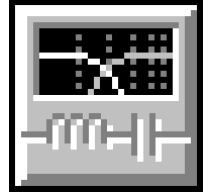


Custom Three-Way Crossover Network Design

By Chris, Solen Inc.



3-Way Crossover Network

Low-Pass (LP) Filter: 1 required

Type: 2nd-Order All-Pass (APC)

Desired Corner Frequency: 400 Hz

Band-Pass (BP) Filter: 1 required

Type: 2nd-Order All-Pass (APC)

Desired Lower Corner Freq: 400 Hz

Desired Upper Corner Freq: 3200 Hz

High-Pass (HP) Filter: 1 required

Type: 2nd-Order All-Pass (APC)

Desired Corner Frequency: 3200 Hz

C1 = 6.2 μ F, Polypropylene, 0.00648 ohms

C2 = 82 μ F, Polypropylene, 0.00159 ohms

C3 = 6.8 μ F, Polypropylene, 0.00618 ohms

C4 = 68 μ F, Polypropylene, 0.00191 ohms

L1 = 0.39 mH, Air Core (#20), 0.413 ohms

L2 = 2.7 mH, Air Core (#18), 0.851 ohms

L3 = 0.27 mH, Litz (#16), 0.281 ohms

L4 = 2.4 mH, Air Core (#14), 0.35 ohms

Band-pass Gain = 2.445 dB

Tweeter

4.06 dB L-Pad

Rp1 = 1.5 ohms

Rp2 = 6.8 ohms

Midrange

Impedance EQ

Req = 3.9 ohms

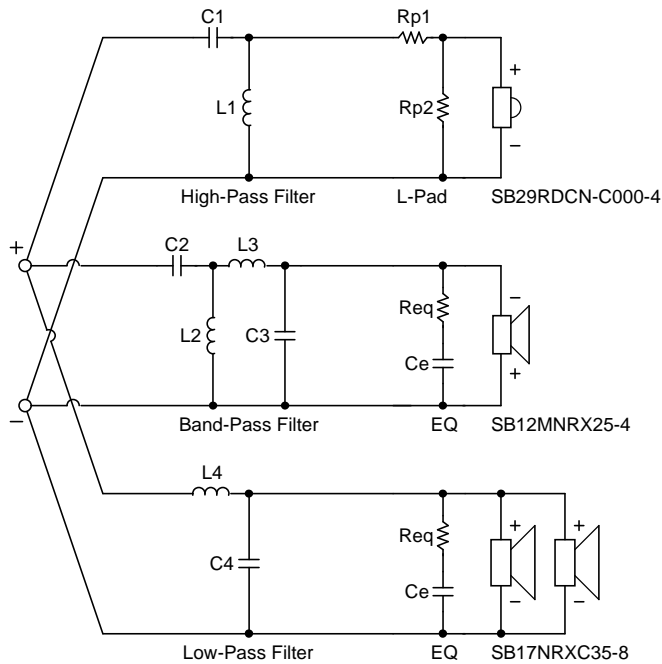
Ce = 13 μ F

Woofers

Impedance EQ

Req = 3.3 ohms

Ce = 9.1 μ F





Tweeter Properties

--Driver Description--
 Name: SB29RDCN-C000-4
 Type: Standard one-way driver
 Company: SB Acoustics

Magnetic shielding
 --Driver Configuration--

No. of Drivers = 1

--Driver Parameters--
 Fs = 580 Hz
 Qms = 0.9
 Vas = 0.0219 liters
 Cms = 0.167 mm/N
 Mms = 0.45 g
 Rms = 1.822 kg/s
 Xmax = 0.25 mm
 Xmech = 0.375 mm
 Sd = 9.6 sq.cm
 P-Vd = 0.00024 liters
 Qes = 0.54
 Re = 3 ohms
 Z = 4 ohms
 BL = 3.018 Tm
 Pe = 100 watts
 Qts = 0.34
 no = 0.763 %
 1-W SPL = 89.74 dB
 2.83-V SPL = 94 dB

Midrange Properties

--Driver Description--
 Name: SB12MNRX25-4
 Type: One-way open back driver
 Company: SB Acoustics

--Driver Configuration--

No. of Drivers = 1

--Driver Parameters--
 Fs = 58 Hz
 Qms = 3.6
 Vas = 5.5 liters
 Cms = 1.55 mm/N
 Mms = 4.9 g
 Rms = 0.492 kg/s
 Xmax = 4.5 mm
 Xmech = 6.75 mm
 P-Dia = 79.78 mm
 Sd = 49.98 sq.cm
 P-Vd = 0.0225 liters
 Qes = 0.42
 Re = 3.2 ohms
 Z = 4 ohms
 BL = 3.689 Tm
 Pe = 50 watts
 Qts = 0.37
 no = 0.246 %
 1-W SPL = 86.06 dB
 2.83-V SPL = 90.04 dB

Woofers Properties

--Driver Description--
 Name: SB17NRXC35-8
 Type: Standard one-way driver
 Company: SB Acoustics

--Driver Configuration--

No. of Drivers = 2

Mounting = Standard
 Wiring = Parallel
 --Driver Parameters--
 Fs = 32 Hz
 Qms = 5
 Vas = 44.5 liters [89]
 Cms = 2.25 mm/N [1.125]
 Mms = 11 g [22]
 Rms = 0.44 kg/s [0.88]
 Xmax = 5.5 mm
 Xmech = 8.25 mm
 P-Dia = 122.6 mm [173.4]
 Sd = 118 sq.cm [236]
 P-Vd = 0.0649 liters [0.13]
 Qes = 0.36
 Re = 5.7 ohms [2.85]
 Z = 8 ohms [4]
 BL = 5.91 Tm [5.918]
 Pe = 60 watts [120]
 Qts = 0.34
 no = 0.39 % [0.78]
 1-W SPL = 88 dB [91.01]
 2.83-V SPL = 89 dB [95.02]

Graph Key: — LP — BP — HP — Net

