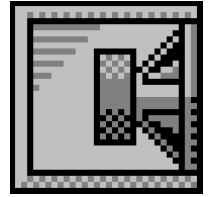


Custom Vented Box Design

By John, Microsoft



Box Properties

--Description--

Name:

Type: Vented Box

Shape: Prism, square

--Box Parameters--

Vb = 1.354 cu.ft

V(total) = 1.976 cu.ft

Fb = 33.07 Hz

F3 = 91.94 Hz

Fill = none

--Vents--

No. of Vents = 1

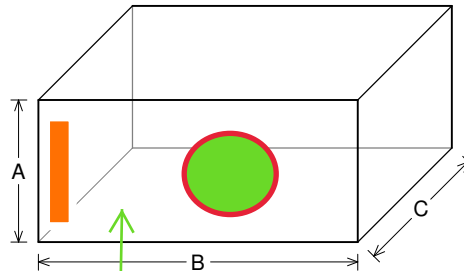
Vent shape = rectangle

Vent ends = one flush

Hv = 10.5 in

Wv = 1.875 in

Lv = 35.5 in



--External Dimensions--

A = 12 in

B = 27 in

C = 15 in

--Internal Dimensions--

A = 10.5 in

B = 25.5 in

C = 12.75 in

--Wall Thickness--

Front = 1.5 in

Side = 0.75 in

Front baffle will be doubled up 3/4 11-ply birch plywood. Do not use MDF as it is heavy and not as rigid as 11-ply plywood!

Driver Properties

--Description--

Name: Hutchinson NDFEB 10 w carbon

Type: Standard one-way driver

--Configuration--

No. of Drivers = 1

Dual voice coils = parallel

--Driver Parameters--

Fs = 47.8 Hz

Qms = 3.59

Vas = 13.89 liters

Xmax = 28 mm

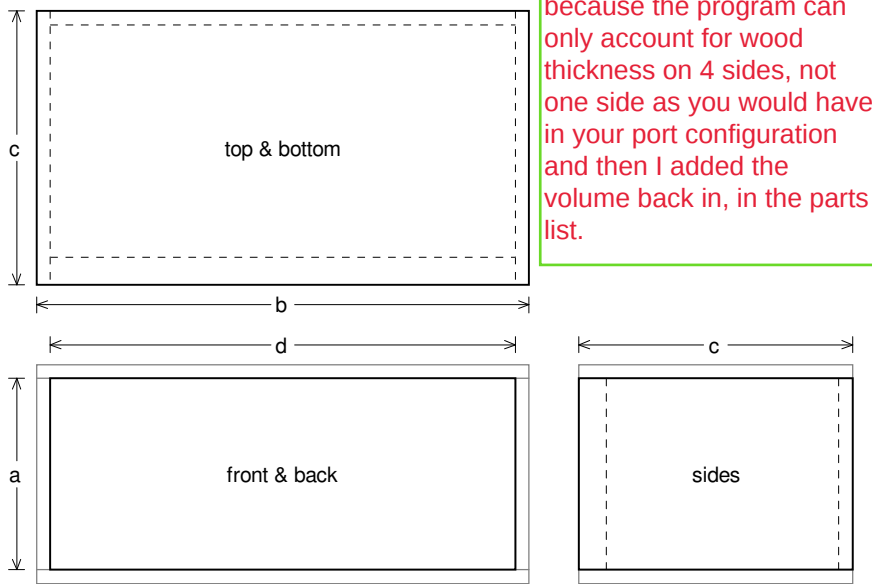
Sd = 388 sq.cm

Qes = 0.323

Re = 0.534 ohm

Le = 0.438 mH

Z = 0.641 ohm



Box Parts

Box Shape: Square Prism

1 Top, 1 Bottom: depth (c) = 15 in
width (b) = 27, thickness = 0.75 in

1 Front: height (a) = 10.5 in
width (d) = 25.5, thickness = 1.5 in

1 Back: height (a) = 10.5 in
width (d) = 25.5, thickness = 0.75 in

2 Sides: height (a) = 10.5 in
depth (c) = 15, thickness = 0.75 in

--Driver Mounting--

Mounting: Flush

--Vent Parts--

1 Top, 1 Bottom:
width (e) = 1.877, length (h) = 35.5 in
thickness = 0.001 in

2 Sides:
height (g) = 10.5, length (h) = 35.5 in
thickness = 0.001 in

--Misc Objects Inside or Part of Box--

Object: Brace

No. of Objects: 2

Each Object: 0.0182 cu.ft

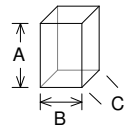
Total Volume: 0.0365 cu.ft (reduces box)

Shape: Square Prism

A = 7 in

B = 0.75 in

C = 6 in



Object: Vent panel at end of box

No. of Objects: 1

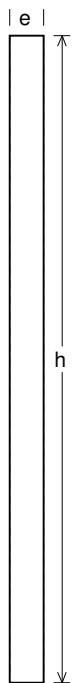
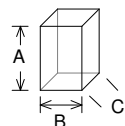
Volume: 0.162 cu.ft (reduces box)

Shape: Square Prism

A = 35.5 in

B = 10.5 in

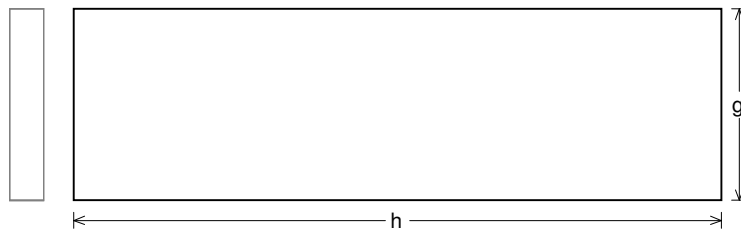
C = 0.75 in



These dimensions are for calculating volume only. The actual brace size will be the internal box size less ~ 50% for brace air flow requirements. I know the dimensions should be 6.375 x 5.25 but this is close enough. It shows 2 braces but you can add up to 3.

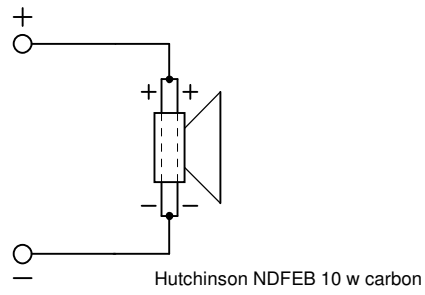
This is the actual piece that makes up one side of the port inside the box and accounts for the correct volume displacement.

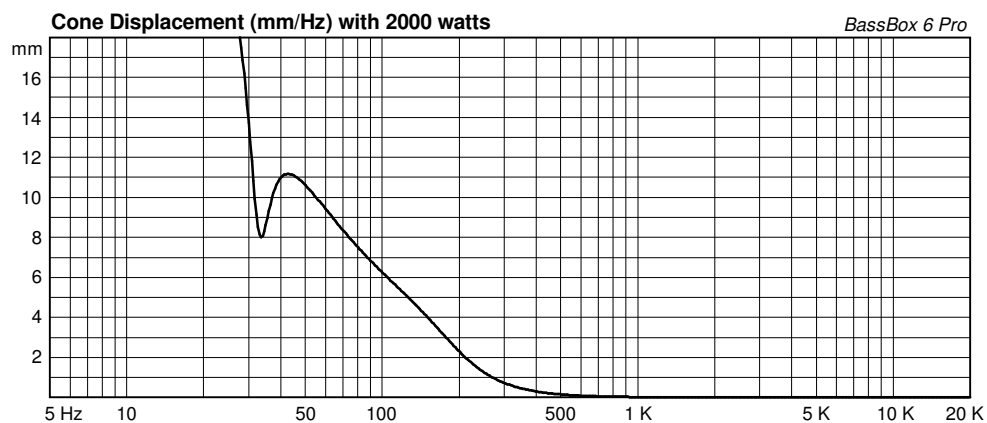
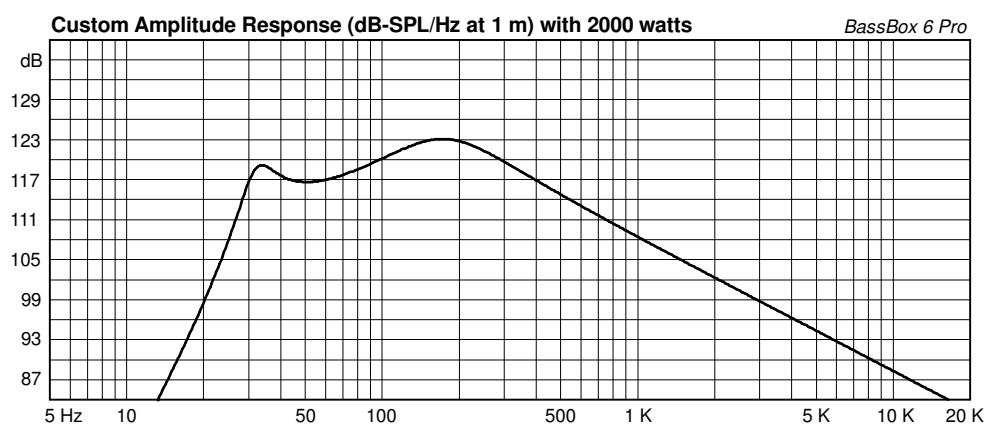
vent

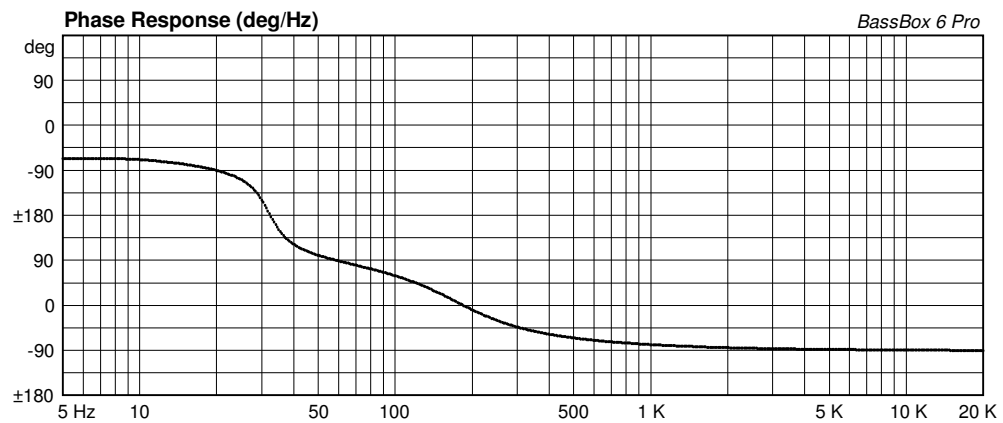
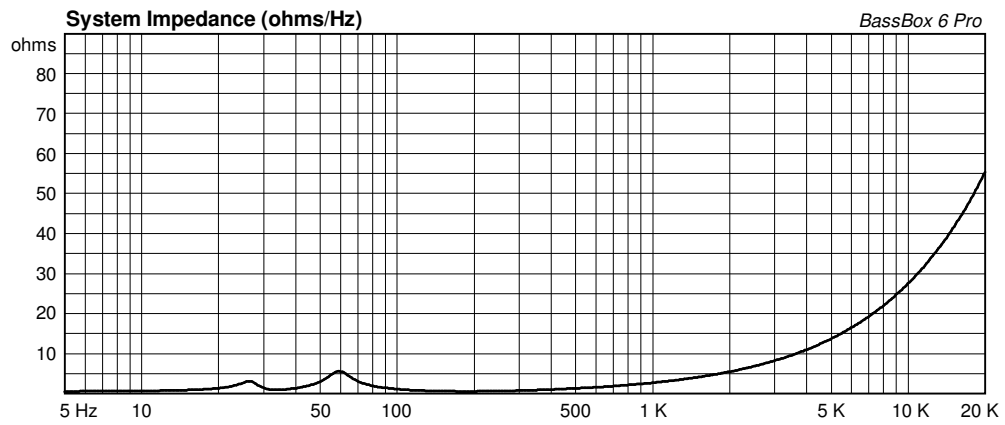
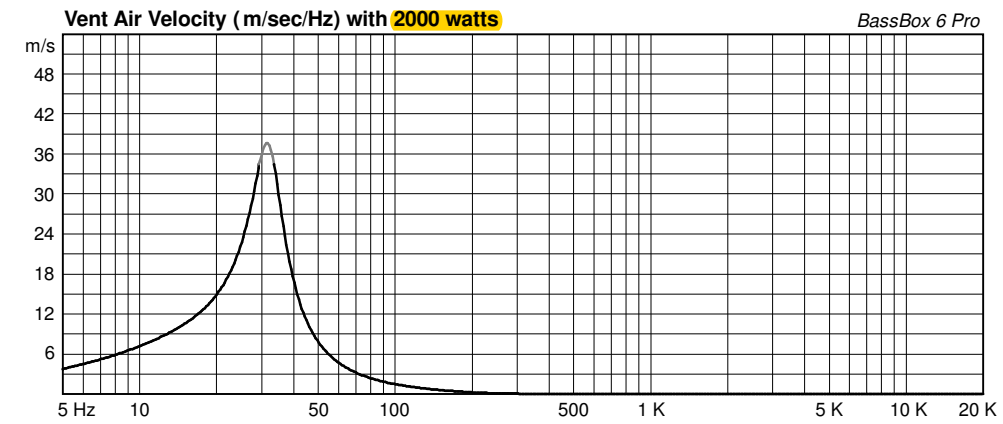




Wiring Diagram









Please note this is the highest I have ever seen group delay in a model and I'm not sure why other than it must be the power level?

