

KappaLite 3010LF Large Vented Box Design

By Jerry McNutt, Eminence Speaker LLC

450 Watts Power Handling, F3 of 44 Hz, High Pass Suggested at 38 Hz.

Box Properties

--Description--

Name:

Type: Vented Box

Shape: Prism, square (optimum)

--Box Parameters--

Vb = 2.66 cu.ft

V(total) = 2.821 cu.ft

Fb = 48 Hz

QL = 20

F3 = 41.89 Hz

Fill = minimal

--Vents--

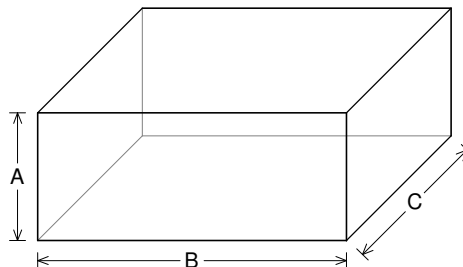
No. of Vents = 2

Vent shape = round

Vent ends = one flush

Dv = 4 in

Lv = 6.738 in



--External Dimensions--

A = 11.98 in

B = 28.93 in

C = 18.46 in

--Internal Dimensions--

A = 10.48 in

B = 27.43 in

C = 16.96 in

--Wall Thickness--

Front = 0.75 in

Side = 0.75 in

Driver Properties

--Description--

Name: KappaLite 3010LF

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 10" Cast Neo Subwoofer

--Configuration--

No. of Drivers = 1

--Mechanical Parameters--

Fs = 44.82 Hz

Qms = 6.95

Vas = 47.33 liters

Cms = 0.24 mm/N

Mms = 53.23 g

Rms = 2.16 kg/s

Xmax = 8.52 mm

Xmech = 15.7 mm

P-Dia = 217.8 mm

Sd = 376.9 sq.cm

P-Vd = 321.1 cu.cm

--Electrical Parameters--

Qes = 0.31

Re = 7.03 ohms

Le = 0.87 mH

Z = 8 ohms

BL = 17.98 Tm

Pe = 450 watts

--Electromech. Parameters--

Qts = 0.31

no = 1.243 %

1-W SPL = 93.09 dB

2.83-V SPL = 93.55 dB

KappaLite 3010LF x2, MicroSub, Advanced Design

By Jerry McNutt, Eminence Speaker LLC

600 Watts Power Handling, F3 of 47 Hz. Not For First Time Builders.

Fx at 48 Hz and Qx at 1.4 or other types of EQ to play this low.

Box Properties

--Description--

Name:

Type: Vented Box w/ Active HP Filter

Shape: Prism, square (optimum)

--Box Parameters--

Vb = 2.8 cu.ft

V(total) = 3.019 cu.ft

Fb = 48 Hz

QL = 7

F3 = 44.41 Hz

Fill = minimal

--Vents--

No. of Vents = 2

Vent shape = round

Vent ends = one flush

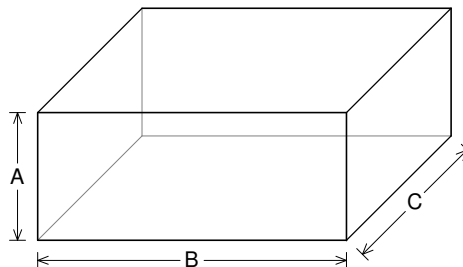
Dv = 4 in

Lv = 6.163 in

--Active 12 dB/oct. HP Filter--

Fx = 48 Hz

Qx = 1.4



--External Dimensions--

A = 12.22 in

B = 29.56 in

C = 18.84 in

--Internal Dimensions--

A = 10.72 in

B = 28.06 in

C = 17.34 in

--Wall Thickness--

Front = 0.75 in

Side = 0.75 in

Driver Properties

--Description--

Name: KappaLite 3010LF

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 10" Cast Neo Subwoofer

--Configuration--

No. of Drivers = 2

Mounting = Standard

Wiring = Parallel

Drivers sum coherently = Yes

--Mechanical Parameters--

Fs = 44.82 Hz

Qms = 6.95

Vas = 47.33 liters [94.66]

Cms = 0.24 mm/N [0.12]

Mms = 53.23 g [106.5]

Rms = 2.16 kg/s [4.32]

Xmax = 8.52 mm

Xmech = 15.7 mm

P-Dia = 217.8 mm [308]

Sd = 376.9 sq.cm [753.8]

P-Vd = 0.302 liters [0.604]

--Electrical Parameters--

Qes = 0.33

Re = 7.03 ohms [3.515]

Le = 0.87 mH [0.435]

Z = 8 ohms [4]

BL = 17.98 Tm [17.87]

Pe = 450 watts [900]

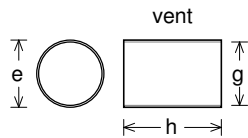
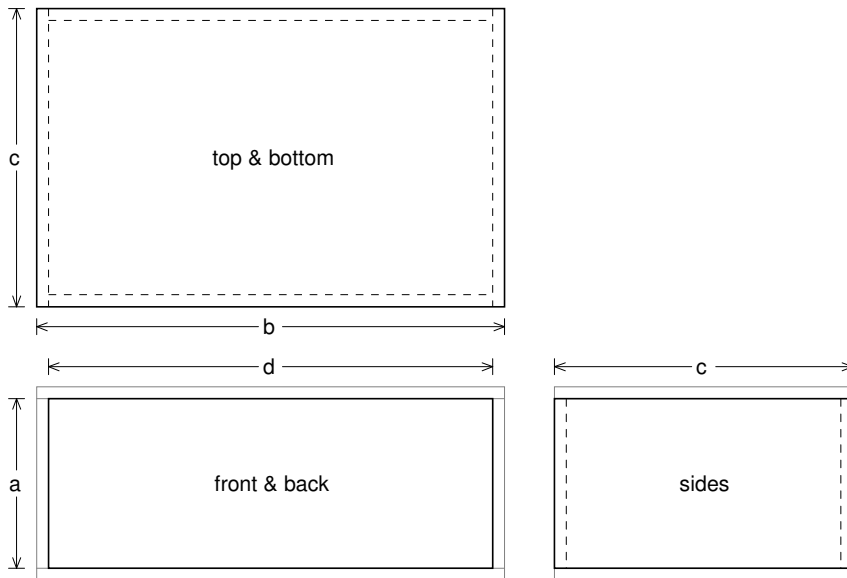
--Electromech. Parameters--

Qts = 0.31

no = 1.243 % [2.485]

1-W SPL = 93.09 dB [96.1]

2.83-V SPL = 93.55 dB [99.57]



Box Parts

Box Shape: Optimum Square Prism
1 Top, 1 Bottom: depth (c) = 18.84 in
width (b) = 29.56, thickness = 0.75 in
1 Front, 1 Back: height (a) = 10.72 in
width (d) = 28.06, thickness = 0.75 in
2 Sides: height (a) = 10.72 in
depth (c) = 18.84, thickness = 0.75 in

--Vent Parts--

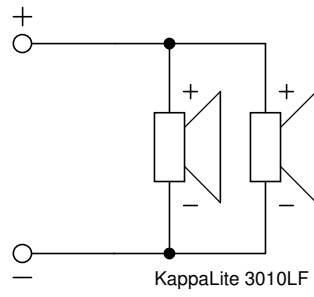
2 Ducts: outside diameter (e) = 4.25 in
inside diameter (g) = 4 in
length (h) = 6.163 in

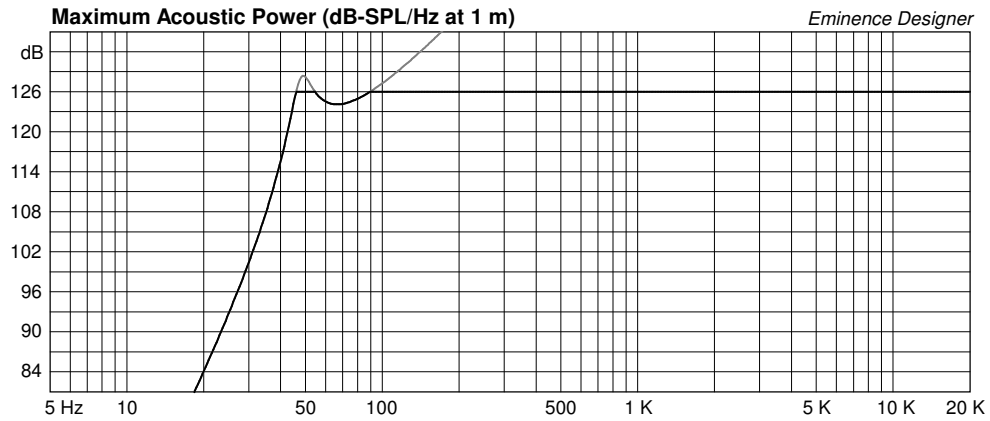
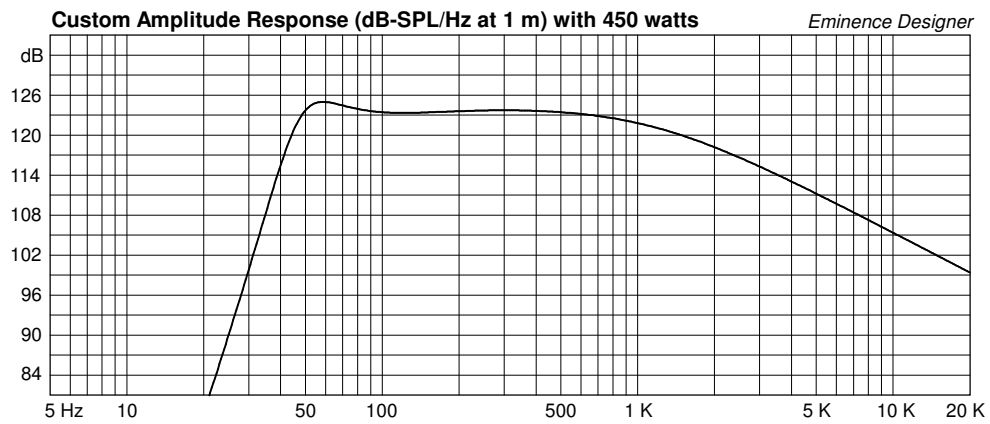
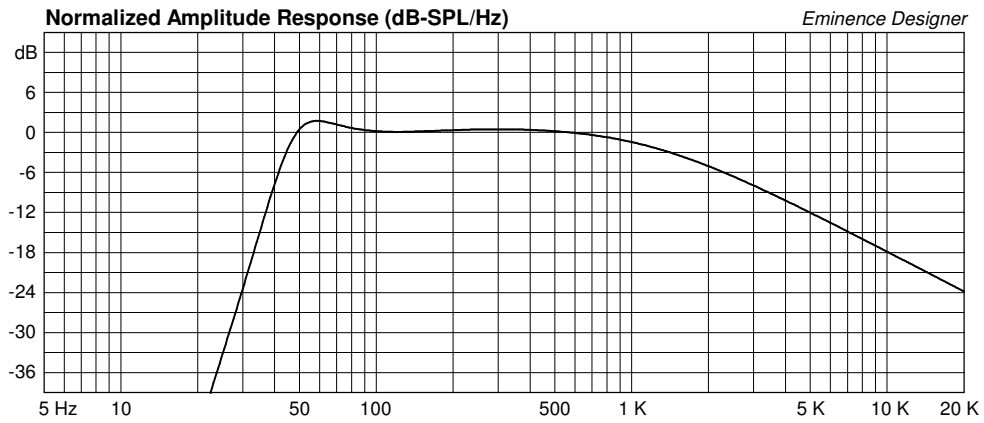
--Driver Mounting--

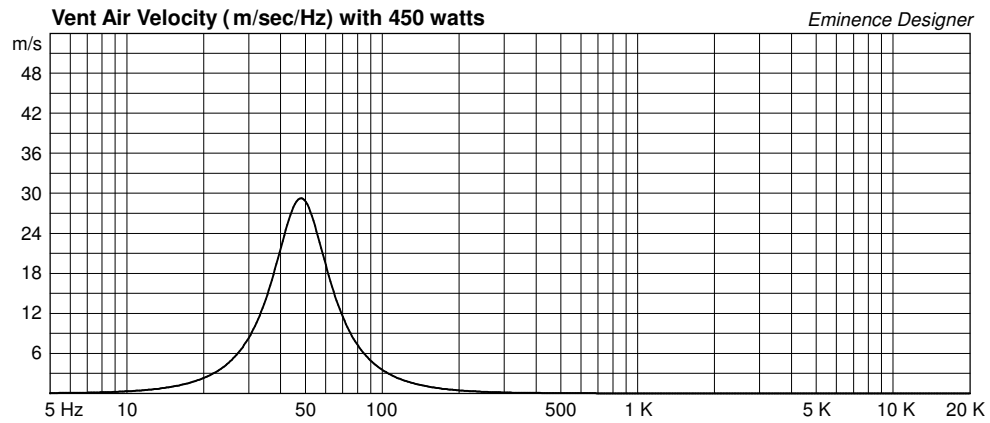
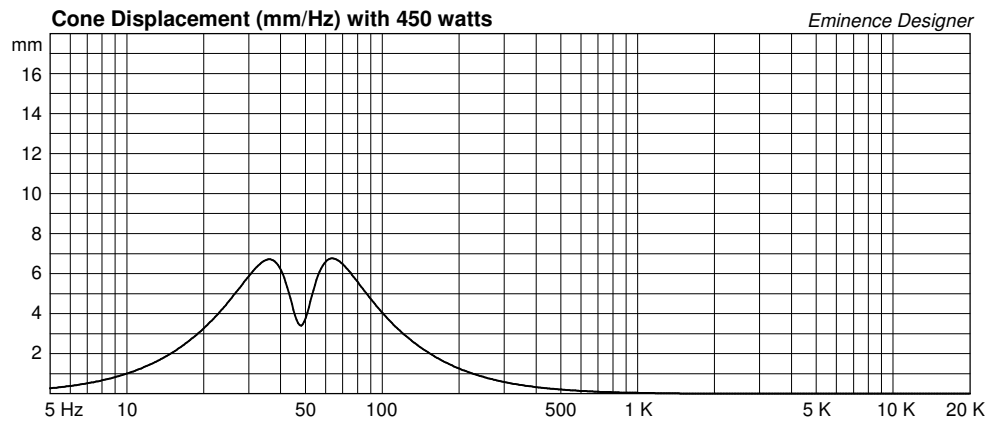
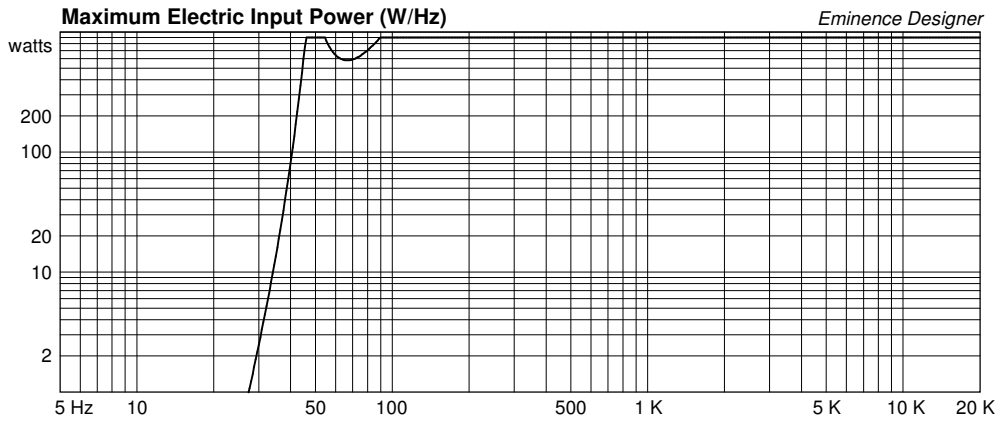
Mounting: Flush

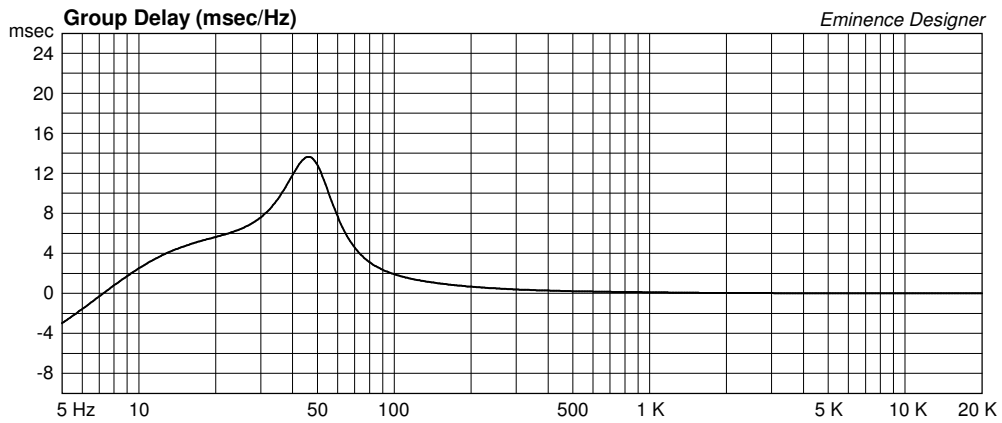
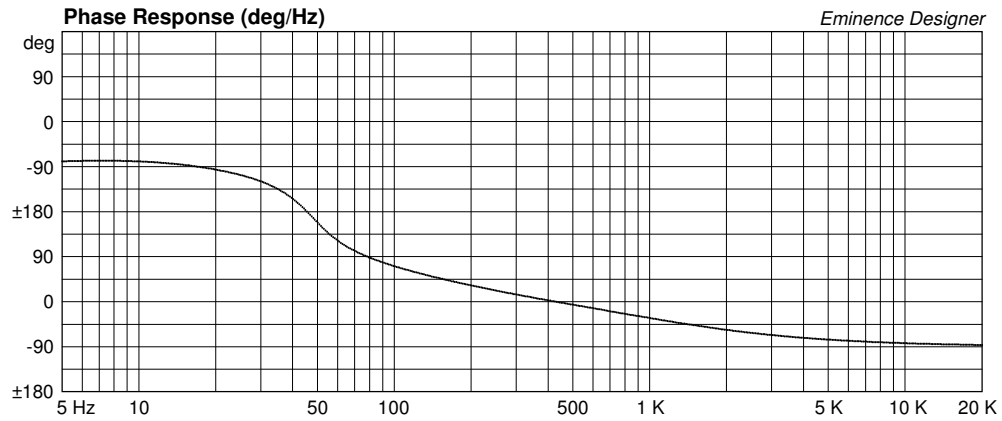
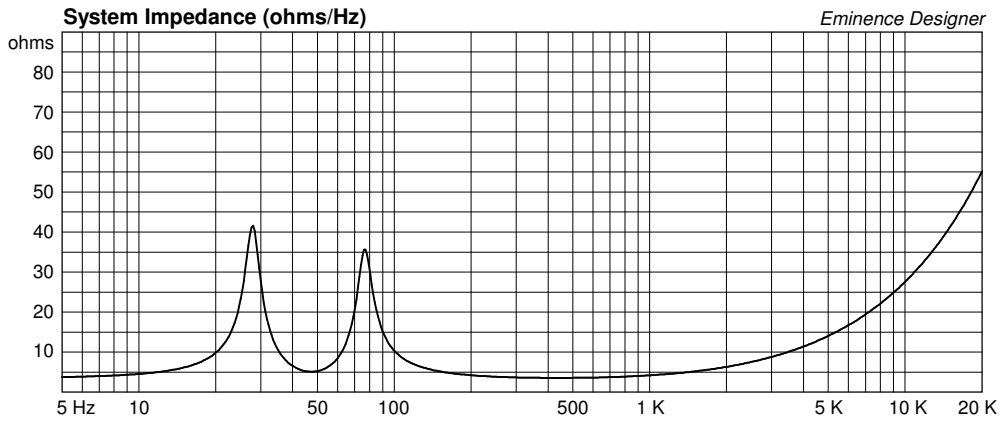
Aim: All drivers face same direction

Wiring Diagram









KappaLite 3010LF Med Vented Box, Bass Guitar

By Jerry McNutt, Eminence Speaker LLC

450 Watts Power Handling, F3 of 52Hz, High Pass Suggested at 40 Hz.

Box Properties

--Description--

Name:

Type: Vented Box

Shape: Prism, square (optimum)

--Box Parameters--

Vb = 1.2 cu.ft

V(total) = 1.361 cu.ft

Fb = 52 Hz

QL = 7

F3 = 52.44 Hz

Fill = minimal

--Vents--

No. of Vents = 1

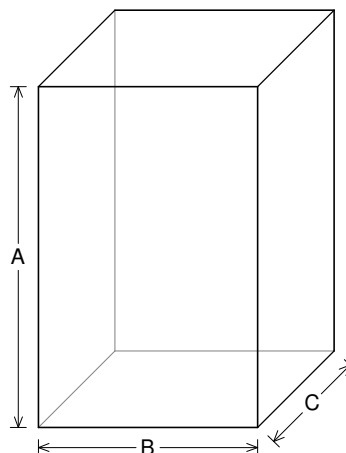
Vent shape = rectangle

Vent ends = one flush

Hv = 1.1 in

Wv = 13.14 in

Lv = 10.18 in



--External Dimensions--

A = 23.02 in

B = 14.8 in

C = 9.719 in

--Internal Dimensions--

A = 21.52 in

B = 13.3 in

C = 8.219 in

--Wall Thickness--

Front = 0.75 in

Side = 0.75 in

Driver Properties

--Description--

Name: KappaLite 3010LF

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 10" Cast Neo Subwoofer

--Configuration--

No. of Drivers = 1

--Mechanical Parameters--

Fs = 44.82 Hz

Qms = 6.95

Vas = 47.33 liters

Cms = 0.24 mm/N

Mms = 53.23 g

Rms = 2.129 kg/s

Xmax = 8.52 mm

Xmech = 15.7 mm

P-Dia = 217.8 mm

Sd = 376.9 sq.cm

P-Vd = 376.9 cu.cm

--Electrical Parameters--

Qes = 0.33

Re = 7.03 ohms

Le = 0.87 mH

Z = 8 ohms

BL = 17.98 Tm

Pe = 450 watts

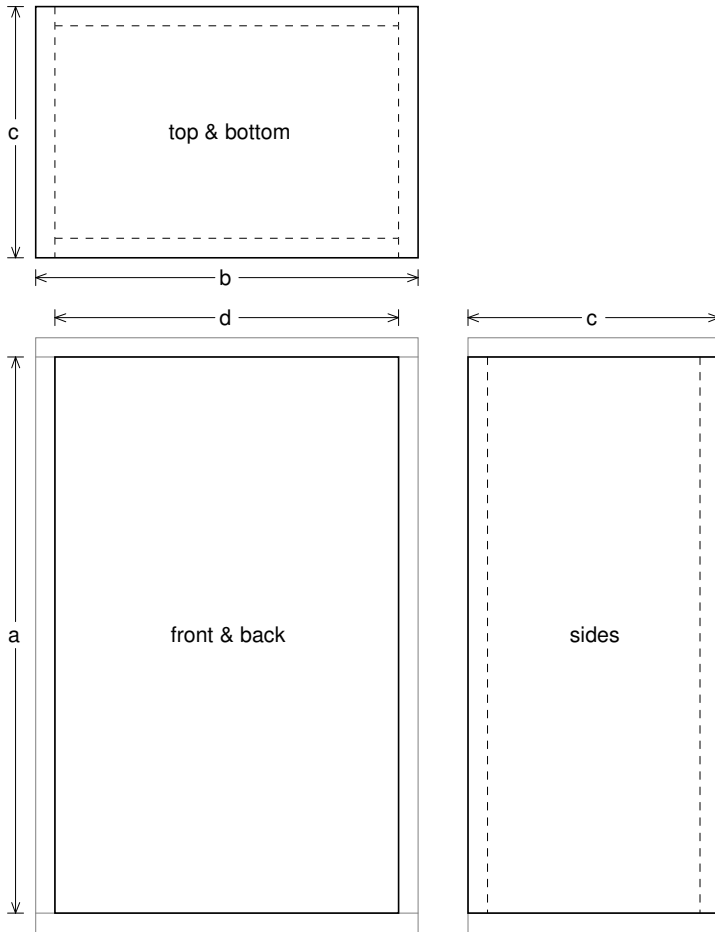
--Electromech. Parameters--

Qts = 0.31

no = 1.243 %

1-W SPL = 93.09 dB

2.83-V SPL = 93.55 dB



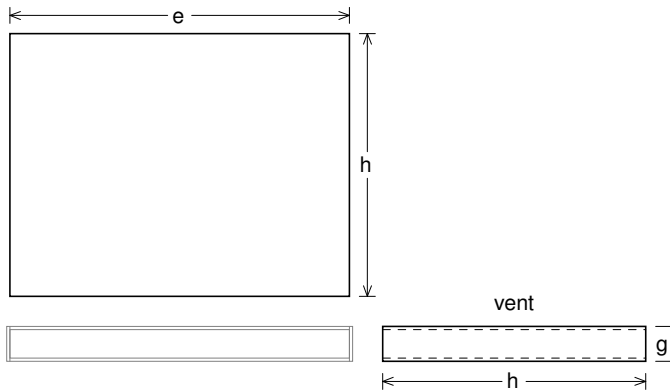
Box Parts

Box Shape: Optimum Square Prism
1 Top, 1 Bottom: depth (c) = 9.719 in
width (b) = 14.8, thickness = 0.75 in
1 Front, 1 Back: height (a) = 21.52 in
width (d) = 13.3, thickness = 0.75 in
2 Sides: height (a) = 21.52 in
depth (c) = 9.719, thickness = 0.75 in

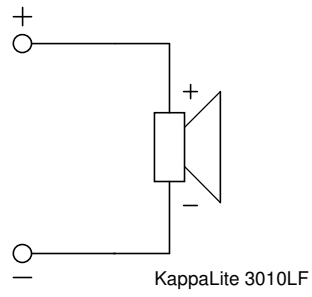
--Vent Parts--

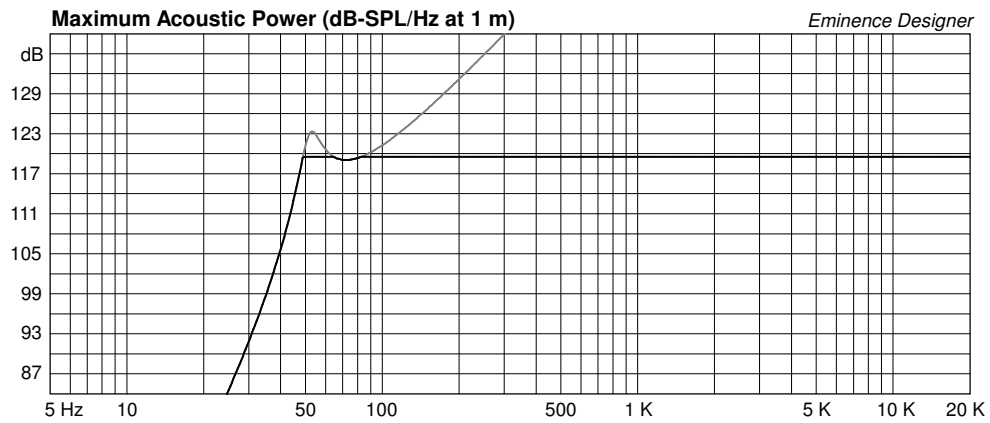
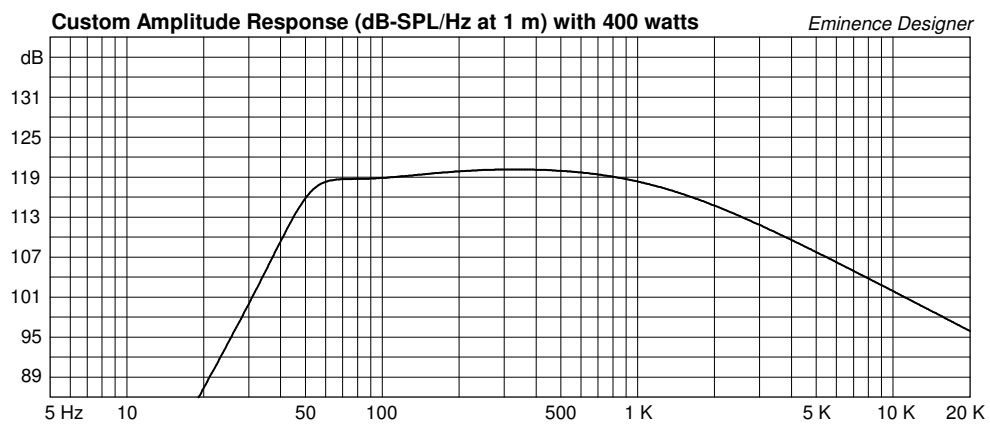
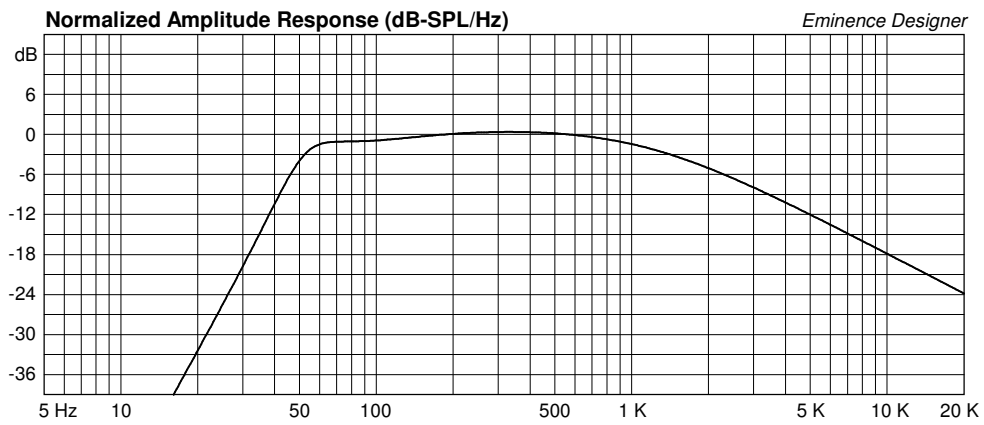
1 Top, 1 Bottom:
width (e) = 13.14, length (h) = 10.18 in
thickness = 0.125 in
2 Sides:
height (g) = 1.35, length (h) = 10.18 in
thickness = 0.125 in

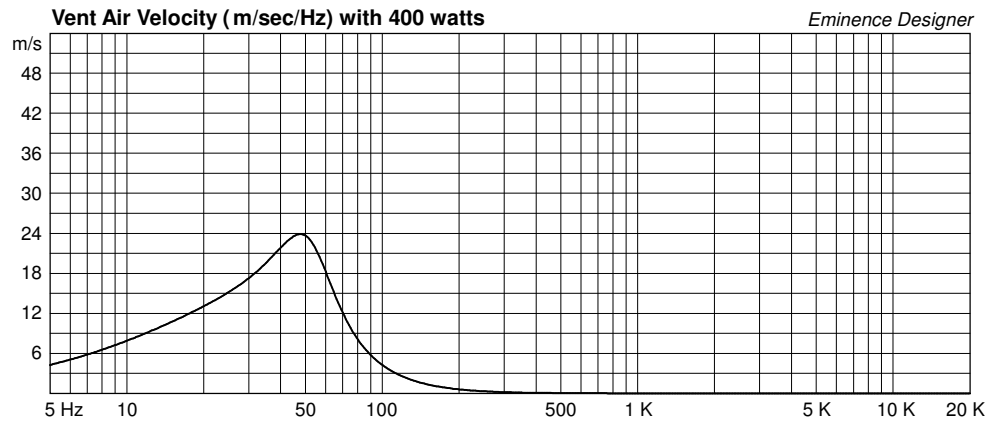
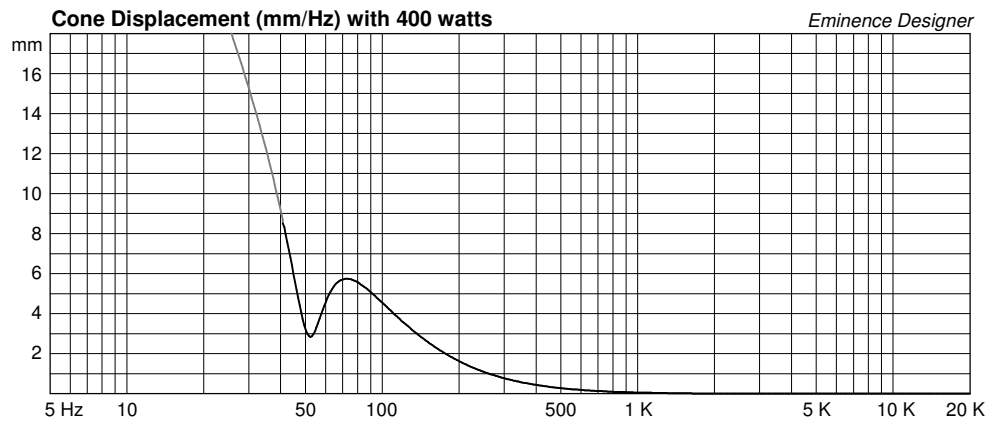
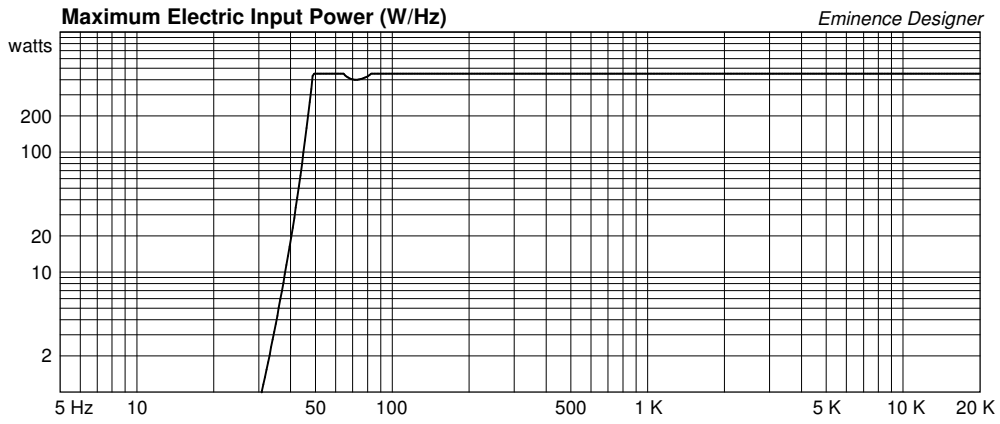
--Driver Mounting--
Mounting: Flush

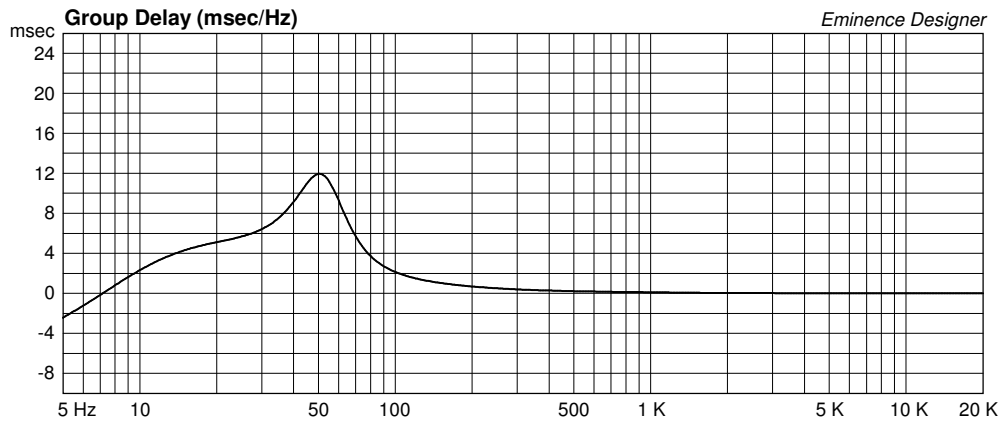
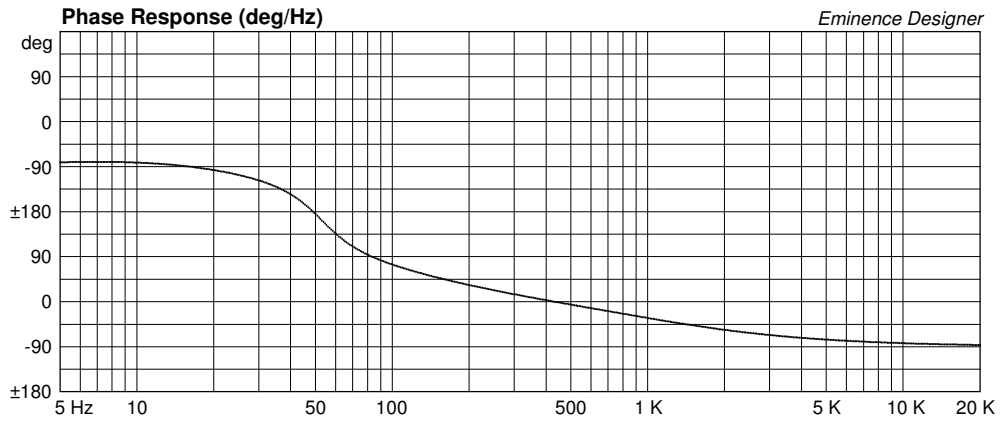
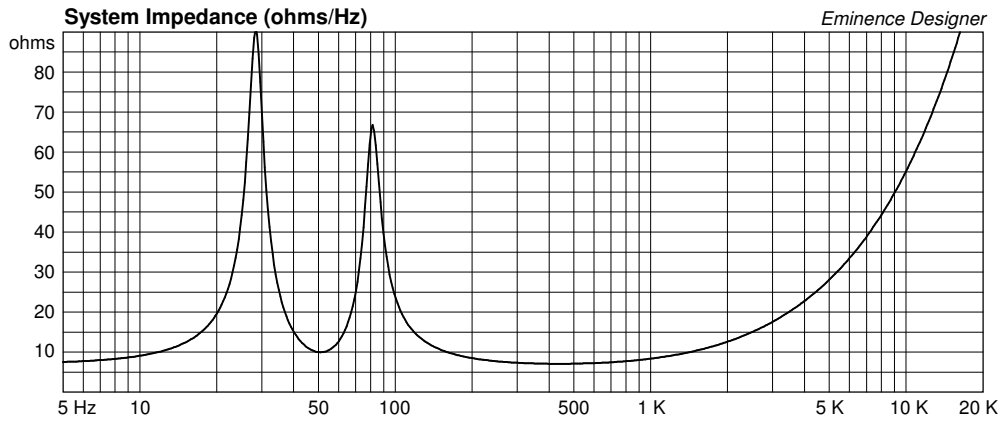


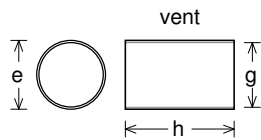
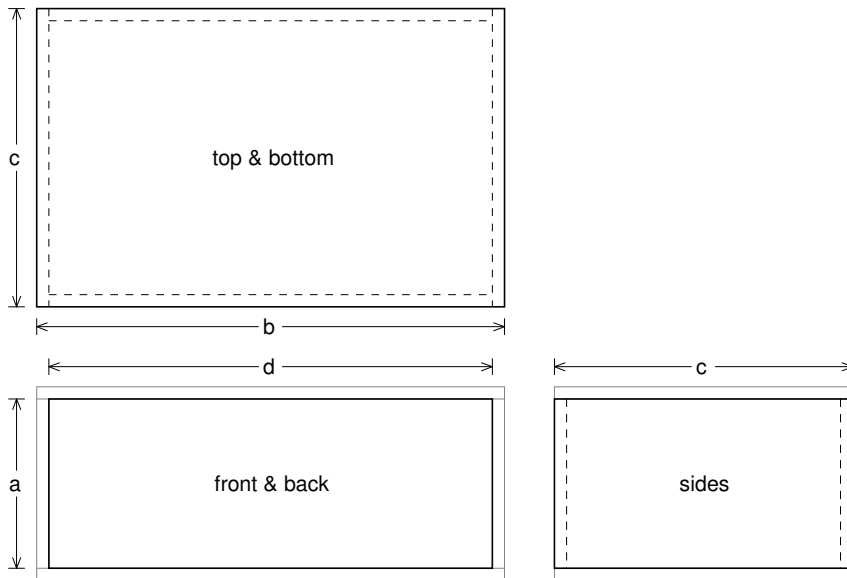
Wiring Diagram











Box Parts

Box Shape: Optimum Square Prism
1 Top, 1 Bottom: depth (c) = 18.46 in
width (b) = 28.93, thickness = 0.75 in
1 Front, 1 Back: height (a) = 10.48 in
width (d) = 27.43, thickness = 0.75 in
2 Sides: height (a) = 10.48 in
depth (c) = 18.46, thickness = 0.75 in

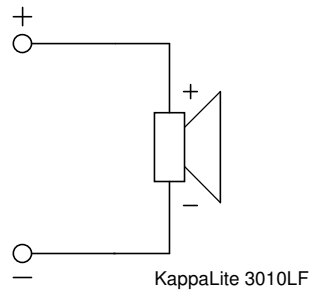
--Vent Parts--

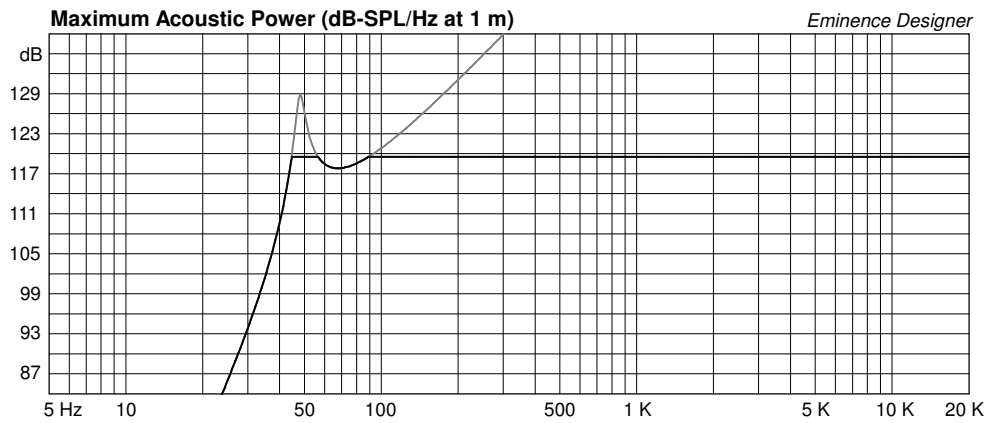
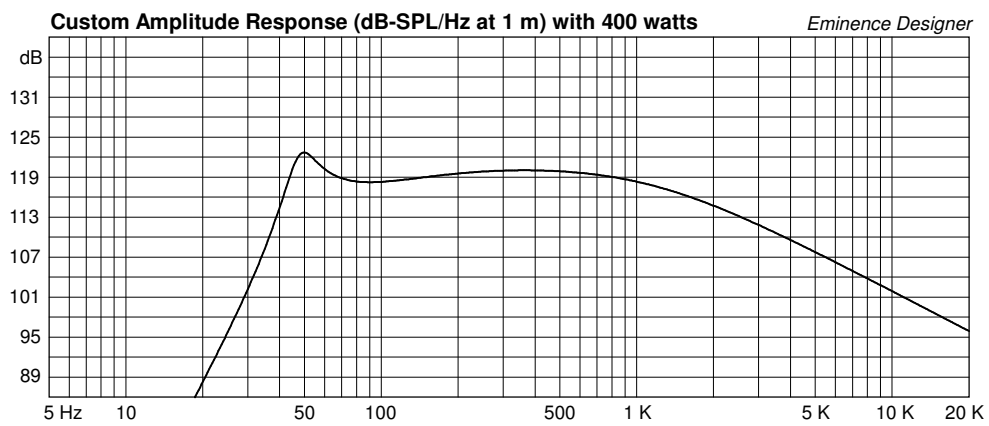
2 Ducts: outside diameter (e) = 4.25 in
inside diameter (g) = 4 in
length (h) = 6.738 in

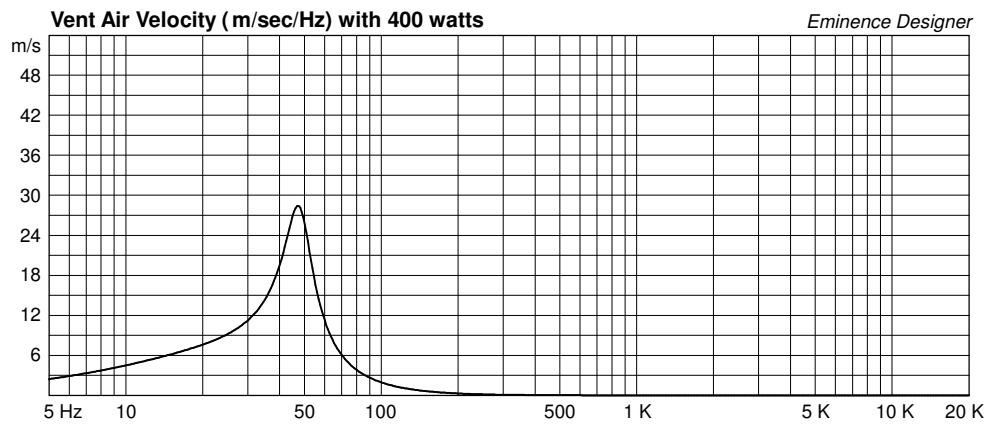
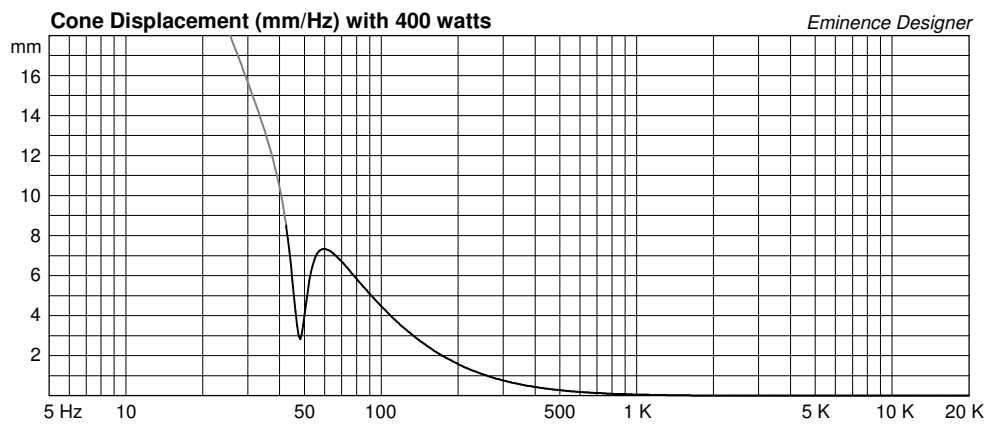
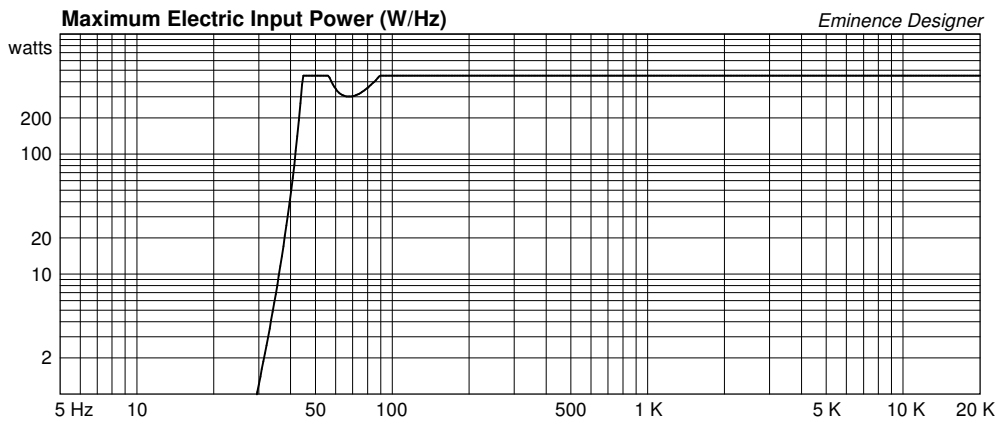
--Driver Mounting--

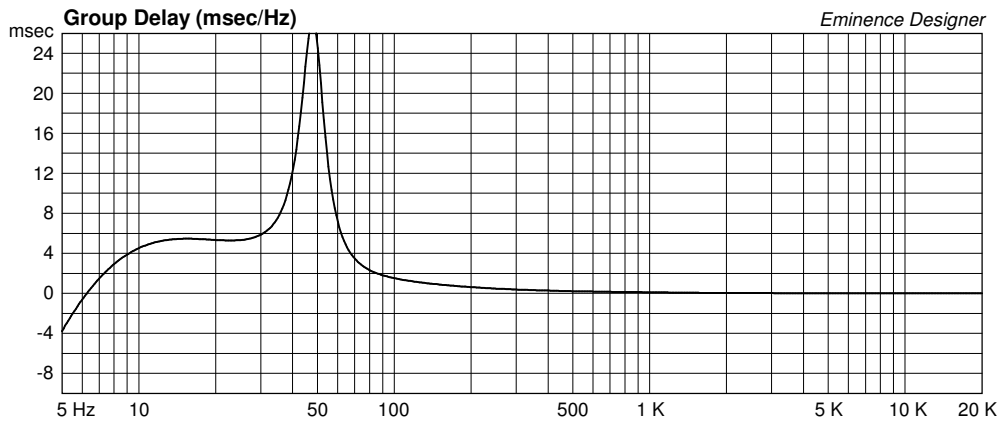
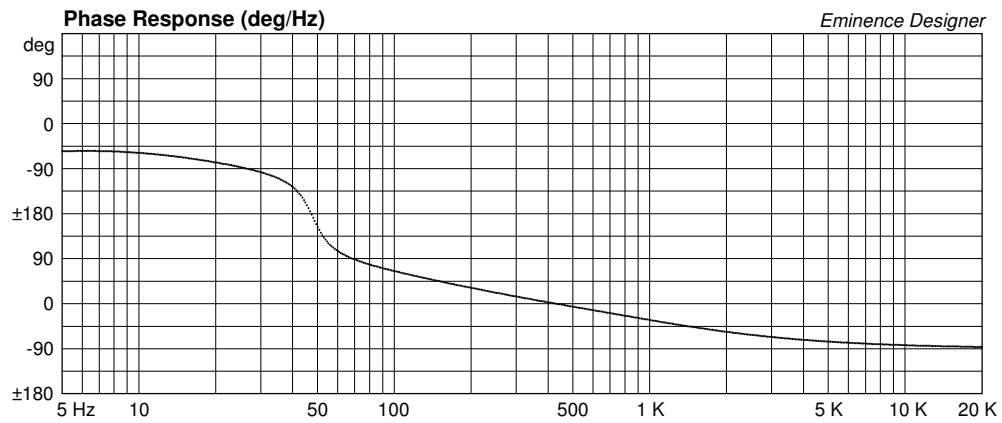
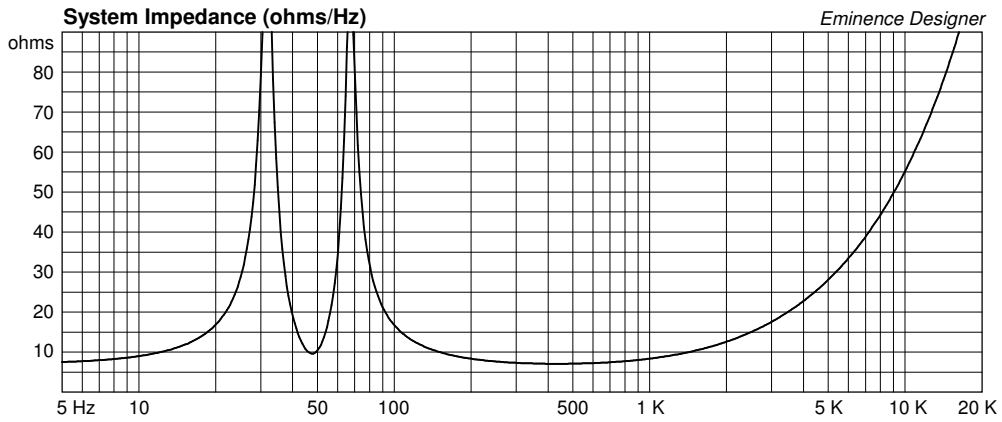
Mounting: Flush

Wiring Diagram









KappaLite 3010LF Small Vented Floor Wedge Or Sat

By Jerry McNutt, Eminence Speaker LLC

450 Watts Power Handling, F3 of 72 Hz, High Pass Suggested at 60 Hz.

Box Properties

--Description--

Name:

Type: Vented Box

Shape: Prism, truncated edge

--Box Parameters--

Vb = 0.65 cu.ft

V(total) = 0.746 cu.ft

Fb = 70 Hz

QL = 7

F3 = 68.66 Hz

Fill = minimal

--Vents--

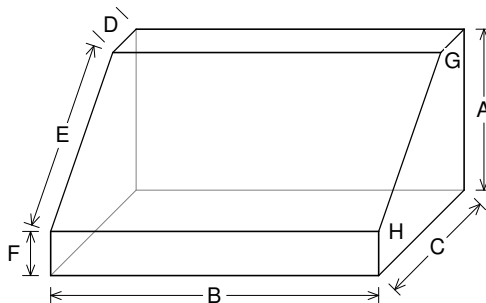
No. of Vents = 2

Vent shape = round

Vent ends = one flush

Dv = 2.5 in

Lv = 5.667 in



--External Dimensions--

A = 11 in

B = 22.41 in

C = 11 in

D = 3 in

E = 11.31 in

F = 3 in

--Internal Dimensions--

A = 9.5 in

B = 20.91 in

C = 9.5 in

D = 1.939 in

E = 10.69 in

F = 1.939 in

--Wall Thickness--

Wall = 0.75 in

--Angles--

G = 135°

H = 135°

Driver Properties

--Description--

Name: KappaLite 3010LF

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 10" Cast Neo Subwoofer

--Configuration--

No. of Drivers = 1

--Mechanical Parameters--

Fs = 44.82 Hz

Qms = 6.95

Vas = 47.33 liters

Cms = 0.24 mm/N

Mms = 53.23 g

Rms = 2.16 kg/s

Xmax = 8.52 mm

Xmech = 15.7 mm

P-Dia = 217.8 mm

Sd = 376.9 sq.cm

P-Vd = 0.302 liters

--Electrical Parameters--

Qes = 0.33

Re = 7.03 ohms

Le = 0.87 mH

Z = 8 ohms

BL = 17.98 Tm

Pe = 450 watts

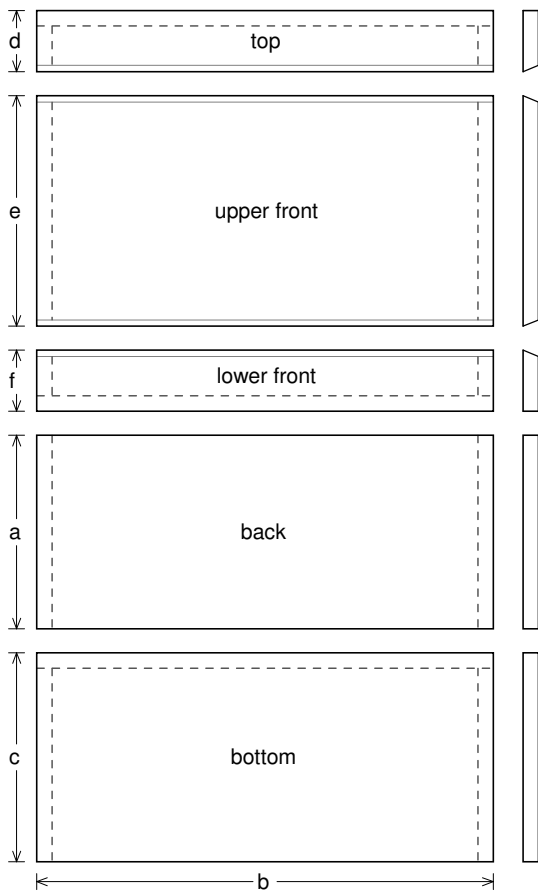
--Electromech. Parameters--

Qts = 0.31

no = 1.243 %

1-W SPL = 93.09 dB

2.83-V SPL = 93.55 dB



Box Parts

Box Shape: Truncated Edge Prism

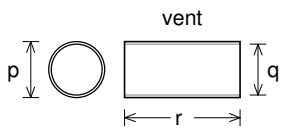
- 1 Top: height (d) = 3 in
width (b) = 22.41, thickness = 0.75 in
cut angle (front edge only) = 22.5°
- 1 Upper Front: height (e) = 11.31 in
width (b) = 22.41, thickness = 0.75 in
top edge cut angle = 22.5°
bottom edge cut angle = 22.5°
- 1 Lower Front: height (f) = 3 in
width (b) = 22.41, thickness = 0.75 in
cut angle (top edge only) = 22.5°
- 1 Back: height (a) = 9.5, width (b) = 22.41 in
thickness = 0.75 in
- 1 Bottom: height (c) = 10.25 in
width (b) = 22.41, thickness = 0.75 in
- 2 Sides: top depth (k) = 1.939 in
height (a) = 9.5 in
bottom depth (m) = 9.5 in
lower front height (n) = 1.939 in
front length (o) = 11.31 in
thickness = 0.75 in
Angle g = 135°, Angle h = 135°

--Vent Parts--

- 2 Ducts: outside diameter (p) = 2.75 in
inside diameter (q) = 2.5 in
length (r) = 5.667 in

--Driver Mounting--

Mounting: Flush



Wiring Diagram

