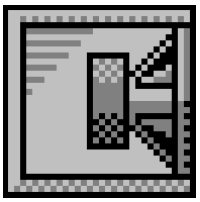
By Dr F. Mark Carter, Walberswick Studios



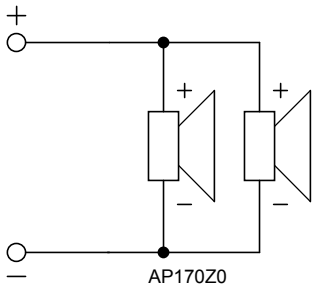
Box Properties

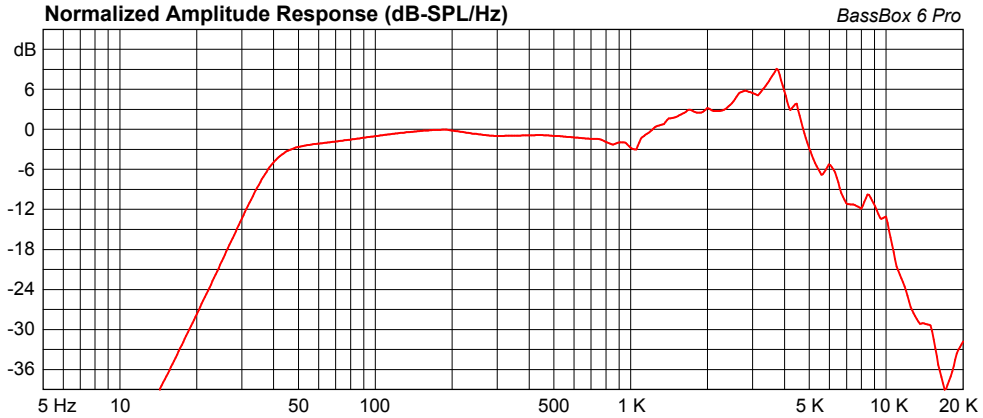
--Description--
Name:
Type: Vented Box
Shape: Prism, square (optimum)
--Box Parameters--
Vb = 2.019 cu.ft
V(total) = 2.123 cu.ft
Fb = 42.21 Hz
QL = 6.782
F3 = 46.63 Hz
Fill = minimal
--Vents--
No. of Vents = 1
Vent shape = round
Vent ends = two flared
Dv = 4 in
Lv = 6.792 in

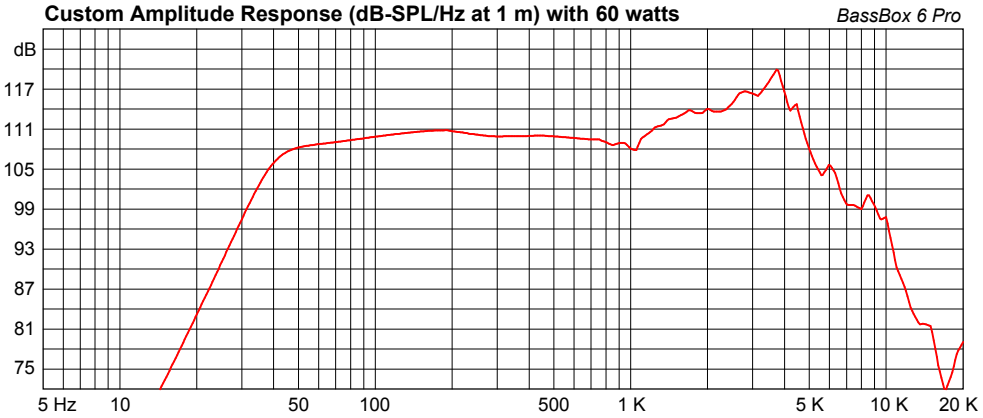
Driver Properties

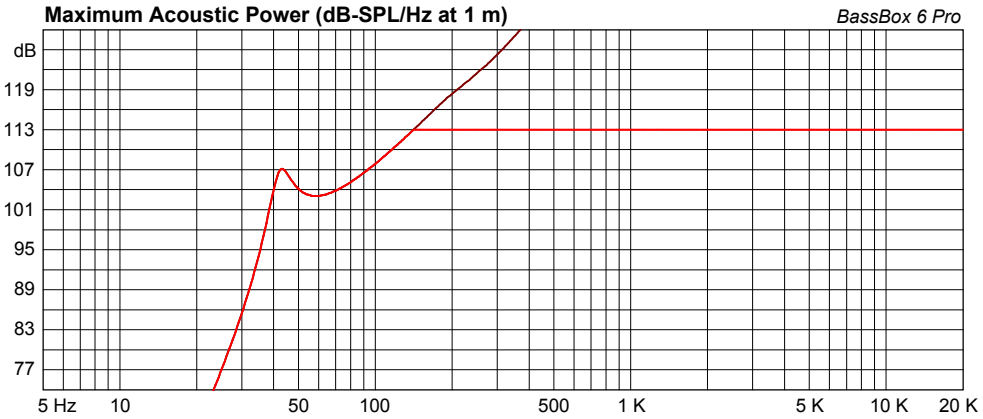
--Description--
Name: AP170Z0
Type: Standard one-way driver
Company: Audax Industries
Piston: High definition aerogel cone.
Suspension: High loss rubber surround.
Frame: Nonresonant high impact polymer chassis.
Voice Coil: 30 mm high temp. voice coil. Aluminum former.
Magnet: 555 g magnet.
Magnetic shielding
--Configuration--
No. of Drivers = 2
Mounting = Standard
Wiring = Parallel
Drivers sum coherently = Yes
--Mechanical Parameters--
Fs = 48.5 Hz
Qms = 1.61
Vas = 24.65 liters [49.3]
Cms = 0.996 mm/N [0.498]
Mms = 10.82 g [21.64]
Rms = 2.05 kg/s [4.1]
Xmax = 3 mm
Xmech = 4.5 mm
P-Dia = 129.6 mm [183.3]
Sd = 132.7 sq.cm [265.5]
P-Vd = 0.0396 liters [0.0792]
--Electrical Parameters--
Qes = 0.5
Re = 5.3 ohms [2.65]
Le = 0.74 mH [0.37]
Z = 6 ohms [3]
BL = 5.76 Tm [5.912]
Pe = 60 watts [120]
--Electromech. Parameters--
Qts = 0.38
no = 0.542 % [1.085]
1-W SPL = 89.3 dB [92.31]
2.83-V SPL = 91.28 dB [97.3]

Wiring Diagram

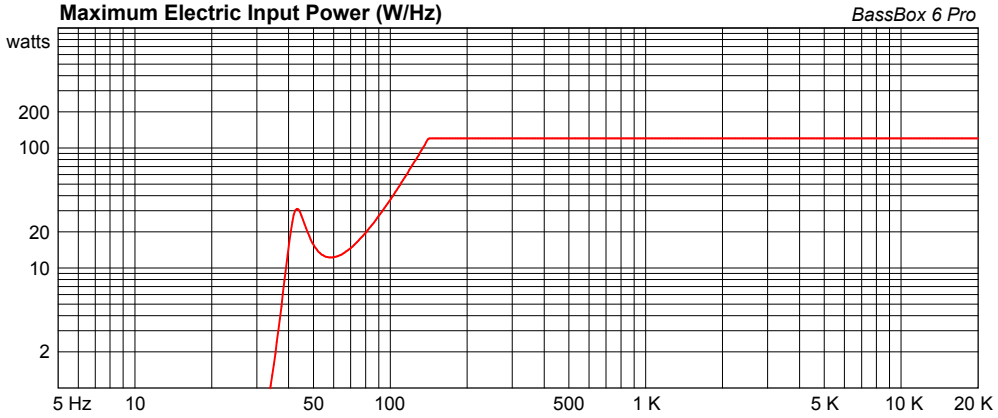



Normalized Amplitude Response (dB-SPL/Hz)
BassBox 6 Pro
dB
6
0
-6
-12
-18
-24
-30
-36
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K

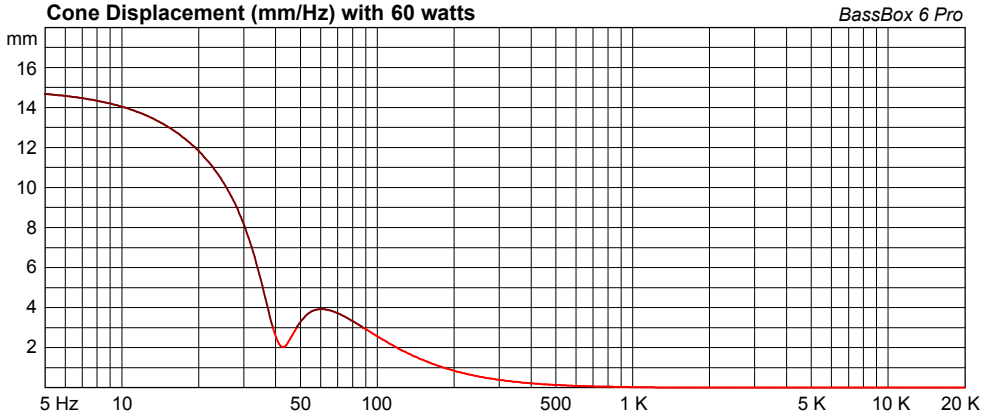

Custom Amplitude Response (dB-SPL/Hz at 1 m) with 60 watts
BassBox 6 Pro
dB
117
111
105
99
93
87
81
75
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K


Maximum Acoustic Power (dB-SPL/Hz at 1 m)
BassBox 6 Pro
dB
119
113
107
101
95
89
83
77
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K

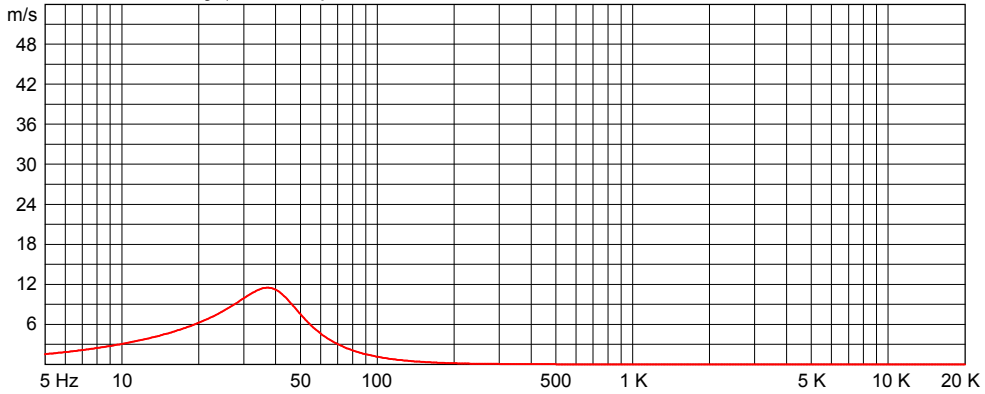
Maximum Electric Input Power (W/Hz) *BassBox 6 Pro*

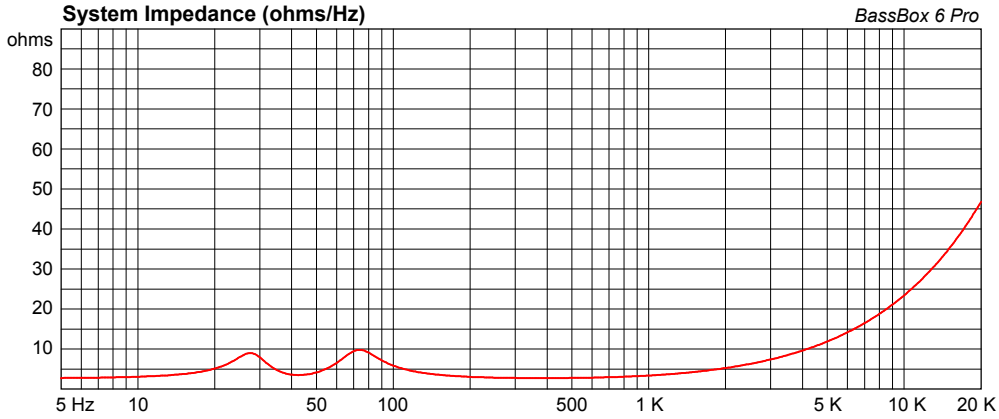


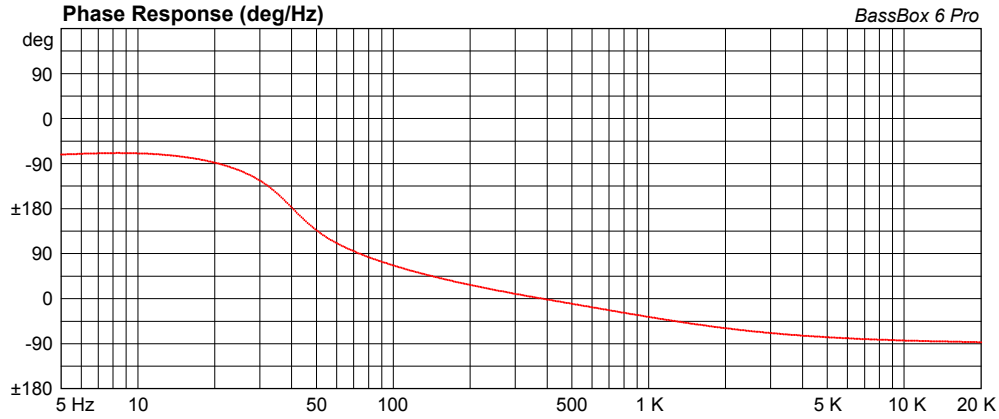
Cone Displacement (mm/Hz) with 60 watts *BassBox 6 Pro*

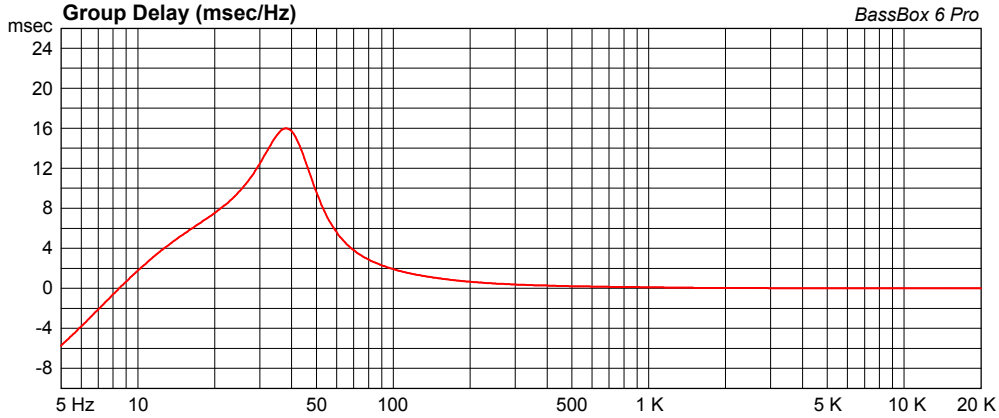


Vent Air Velocity (m/sec/Hz) with 60 watts *BassBox 6 Pro*




System Impedance (ohms/Hz)
BassBox 6 Pro
ohms
80
70
60
50
40
30
20
10
5 Hz
10
50
100
500
1 K
5 K
10 K
20 K


Phase Response (deg/Hz)
BassBox 6 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)
BassBox 6 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