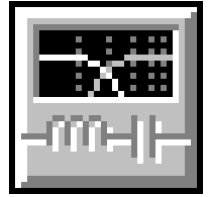


Custom Two-Way Crossover Network Design

By Dr F. Mark Carter, Walberswick Studios



2-Way Crossover Network

Low-Pass (LP) Filter: 1 required

Type: 4th-Order Linkwitz-Riley

Desired Corner Frequency: 3000 Hz

High-Pass (HP) Filter: 1 required

Type: 4th-Order Linkwitz-Riley

Desired Corner Frequency: 3000 Hz

C1 = 14 μ F, Polypropylene, 0.00449 ohms

C2 = 3 μ F, Polypropylene, 0.0076 ohms

C3 = 4 μ F, Polypropylene, 0.00727 ohms

C4 = 8 μ F, Polypropylene, 0.00556 ohms

L1 = 0.6 mH, Air Core (#16), 0.319 ohms

L2 = 0.3 mH, Air Core (#16), 0.285 ohms

L3 = 0.22 mH, Air Core (#16), 0.276 ohms

L4 = 1 mH, Air Core (#16), 0.366 ohms

Woofers

Impedance EQ

Req = 6 ohms

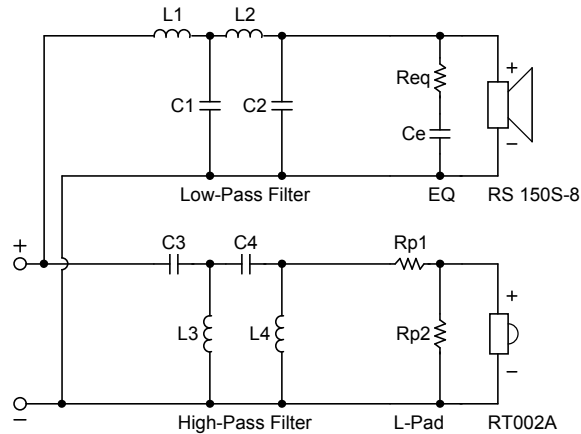
Ce = 20 μ F

Tweeter

5.15 dB L-Pad

Rp1 = 3 ohms

Rp2 = 10 ohms





Woofers Properties

--Driver Description--

Name: RS 150S-8
 Type: Standard one-way driver
 Company: Dayton Loudspeaker Co.

--Driver Configuration--

No. of Drivers = 1

--Driver Parameters--

Fs = 53.8 Hz
 Qms = 2.52
 Vas = 12 liters
 Cms = 1.18 mm/N
 Mms = 7.38 g
 Rms = 0.995 kg/s
 Xmax = 4 mm
 Xmech = 6 mm
 P-Dia = 103.8 mm
 Sd = 84.9 sq.cm
 P-Vd = 34 liters
 Qes = 0.56
 Re = 6 ohms
 Le = 0.76 mH
 Z = 8 ohms
 BL = 5.18 Tm
 Pe = 40 watts
 Qts = 0.46
 no = 0.322 %
 1-W SPL = 88 dB
 2.83-V SPL = 88.47 dB

Tweeter Properties

--Driver Description--

Name: RT002A
 Type: Standard one-way driver
 Piston: Isodynamic 50 x 13 mm Kapton membrane.
 Suspension: None.
 Voice Coil: None.

--Driver Configuration--

No. of Drivers = 1

--Driver Parameters--

Fs = 0.1 Hz
 Qms = 1
 Vas = 10400078044 liters
 Cms = 173321858125 mm/N
 Mms = 0.0000146 g
 Rms = 0.0000000918 kg/s
 Sd = 6.5 sq.cm
 Qes = 1
 Re = 5.9 ohms
 Le = 0.000000001 mH
 Z = 6 ohms
 BL = 0.000233 Tm
 Pe = 20 watts
 Qts = 0.5
 1-W SPL = 92 dB
 2.83-V SPL = 93.5 dB

Graph Key: — LP — HP — Net

