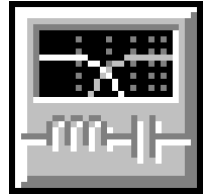


Custom Two-Way Crossover Network Design

By Mark, Walberswick Studios



2-Way Crossover Network

Low-Pass (LP) Filter: 1 required

Type: 2nd-Order Linkwitz-Riley

Desired Corner Frequency: 1000 Hz

High-Pass (HP) Filter: 1 required

Type: 4th-Order Linkwitz-Riley

Desired Corner Frequency: 1800 Hz

C1 = 5.21 μ F, Polypropylene, 0.00688 ohms

C2 = 10.42 μ F, Polypropylene, 0.00504 ohms

C3 = 13.72 μ F, Polypropylene, 0.00454 ohms

L1 = 0.5 mH, Air Core (#16), 0.308 ohms

L2 = 2.251 mH, Air Core (#16), 0.509 ohms

L3 = 1.846 mH, Air Core (#16), 0.462 ohms

Woofers

Impedance EQ

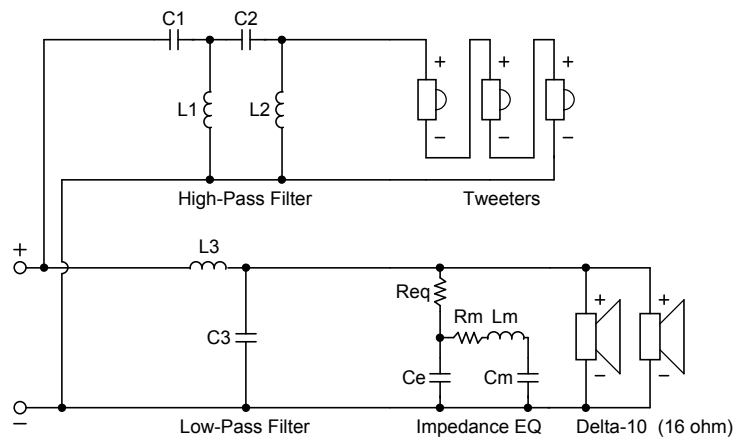
Req = 5.8 ohms

Ce = 11.74 μ F

Rm = 0.243 ohms

Cm = 1.206 mF

Lm = 4.971 mH





Tweeter Properties

--Driver Description--

Name:
 Type: Standard one-way driver
 --Driver Configuration--

No. of Drivers = 3
 Mounting = Standard
 Wiring = Series

--Driver Parameters--

Fs = 680 Hz
 Qms = 1.2
 Mms = 0.45 g [1.35]
 Sd = 9.6 sq.cm [28.8]
 Qes = 0.72
 Re = 3 ohms [9]
 Le = 0.05 mH [0.15]
 Z = 4 ohms [12]
 Pe = 100 watts [300]
 Qts = 0.45
 2.83-V SPL = 94 dB [94]

Woofers Properties

--Driver Description--

Name: Delta-10 (16 ohm)
 Type: Standard one-way driver
 Company: Eminence Speaker LLC

Comment: Revised Sep-2002
 Piston: Paper cone.
 Suspension: Cloth surround.
 Dust Cap: Solid composition paper dust cap.
 Frame: Pressed steel basket.
 Voice Coil: 2.5 inch (63.5 mm) coated copper. Kapton former.
 Magnet: 56 oz ferrite magnet.

--Driver Configuration--

No. of Drivers = 2
 Mounting = Standard
 Wiring = Parallel

--Driver Parameters--

Fs = 65 Hz
 Qms = 8.34
 Vas = 36 liters [72]
 Cms = 0.21 mm/N [0.105]
 Mms = 28 g [56]
 Rms = 1.37 kg/s [2.74]
 Xmax = 1.8 mm
 Xmech = 18.8 mm
 Sd = 344.9 sq.cm [689.8]
 P-Vd = 0.063 liters [0.126]
 Qes = 0.35
 Re = 11.6 ohms [5.8]
 Le = 0.79 mH [0.395]
 Z = 16 ohms [8]
 BL = 19.47 Tm [19.47]
 Pe = 350 watts [700]
 Qts = 0.33
 1-W SPL = 99 dB [102]

Graph Key: — LP — HP — Net

