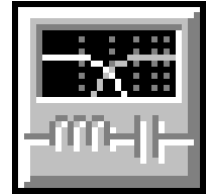


Custom Two-Way Crossover Network Design

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: 2200 Hz

High-Pass (HP) Filter: 1 required

Type: 4th-Order Linkwitz-Riley

Desired Corner Frequency: 2200 Hz

C1 = 6 μ F, Polypropylene, 0.00637 ohms

C2 = 6.8 μ F, Polypropylene, 0.00468 ohms

C3 = 20 μ F, Polypropylene, 0.00303 ohms

C4 = 1 μ F, Polypropylene, 0.0063 ohms

L1 = 0.21 mH, Air Core (#16), 0.281 ohms

L2 = 0.82 mH, Air Core (#16), 0.391 ohms

L3 = 1 mH, Air Core (#16), 0.311 ohms

L4 = 0.33 mH, Air Core (#16), 0.281 ohms

Tweeter

1.34 dB L-Pad

Rp1 = 1 ohms

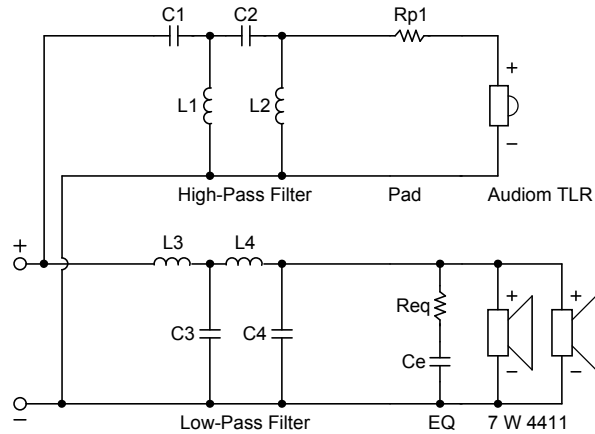
Rp2 = 0 ohms

Woofers

Impedance EQ

Req = 5 ohms

Ce = 24 μ F





Tweeter Properties

--Driver Description--

Name: Audiom TLR
 Type: Standard one-way driver
 Company: Focal-JMLab
 Comment: Audiom series.

--Driver Configuration--

No. of Drivers = 1

--Driver Parameters--

Fs = 1059 Hz
 Qms = 1.51
 Xmax = 0.1 mm
 Xmech = 0.15 mm
 Qes = 0.77
 Re = 6 ohms
 Le = 0.08 mH
 Z = 8 ohms
 Pe = 15 watts
 Qts = 0.51
 no = 1.447 %
 1-W SPL = 93.75 dB
 2.83-V SPL = 95 dB

Woofers Properties

--Driver Description--

Name: 7 W 4411
 Type: Standard one-way driver
 Company: Focal-JMLab
 --Driver Configuration--

No. of Drivers = 2

Mounting = Standard

Wiring = Parallel

--Driver Parameters--

Fs = 39.5 Hz
 Qms = 7
 Vas = 33.9 liters [67.8]
 Cms = 0.885 mm/N [0.443]
 Mms = 18.33 g [36.66]
 Rms = 0.65 kg/s [1.3]
 Xmax = 5.5 mm
 Xmech = 8.25 mm
 P-Dia = 144.6 mm [204.5]
 Sd = 165.1 sq.cm [330.2]
 P-Vd = 0.0903 liters [0.181]
 Qes = 0.38
 Re = 7.8 ohms [3.9]
 Le = 0.69 mH [0.345]
 Z = 8 ohms [4]
 BL = 9.67 Tm [9.663]
 Pe = 90 watts [180]
 Qts = 0.36
 no = 0.53 % [1.06]
 1-W SPL = 89.3 dB [92.31]
 2.83-V SPL = 89.5 dB [95.52]

Graph Key: — LP — HP — Net

