

# Custom Single-Tuned Bandpass Box Design

By Lenovo, na

## Box Properties

### --Description--

Name:

Type: Bandpass Single-Tuned Box

Shape: Prism, Bandpass with two chambers

### --Box Parameters--

#### Chamber 1 - lower-frequency

Vb = 1.064 cu.ft

V(total) = 1.236 cu.ft

Fb = 48.44 Hz

QL = 6.402

F3 = 35.35 Hz

Fill = normal

#### Chamber 2 - upper-frequency

Vb = 1.897 cu.ft

V(total) = 2.081 cu.ft

Fb = 46 Hz

QL = 7

F3 = 60.74 Hz

Fill = normal

### --Vents--

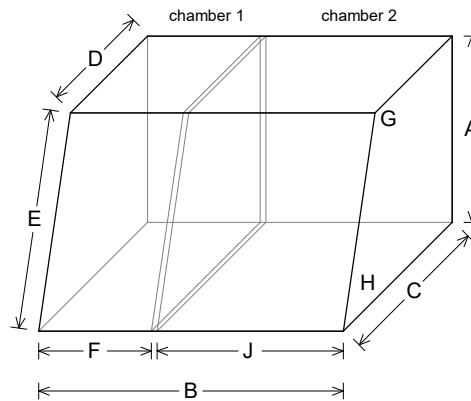
No. of Vents = 1

Vent shape = round

Vent ends = one flared

Dv = 6 in

Lv = 13.51 in



### --External Dimensions--

A = 16.5 in

B = 27 in

C = 18.19 in

D = 12.86 in

E = 17.34 in

### --Internal Dimensions--

A = 15.5 in

C = 17 in

D = 12 in

E = 16.29 in

F = 9.5 in

J = 16 in

### --Wall Thickness--

Outer Sides = 0.5 in

Inner Baffle = 0.5 in

### --Angles--

G = 107.9°

H = 72.12°

## Driver Properties

### --Description--

Name: SPG-555 2 ohm

Type: Standard one-way driver

Company: Boston Acoustics

### --Configuration--

No. of Drivers = 1

### --Mechanical Parameters--

Fs = 36.34 Hz

Qms = 10.99

Vas = 0.96 cu.ft

Cms = 0.0106 in/lb

Mms = 317.5 g

Rms = 14.54 lb/s

Xmax = 22 mm

Xmech = 49 mm

P-Dia = 10.54 in

Sd = 562.9 sq.cm

P-Vd = 0.0437 cu.ft

### --Electrical Parameters--

Qes = 0.767

Re = 1.71 ohms

Le = 0.525 mH

Z = 2.052 ohms

BL = 12.71 Tm

Pe = 1000 watts

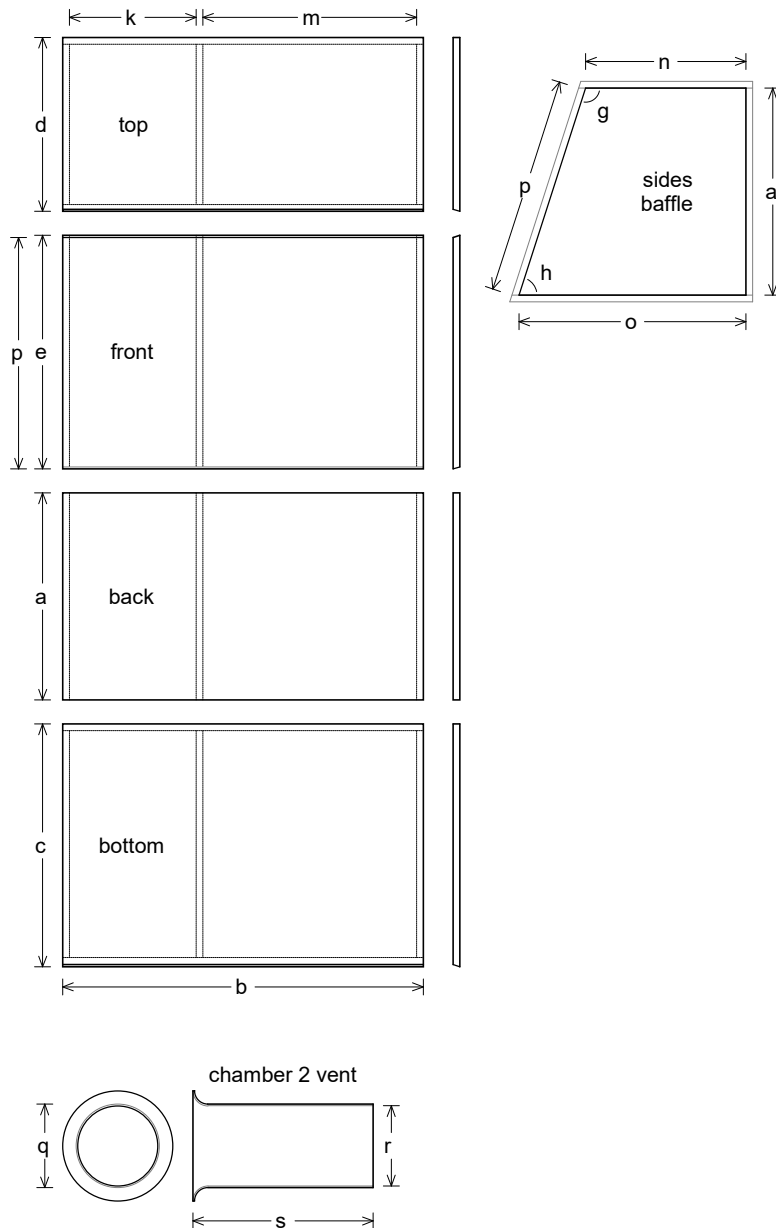
### --Electromech. Parameters--

Qts = 0.717

no = 0.164 %

1-W SPL = 84.2 dB

2.83-V SPL = 91.18 dB



## Box Parts

Box Shape: Bandpass Prism

- 1 Top: height (d) = 13.03 in  
width (b) = 27, thickness = 0.5 in  
cut angle (front edge only) = 17.88°
- 1 Front: total height (e) = 16.45 in  
exposed surface height (p) = 16.29 in  
width (b) = 27, thickness = 0.5 in  
cut angles = ± 17.88°
- 1 Back: height (a) = 15.5 in  
width (b) = 27, thickness = 0.5 in
- 1 Bottom: height (c) = 18.19 in  
width (b) = 27, thickness = 0.5 in  
cut angle (front edge only) = 17.88°
- 2 Sides: top depth (n) = 12 in  
height (a) = 15.5 in  
bottom depth (o) = 17 in  
front length (p) = 16.29 in  
thickness = 0.5 in  
top corner angle (g) = 107.9°  
bottom corner angle (h) = 72.12°
- 1 Baffle: top depth (n) = 12 in  
height (a) = 15.5 in  
bottom depth (o) = 17 in  
front length (p) = 16.29 in  
thickness = 0.5 in  
top corner angle (g) = 107.9°  
bottom corner angle (h) = 72.12°  
Location: k = 9.5, m = 16 in

## --Vent Parts--

- 1 Duct: (chamber 2)  
outside diameter (q) = 6.25 in  
inside diameter (r) = 6 in  
length (s) = 13.51 in

## --Driver Mounting--

Mounting: Flush  
Aim: Driver faces chamber 2

### Wiring Diagram

