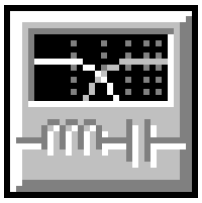
Custom Two-Way Crossover Network Design

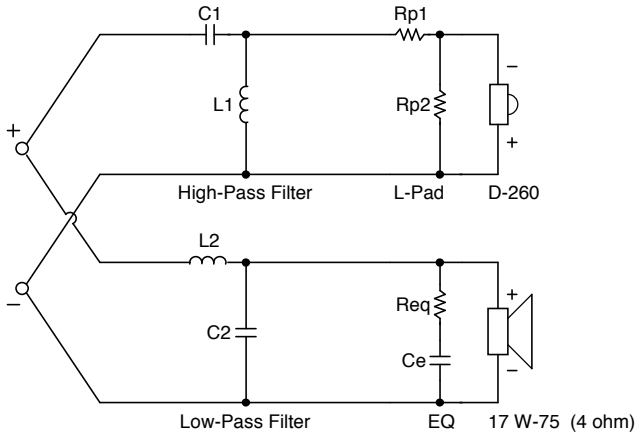
By Chris, Solen Inc.



2-Way Crossover Network
Low-Pass (LP) Filter: 1 required
  Type: 2nd-Order Linkwitz-Riley
  Desired Corner Frequency: 2000 Hz
High-Pass (HP) Filter: 1 required
  Type: 2nd-Order Linkwitz-Riley
  Desired Corner Frequency: 2000 Hz
C1 = 5.6 μF, Polypropylene, 0.00698 ohms
C2 = 13 μF, Polypropylene, 0.00461 ohms
L1 = 1.3 mH, Air Core (#18), 0.539 ohms
L2 = 0.47 mH, Litz (#16), 0.304 ohms

Tweeter
4.11 dB L-Pad
Rp1 = 3 ohms
Rp2 = 13 ohms

Woofer
Impedance EQ
Req = 3.6 ohms
Ce = 18 μF



Tweeter Properties

--Driver Description--
Name: D-260
Type: Standard one-way driver
Company: Dynaudio
Piston: Dome material is doped fabric
Voice Coil: Diameter-28 mm x 2.8 mm
Ferrofluid included
--Driver Configuration--
No. of Drivers = 1
--Driver Parameters--

Fs =	1000 Hz
Qms =	0.83
Mms =	0.51 g
Xmax =	0.15 mm
Xmech =	1.6 mm
Sd =	7.7 sq.cm
Qes =	1.14
Re =	5.2 ohms
Z =	8 ohms
BL =	3.9 Tm
Pe =	130 watts
Qts =	0.48

1-W SPL = 90 dB
2.83-V SPL = 90 dB

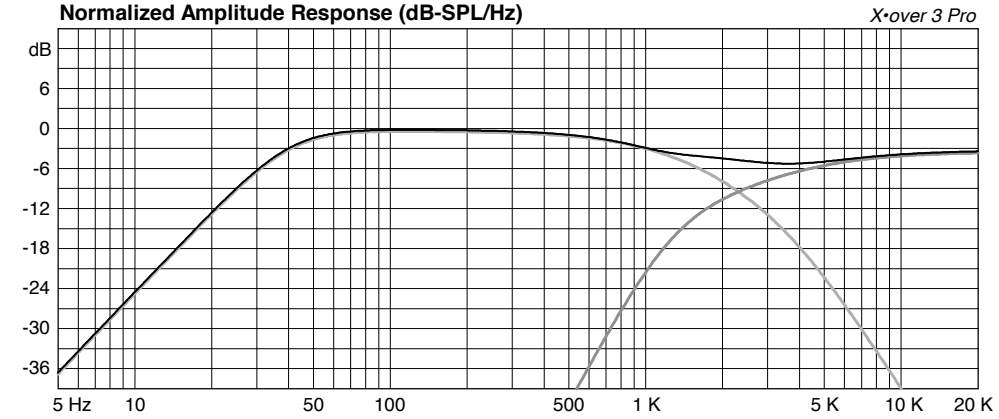
Woofer Properties

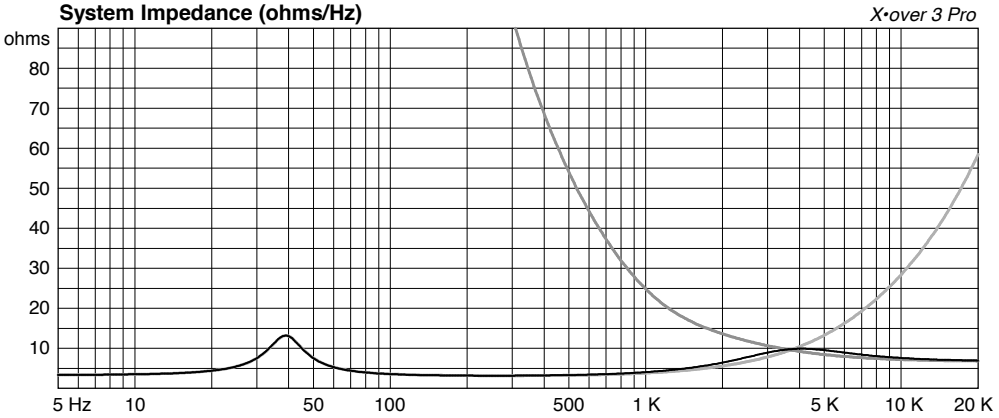
--Driver Description--
Name: 17 W-75 (4 ohm)
Type: Standard one-way driver
Company: Dynaudio
Piston: MSP polypropylene cone
Voice Coil: 75 mm, coil and former made of aluminum
Magnet: Vented magnet system
--Driver Configuration--
No. of Drivers = 1
--Driver Parameters--

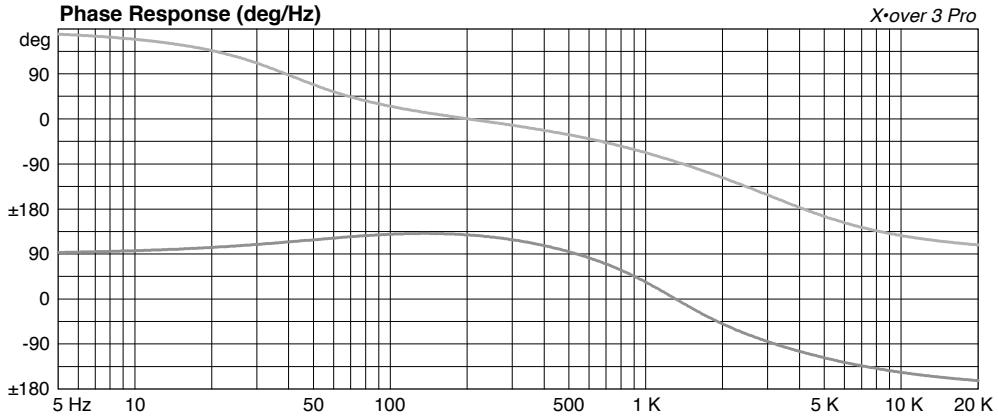
Fs =	40 Hz
Qms =	3
Vas =	22 liters
Mms =	15 g
Xmax =	3 mm
Xmech =	9.5 mm
Sd =	120 sq.cm
Qes =	0.9
Re =	3 ohms
Le =	0.17 mH
Z =	4 ohms
BL =	3.5 Tm
Pe =	130 watts
Qts =	0.7

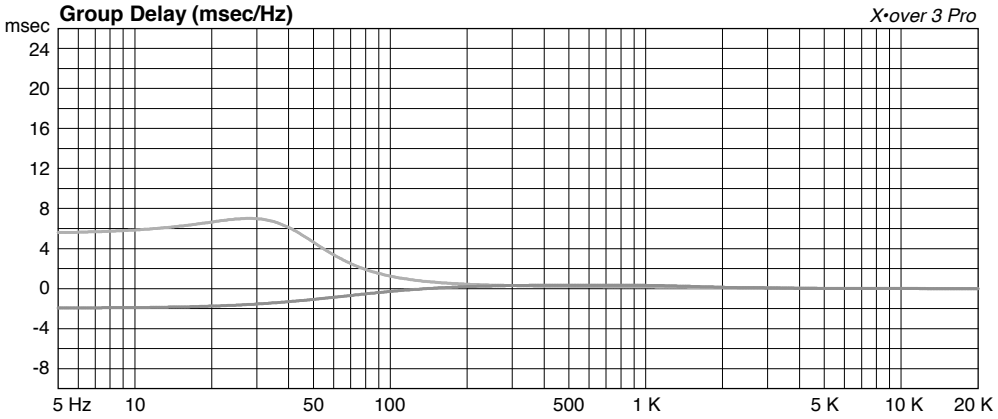
1-W SPL = 88 dB
2.83-V SPL = 88 dB

Graph Key: LP HP Net






Phase Response (deg/Hz)
X•over 3 Pro
deg
90
0
-90
±180
90
0
-90
±180
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K


Group Delay (msec/Hz)
X•over 3 Pro
msec
24
20
16
12
8
4
0
-4
-8
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K