Custom Two-Way Crossover Network Design

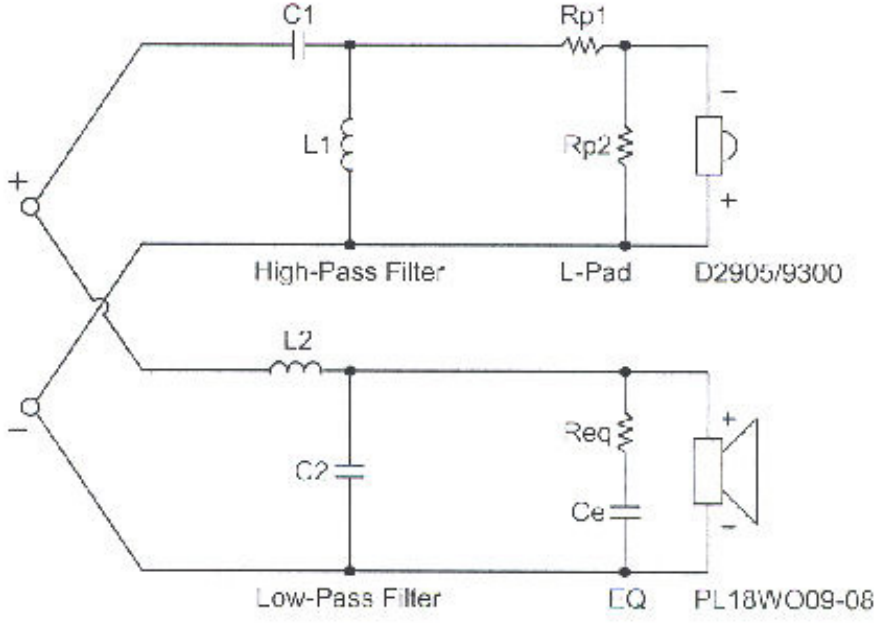
By Solen, Solen Inc.

2-Way Crossover Network

Low-Pass (LP) Filter: 1 required
  Type: 2nd-Order Linkwitz-Riley
  Desired Corner Frequency: 2500 Hz
High-Pass (HP) Filter: 1 required
  Type: 2nd-Order Linkwitz-Riley
  Desired Corner Frequency: 2500 Hz
C1 = 5.6 µF, Polypropylene, 0.00684 ohms
C2 = 3.9 µF, Polypropylene, 0.00676 ohms
L1 = 0.75 mH, Air Core (#20), 0.603 ohms
L2 = 1 mH, Air Core (#14), 0.21 ohms

Tweeter
4.42 dB L-Pad
Rp1 = 2.4 ohms
Rp2 = 9.1 ohms

Woofer
Impedance EQ
Req = 7.5 ohms
Ce = 27 µF



Low-Frequency Enclosure Design

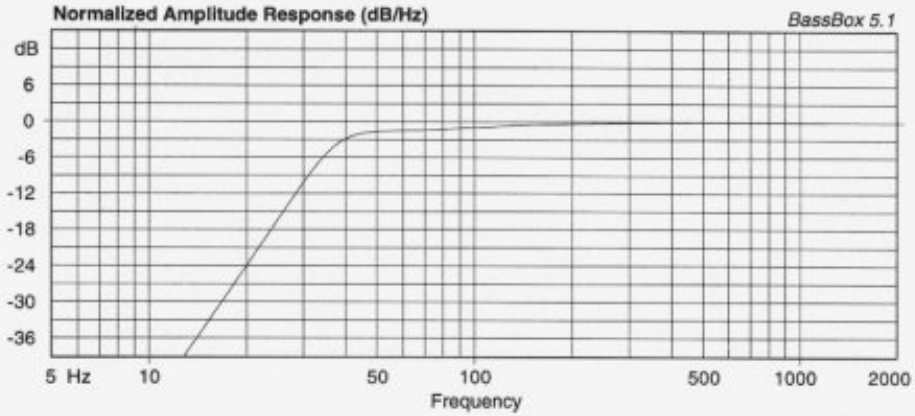
by Solen Inc.

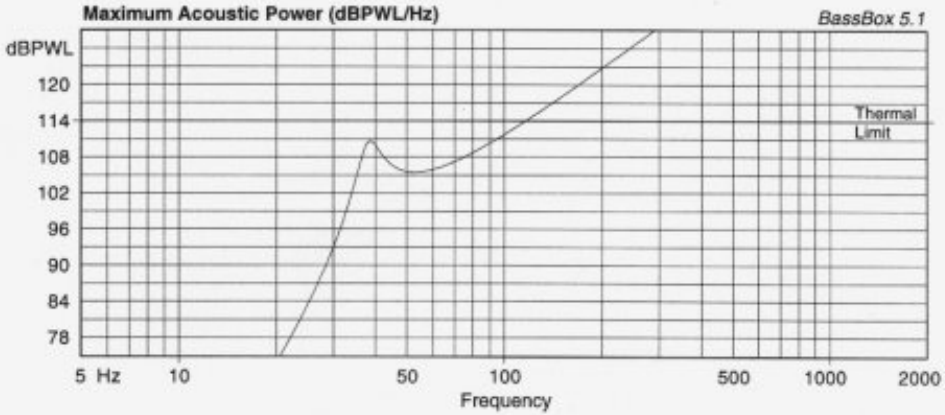
Loudspeaker Parameters

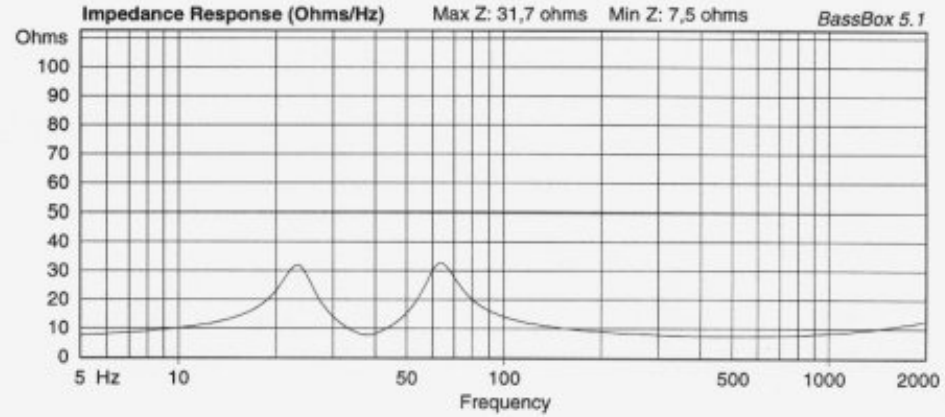
--General Information--
Company: Vifa
Model: PL18WO-09-08
Note/SN:
--Mechanical Parameters--
Fs = 39,0 hertz
Qms = 2,420
Vas = 24,00 liters
Cms = 0,976 mm/N
Mms = 17,500 grams
Rms =
Xmax = 4,000 mm
Sd = 132,0 sq.cm
Dia = 13,0 cm
--Electrical Parameters--
Qes = 0,410
Re = 5,8 ohms
Le = 0,9 mH
Z = 8,0 ohms
BL =
Pe = 125,0 watts
--Combination Parameters--
Qts = 0,350
ηo = 0,219%
Sens = 87,00 dB (2.83 V)
--Multiple Drivers--
Number = 1
Single
Wiring: single
NetZ =
NetRe =
NetSens =

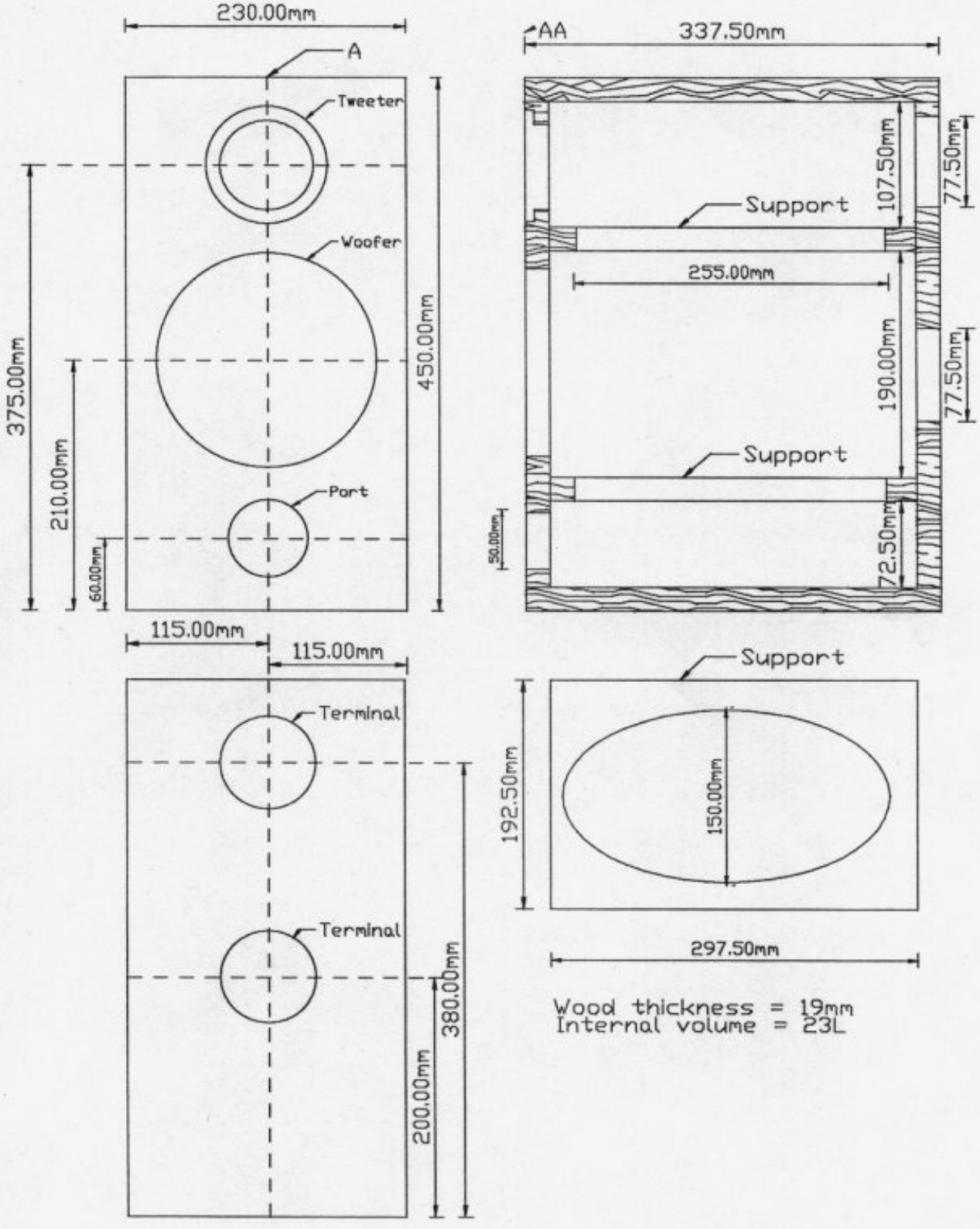
Single Driver Custom Vented Box Parameters

Vb = 23,00 liters
Fb = 38,0 hertz
F3 = 39,6 hertz
QL = 7,0
Fill = none
Ports = 1 (round)
Dv = 5,08 cm
Lv = 15,12 cm









Wood thickness = 19mm
Internal volume = 23L