}{20}} - 1 \right) = 3.682\,\Omega$	Parallel Resistor	Input Value --->	$R_{parallel} := 3.7 \cdot \Omega$
$\frac{R_{parallel}}{f_{center}} = 2.355\,mH$	BSC Inductor	Input Value --->	$L_{BSC} := 2.4 \cdot mH$

Plotted Corrected SPL Response for the System

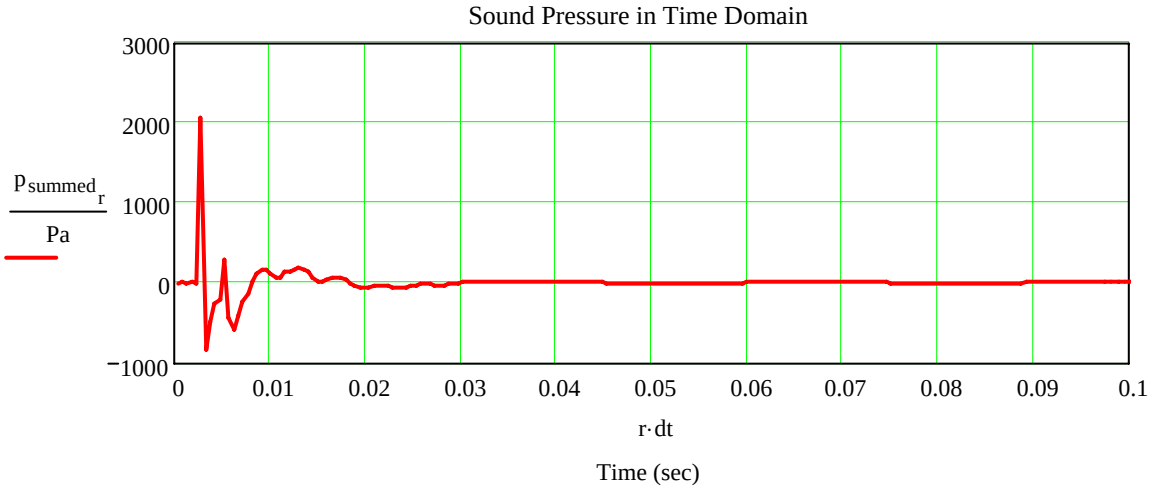




Ported Box Corrected System and Infinite Baffle Impedance



System Time Response for an Impulse Input



Anechoic Polar Response

Radius and Frequency Inputs

radius := 1·m (Calculation Radius Along the Driver's Axis)

y_{Dv} := y_{dc} (Default Height is Equal to Driver Height)

ω := 220·Hz (Calculation Frequency : 10 Hz < ω < 1000 Hz where ω must be an Integer Value)

TOP VIEW