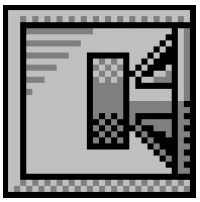
Custom Vented Box Design

By Mark Carter, Walberswick Studios



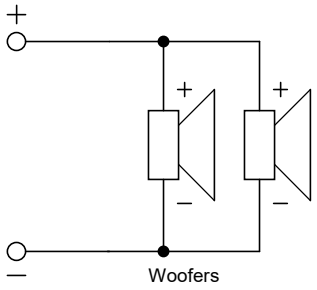
Box Properties

--Description--
Name:
Type: Vented Box
Shape: Prism, square (optimum)
--Box Parameters--
Vb = 5.679 cu.ft
V(total) = 6.041 cu.ft
Fb = 23.79 Hz
QL = 5.983
F3 = 25.21 Hz
Fill = minimal
--Vents--
No. of Vents = 1
Vent shape = rectangle
Vent ends = one flush
Hv = 2.75 in
Wv = 8 in
Lv = 15.12 in

Driver Properties

--Description--
Name:
Type: Standard one-way driver
--Configuration--
No. of Drivers = 2
Mounting = Standard
Wiring = Parallel
Drivers sum coherently = Yes
--Mechanical Parameters--
Fs = 30.28 Hz
Qms = 5.91
Vas = 1.78 cu.ft [3.56]
Xmax = 14 mm
P-Dia = 8 in [11.31]
--Electrical Parameters--
Qes = 0.469
Re = 4.603 ohms [2.302]
Le = 1.402 mH [0.701]
Z = 8 ohms [4]
Pe = 200 watts [400]
--Electromech. Parameters--
Qts = 0.434
1-W SPL = 87 dB [90.01]

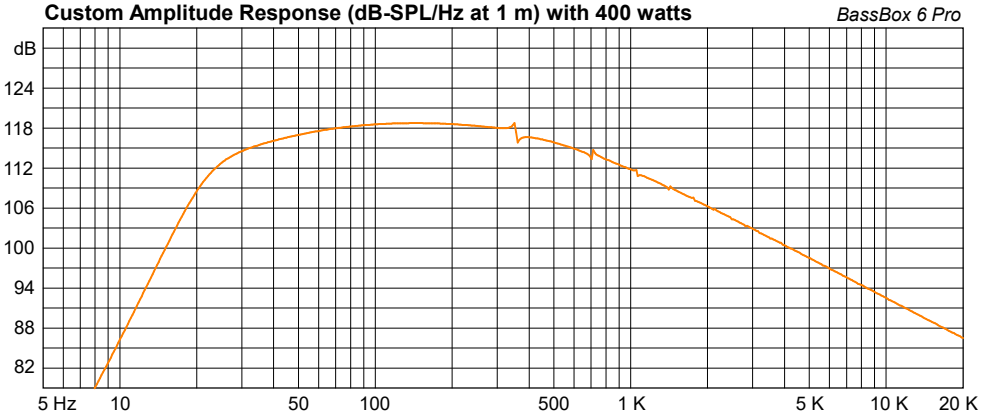
Wiring Diagram



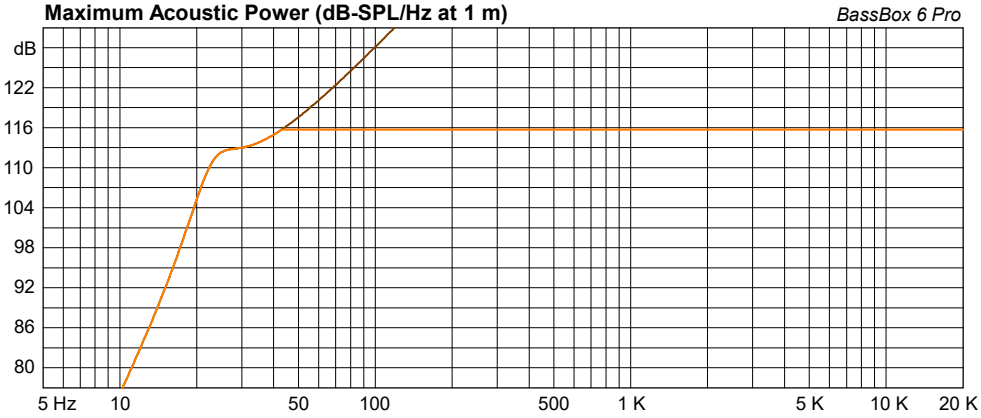
Normalized Amplitude Response (dB-SPL/Hz) *BassBox 6 Pro*



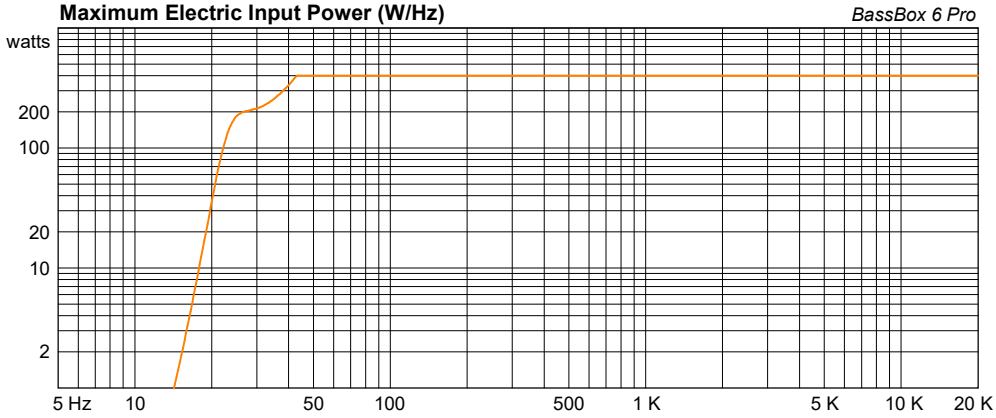
Custom Amplitude Response (dB-SPL/Hz at 1 m) with 400 watts *BassBox 6 Pro*



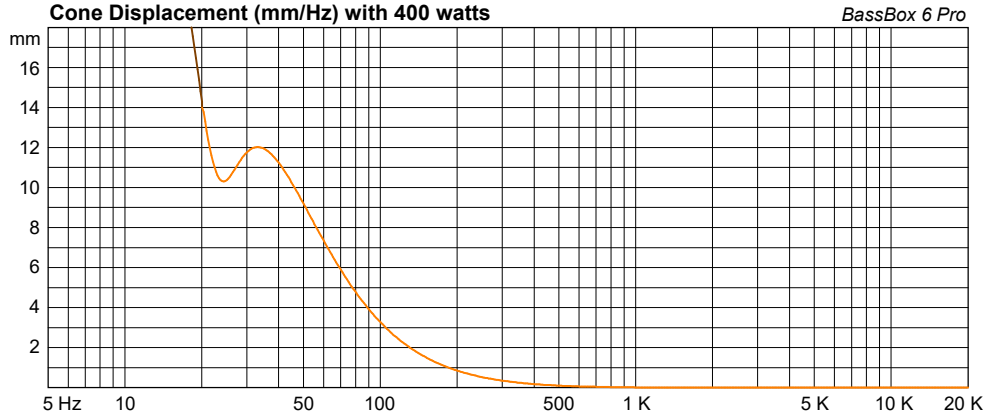
Maximum Acoustic Power (dB-SPL/Hz at 1 m) *BassBox 6 Pro*



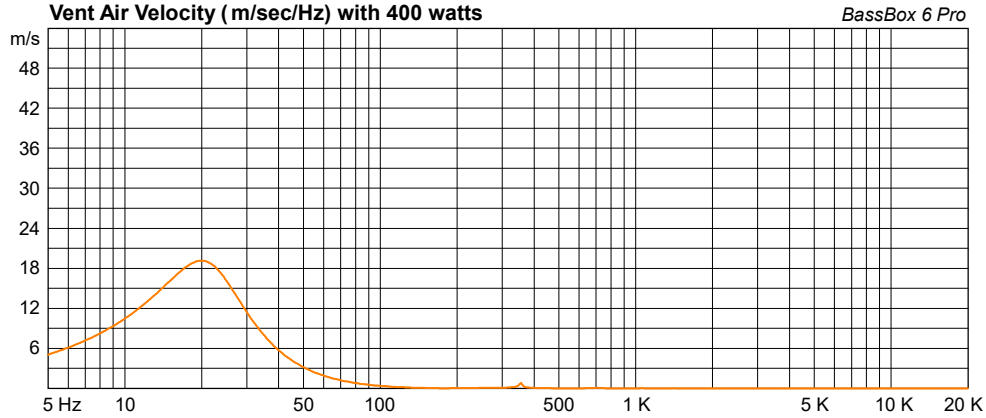
Maximum Electric Input Power (W/Hz) *BassBox 6 Pro*

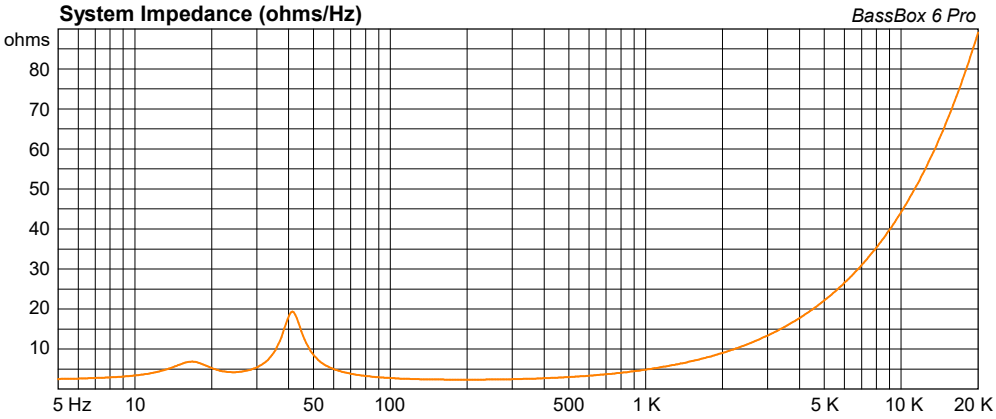


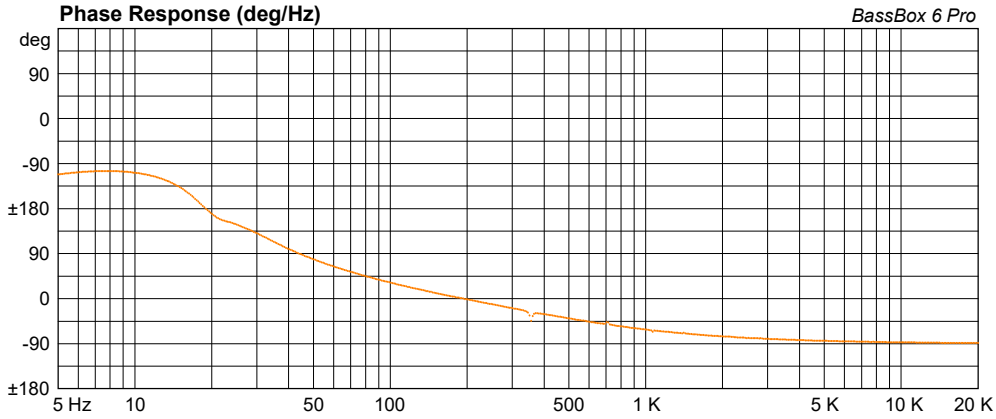
Cone Displacement (mm/Hz) with 400 watts *BassBox 6 Pro*

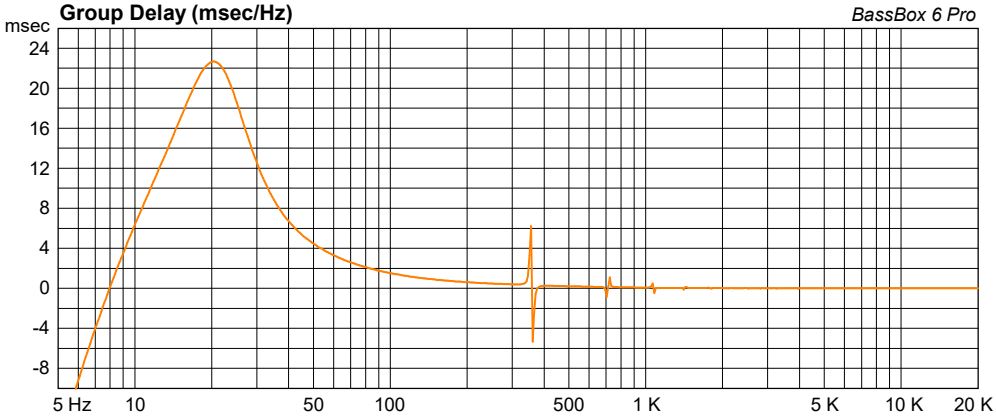


Vent Air Velocity (m/sec/Hz) with 400 watts *BassBox 6 Pro*




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