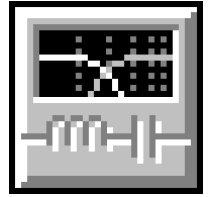


# Custom Two-Way Crossover Network Design

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  $\mu$ F, Polypropylene, 0.00688 ohms

C2 = 10.42  $\mu$ F, Polypropylene, 0.00504 ohms

C3 = 13.72  $\mu$ 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

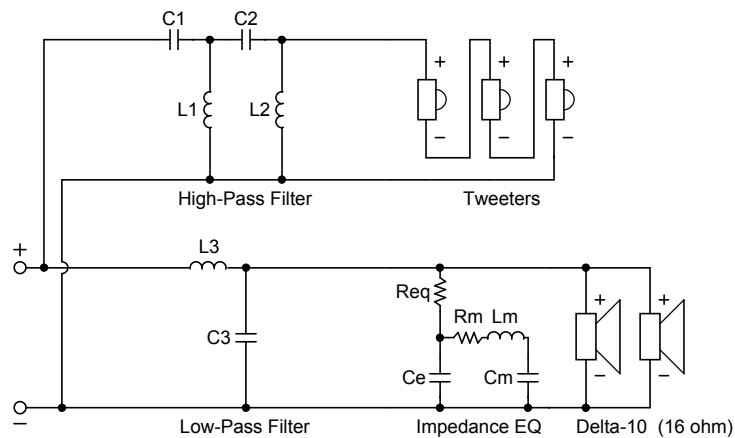
Req = 5.8 ohms

Ce = 11.74  $\mu$ 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

