

Alpha 4-8 Eight Driver Sealed Column-Array Design

By Jerry McNutt, Eminence Speaker LLC

440 watts, F3 at 143 Hz. Run 4" woofers 200 Hz and up for speech.

Run 4" woofers 200Hz-5.0kHz and add a CD tweeter for PA or DJ use.



Box Properties

--Description--

Name:

Type: Closed Box

Shape: Prism, square

--Box Parameters--

Vb = 0.534 cu.ft

V(total) = 0.58 cu.ft

Qtc = 0.905

QL = 20

F3 = 143.8 Hz

Fill = normal

Driver Properties

--Description--

Name: Alpha 4-8

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 4" woofer/midrange

--Configuration--

No. of Drivers = 8

Mounting = Standard

Wiring = Series-Parallel

Drivers sum coherently = Yes

--Mechanical Parameters--

Fs = 123.1 Hz

Qms = 6.83

Vas = 1.94 liters [15.52]

Cms = 0.42 mm/N [0.0525]

Mms = 3.96 g [31.68]

Rms = 0.45 kg/s [3.6]

Xmax = 2.6 mm

Xmech = 4.5 mm

P-Dia = 85.21 mm [241]

Sd = 57.72 sq.cm [461.8]

P-Vd = 0.0148 liters [0.119]

--Electrical Parameters--

Qes = 0.84

Re = 6.73 ohms [3.365]

Le = 0.28 mH [0.14]

Z = 8 ohms [4]

BL = 4.94 Tm [9.905]

Pe = 55 watts [440]

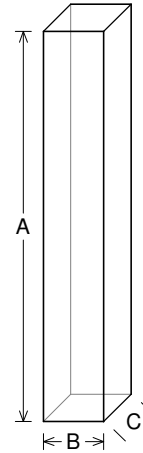
--Electromech. Parameters--

Qts = 0.75

no = 0.415 % [3.319]

1-W SPL = 88.33 dB [97.36]

2.83-V SPL = 89.08 dB [101.1]



--External Dimensions--

A = 44.34 in

B = 6.855 in

C = 5.869 in

--Internal Dimensions--

A = 42.84 in

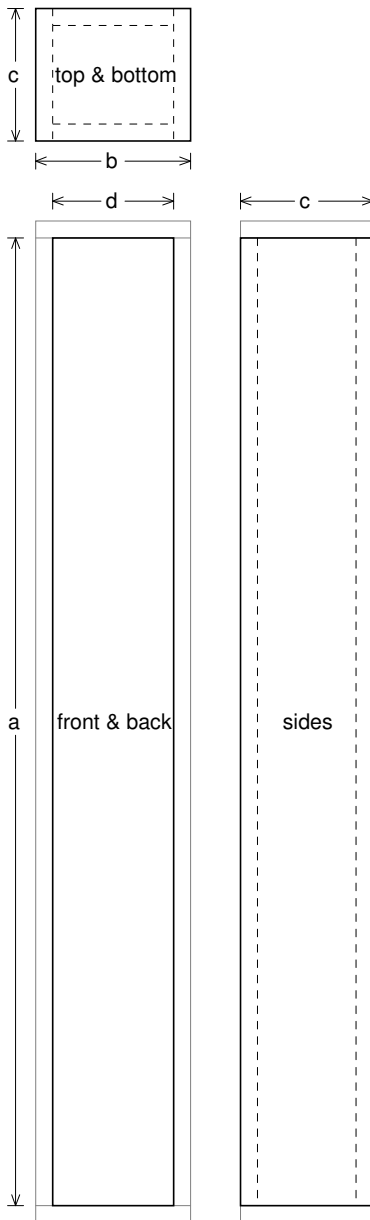
B = 5.355 in

C = 4.369 in

--Wall Thickness--

Front = 0.75 in

Side = 0.75 in



Box Parts

Box Shape: Square Prism

1 Top, 1 Bottom: depth (c) = 5.869 in
width (b) = 6.855, thickness = 0.75 in

1 Front, 1 Back: height (a) = 42.84 in
width (d) = 5.355, thickness = 0.75 in

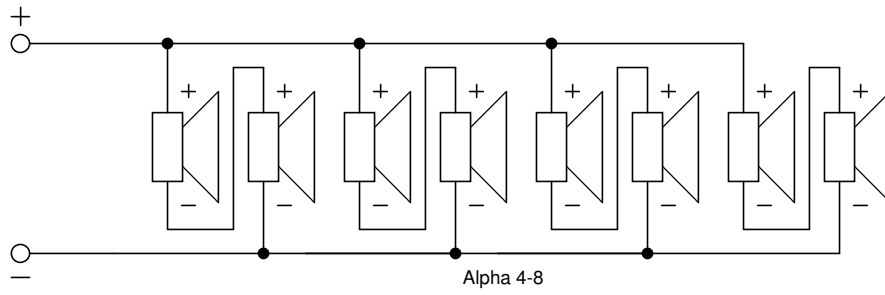
2 Sides: height (a) = 42.84 in
depth (c) = 5.869, thickness = 0.75 in

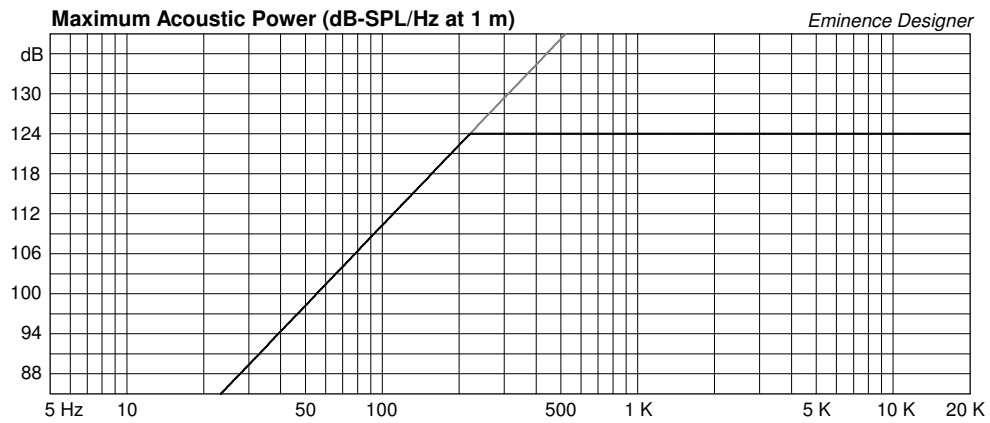
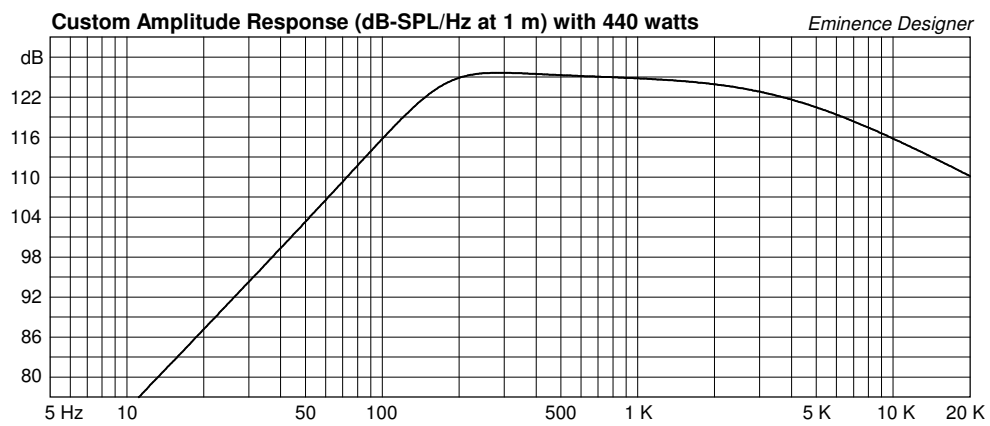
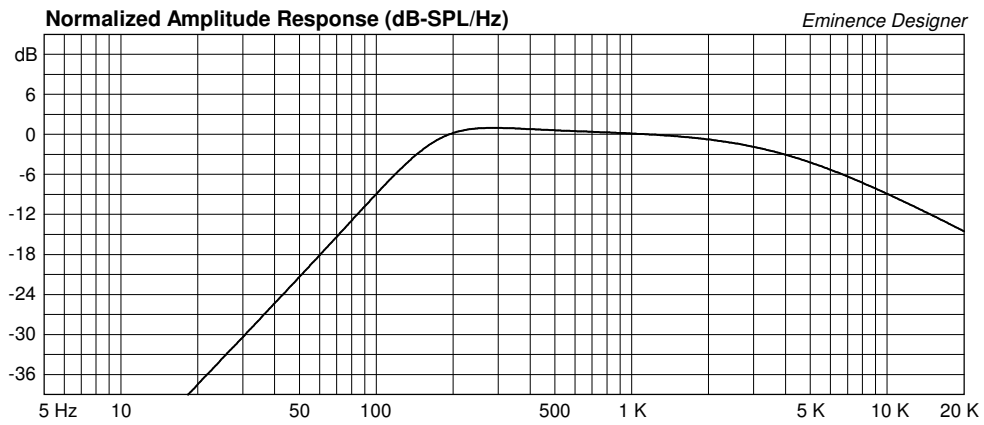
--Driver Mounting--

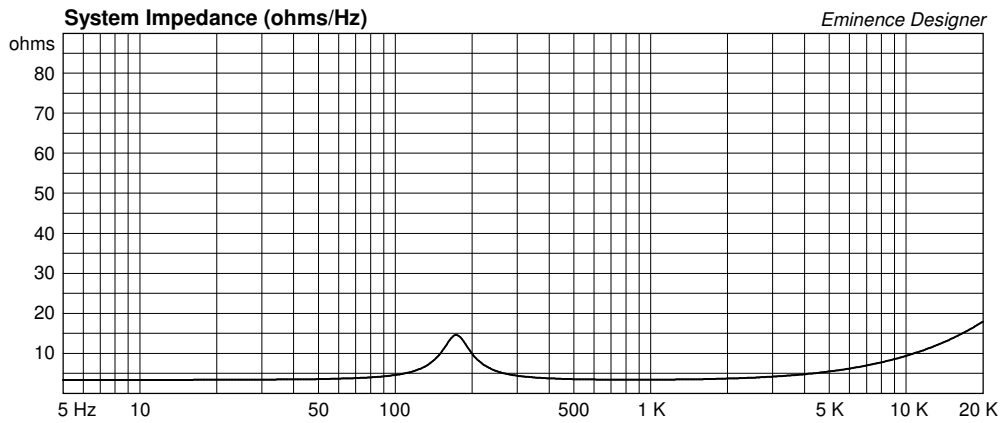
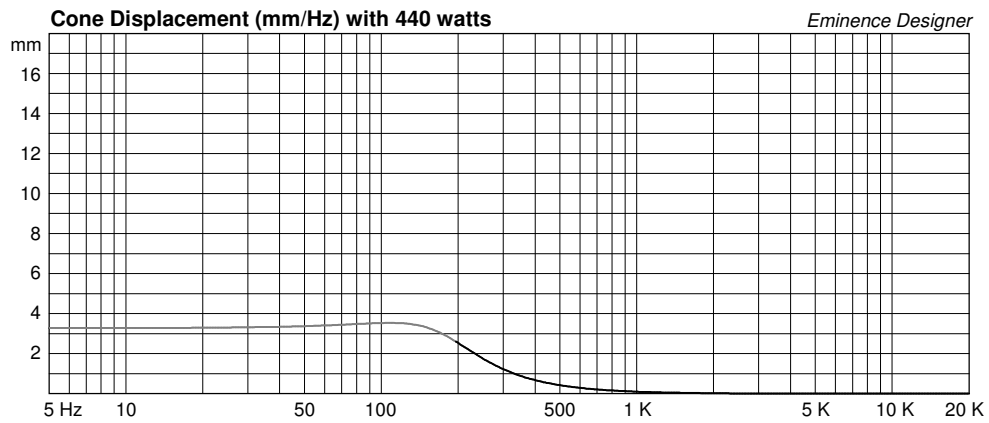
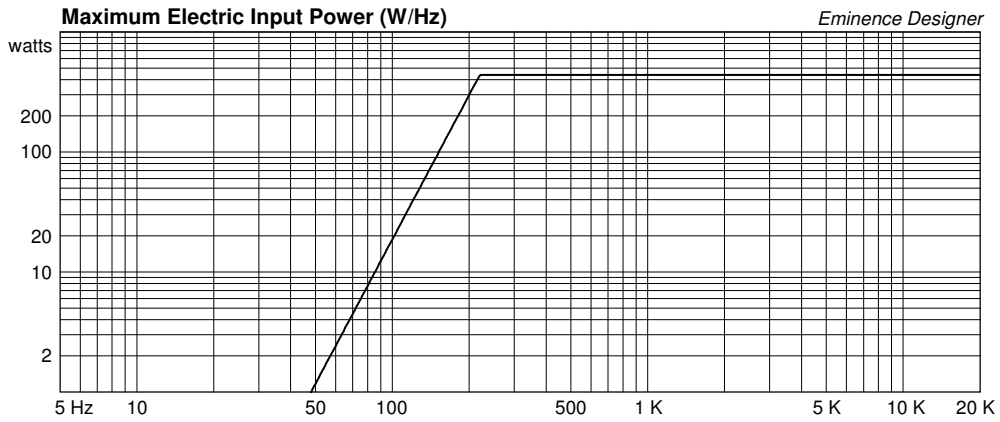
Mounting: Flush

Aim: All drivers face same direction

Wiring Diagram







Alpha 4-8 Large Sealed Midrange Design

By Jerry McNutt, Eminence Speaker LLC
50 watts, F3 at 132 Hz. Best used above 180 Hz.



Box Properties

--Description--

Name:

Type: Closed Box

Shape: Prism, square (optimum)

--Box Parameters--

Vb = 0.235 cu.ft

V(total) = 0.241 cu.ft

Qtc = 0.75

QL = 20

F3 = 131.5 Hz

Fill = normal

Driver Properties

--Description--

Name: Alpha 4-8

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 4" woofer/midrange

--Configuration--

No. of Drivers = 1

--Mechanical Parameters--

Fs = 123.1 Hz

Qms = 6.83

Vas = 1.94 liters

Cms = 0.42 mm/N

Mms = 3.96 g

Rms = 0.45 kg/s

Xmax = 2.6 mm

Xmech = 4.5 mm

P-Dia = 85.21 mm

Sd = 57.72 sq.cm

P-Vd = 0.0148 liters

--Electrical Parameters--

Qes = 0.84

Re = 6.73 ohms

Le = 0.28 mH

Z = 8 ohms

BL = 4.94 Tm

Pe = 55 watts

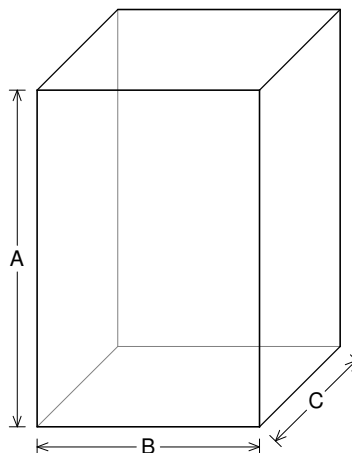
--Electromech. Parameters--

Qts = 0.75

no = 0.415 %

1-W SPL = 88.33 dB

2.83-V SPL = 89.08 dB



--External Dimensions--

A = 13.58 in

B = 8.969 in

C = 6.116 in

--Internal Dimensions--

A = 12.08 in

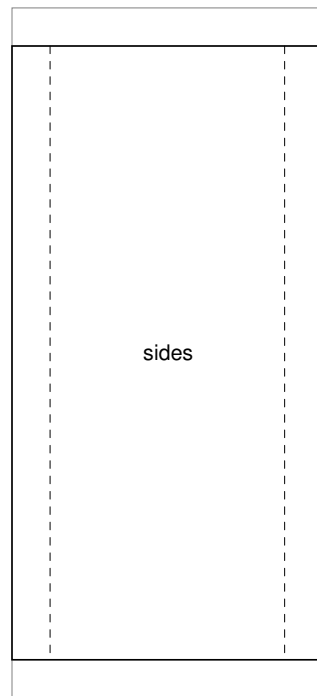
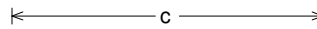
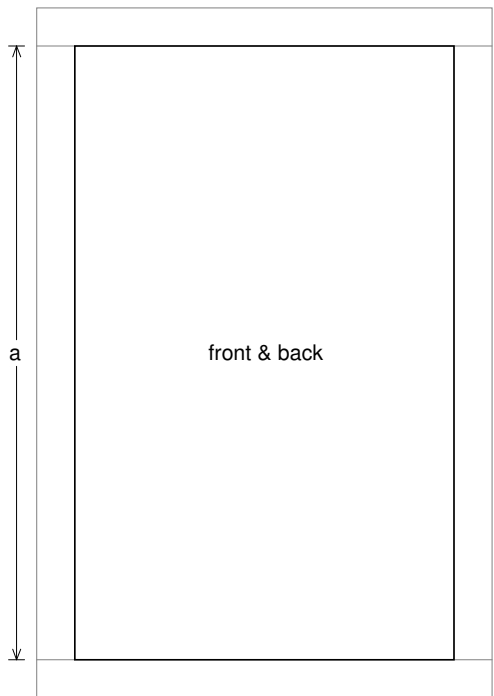
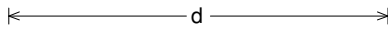
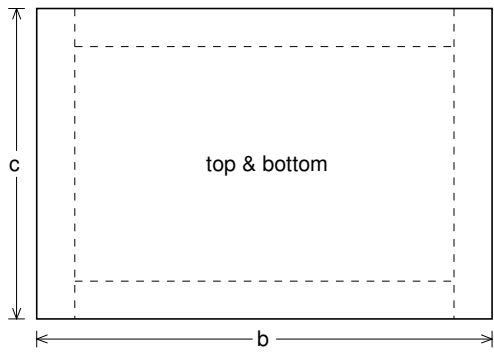
B = 7.469 in

C = 4.616 in

--Wall Thickness--

Front = 0.75 in

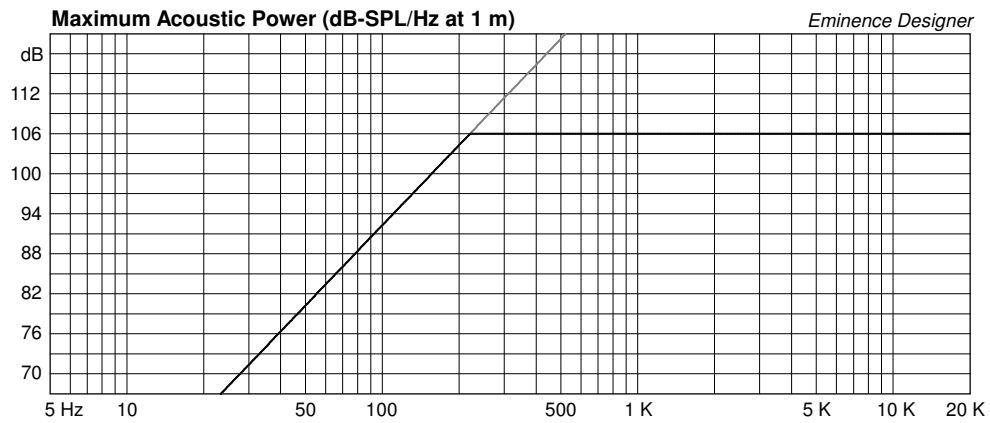
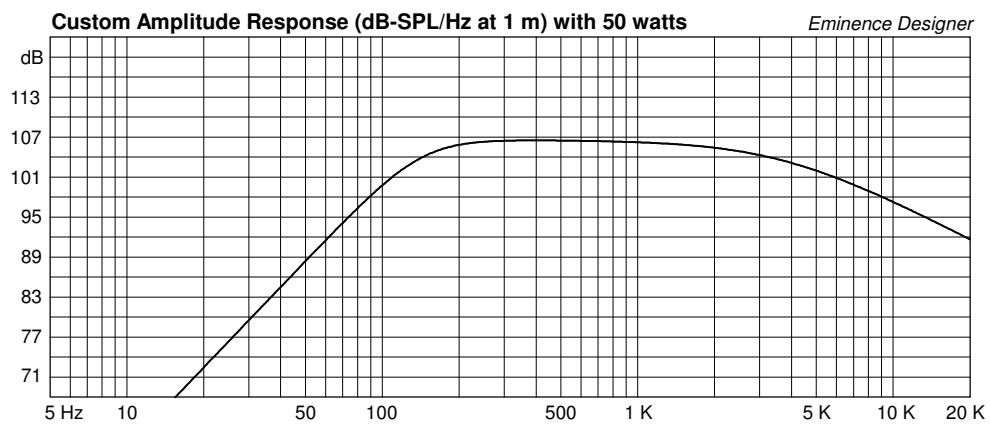
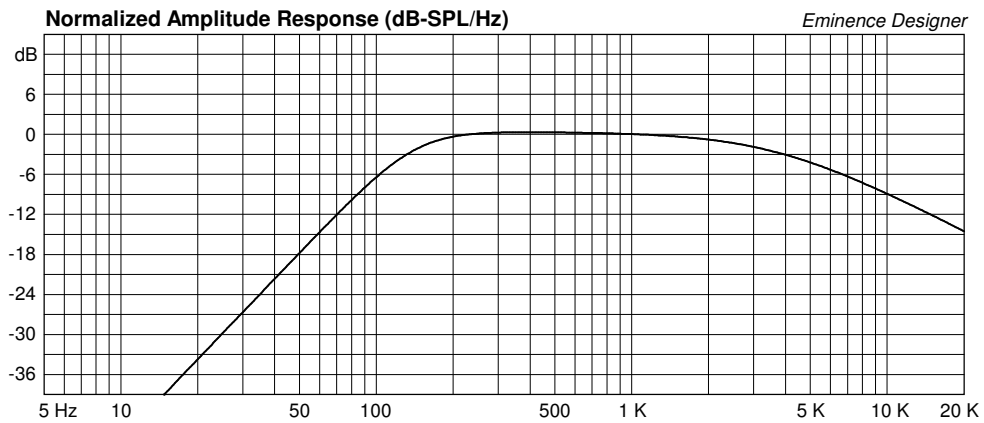
Side = 0.75 in

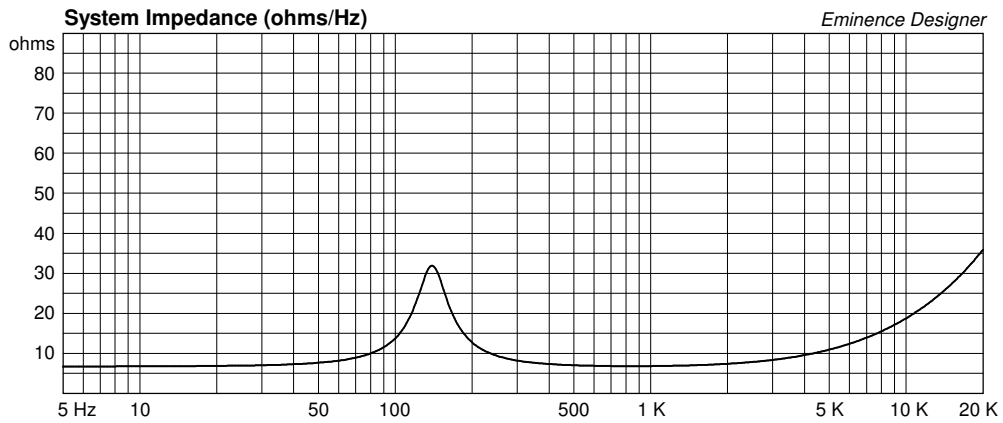
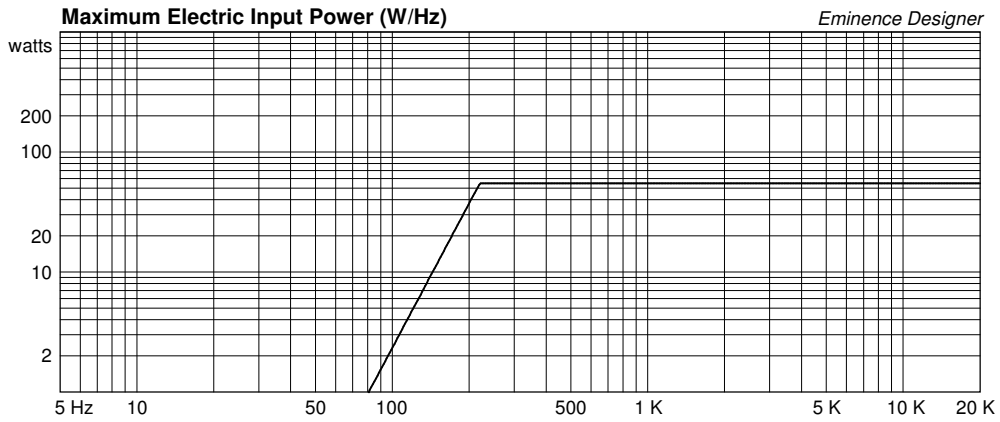


Box Parts

Box Shape: Optimum Square Prism
1 Top, 1 Bottom: depth (c) = 6.116 in
width (b) = 8.969, thickness = 0.75 in
1 Front, 1 Back: height (a) = 12.08 in
width (d) = 7.469, thickness = 0.75 in
2 Sides: height (a) = 12.08 in
depth (c) = 6.116, thickness = 0.75 in

--Driver Mounting--
Mounting: Flush





Alpha 4-8 Large Vented Midbass Design

By Jerry McNutt, Eminence Speaker LLC
55 watts, F3 at 105 Hz. Best used above 120 Hz.



Box Properties

--Description--

Name:

Type: Vented Box

Shape: Prism, square (optimum)

--Box Parameters--

Vb = 0.1 cu.ft

V(total) = 0.111 cu.ft

Fb = 130 Hz

QL = 7

F3 = 105.4 Hz

Fill = normal

--Vents--

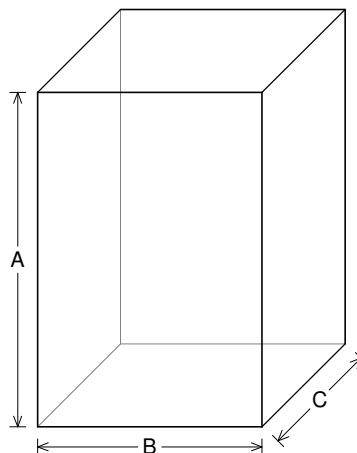
No. of Vents = 1

Vent shape = round

Vent ends = one flush

Dv = 2 in

Lv = 3.018 in



--External Dimensions--

A = 10.83 in

B = 7.267 in

C = 5.065 in

--Internal Dimensions--

A = 9.332 in

B = 5.767 in

C = 3.565 in

--Wall Thickness--

Front = 0.75 in

Side = 0.75 in

Driver Properties

--Description--

Name: Alpha 4-8

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 4" woofer/midrange

--Configuration--

No. of Drivers = 1

--Mechanical Parameters--

Fs = 123.1 Hz

Qms = 6.83

Vas = 1.94 liters

Cms = 0.42 mm/N

Mms = 3.96 g

Rms = 0.45 kg/s

Xmax = 2.6 mm

Xmech = 4.5 mm

P-Dia = 85.21 mm

Sd = 57.72 sq.cm

P-Vd = 0.0148 liters

--Electrical Parameters--

Qes = 0.84

Re = 6.73 ohms

Le = 0.28 mH

Z = 8 ohms

BL = 4.94 Tm

Pe = 55 watts

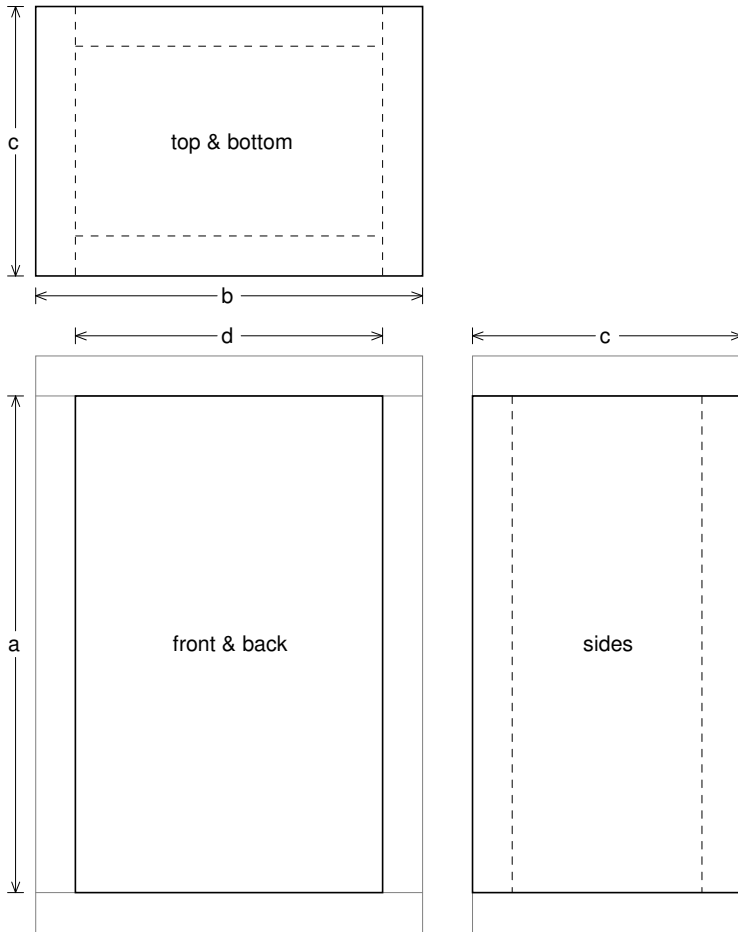
--Electromech. Parameters--

Qts = 0.75

no = 0.415 %

1-W SPL = 88.33 dB

2.83-V SPL = 89.08 dB



Box Parts

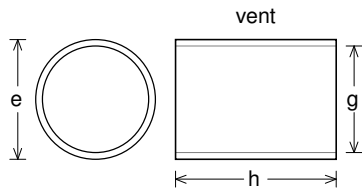
Box Shape: Optimum Square Prism
1 Top, 1 Bottom: depth (c) = 5.065 in
width (b) = 7.267, thickness = 0.75 in
1 Front, 1 Back: height (a) = 9.332 in
width (d) = 5.767, thickness = 0.75 in
2 Sides: height (a) = 9.332 in
depth (c) = 5.065, thickness = 0.75 in

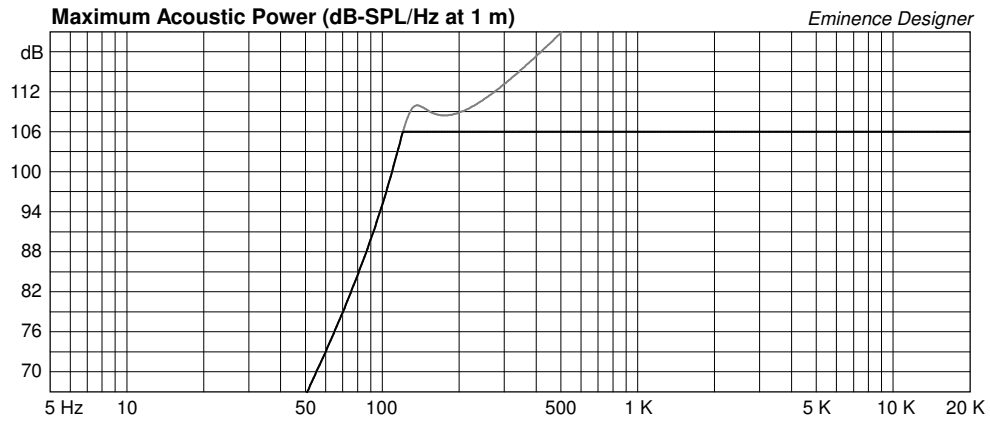
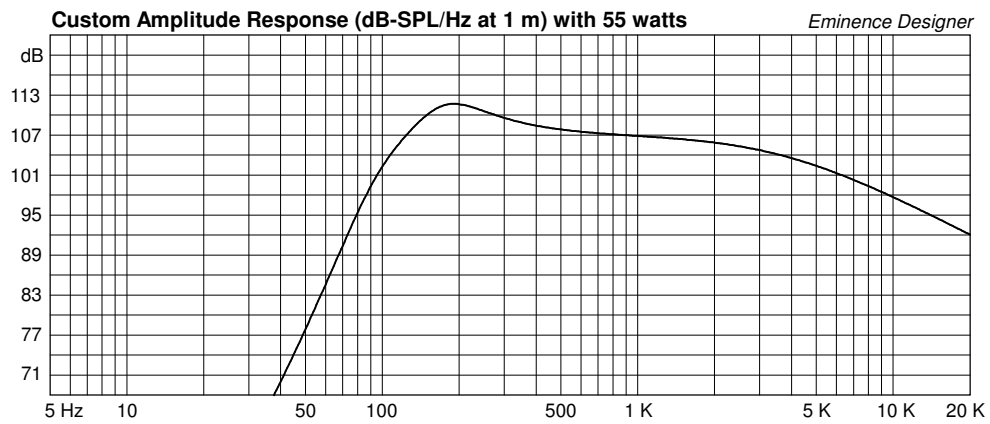
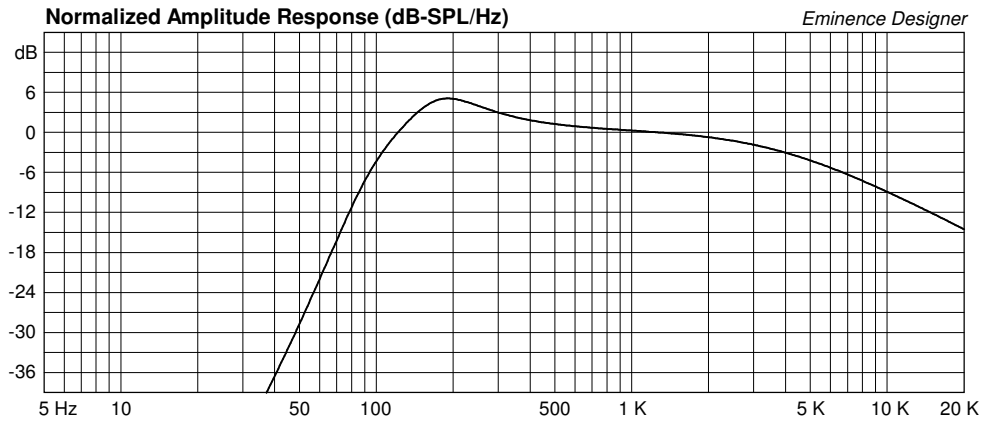
--Vent Parts--

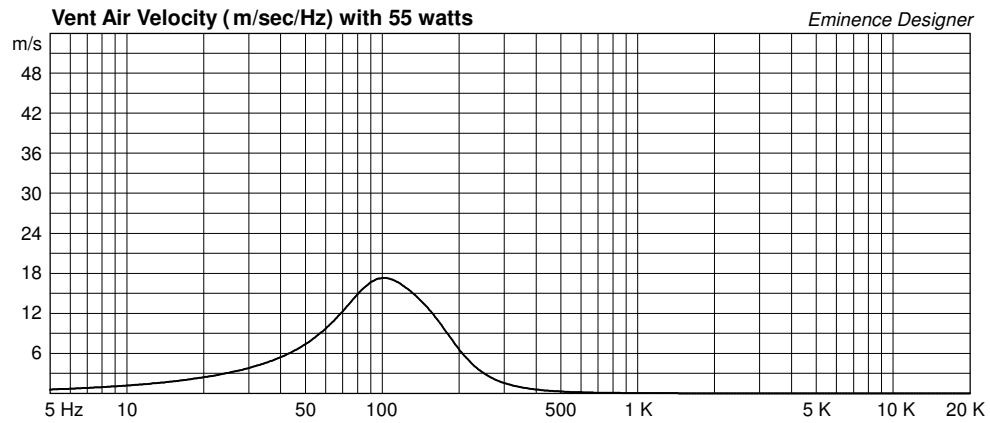
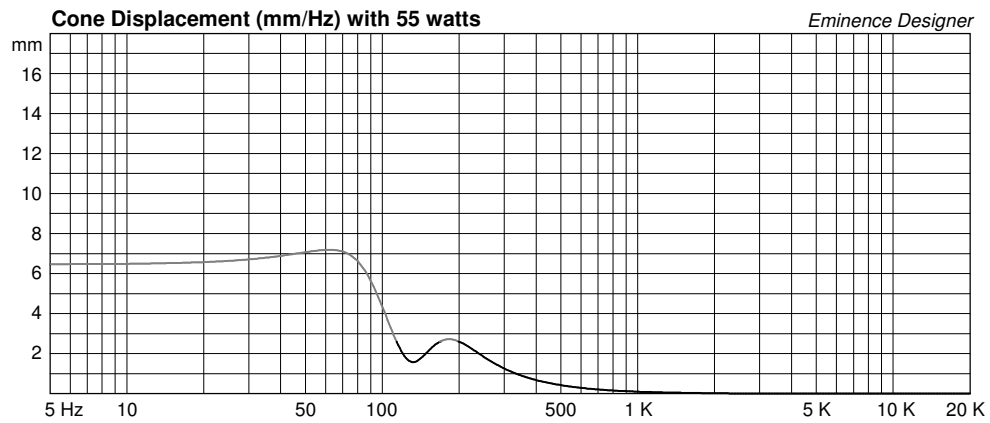
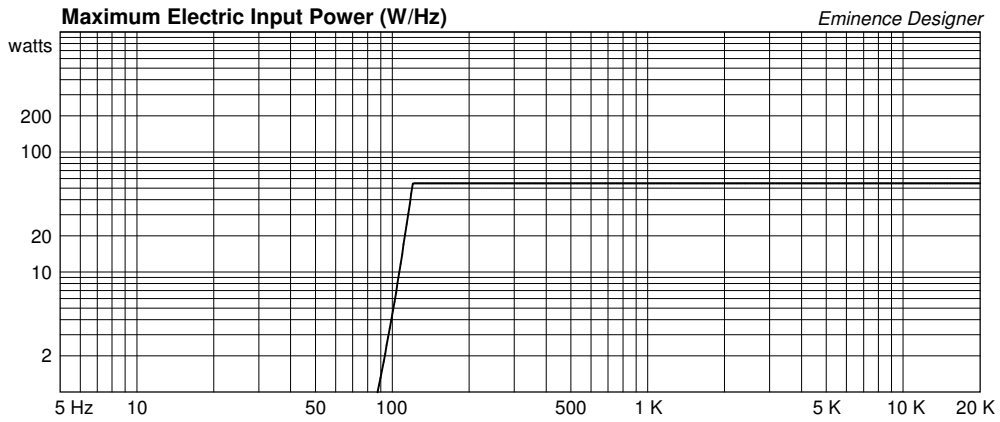
1 Duct: outside diameter (e) = 2.25 in
inside diameter (g) = 2 in
length (h) = 3.018 in

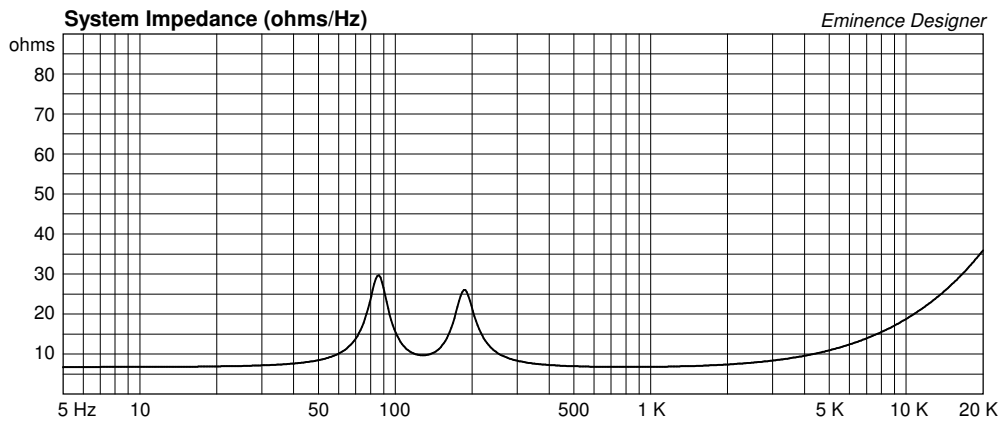
--Driver Mounting--

Mounting: Flush









Alpha 4-8 Small Sealed Midrange Design

By Jerry McNutt, Eminence Speaker LLC
55 watts, F3 at 143 Hz. Best used above 200 Hz.



Box Properties

--Description--

Name:

Type: Closed Box

Shape: Prism, square (optimum)

--Box Parameters--

Vb = 0.0667 cu.ft

V(total) = 0.0725 cu.ft

Qtc = 0.905

QL = 20

F3 = 143.5 Hz

Fill = normal

Driver Properties

--Description--

Name: Alpha 4-8

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 4" woofer/midrange

--Configuration--

No. of Drivers = 1

--Mechanical Parameters--

Fs = 123.1 Hz

Qms = 6.83

Vas = 1.94 liters

Cms = 0.42 mm/N

Mms = 3.96 g

Rms = 0.45 kg/s

Xmax = 2.6 mm

Xmech = 4.5 mm

P-Dia = 85.21 mm

Sd = 57.72 sq.cm

P-Vd = 0.0148 liters

--Electrical Parameters--

Qes = 0.84

Re = 6.73 ohms

Le = 0.28 mH

Z = 8 ohms

BL = 4.94 Tm

Pe = 55 watts

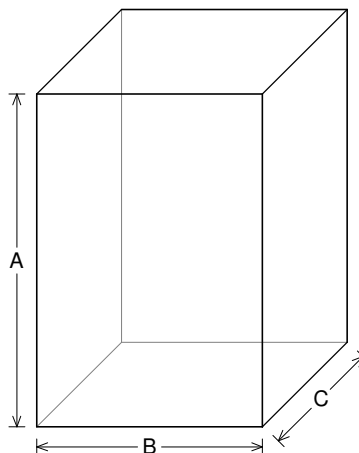
--Electromech. Parameters--

Qts = 0.75

no = 0.415 %

1-W SPL = 88.33 dB

2.83-V SPL = 89.08 dB



--External Dimensions--

A = 9.596 in

B = 6.504 in

C = 4.593 in

--Internal Dimensions--

A = 8.096 in

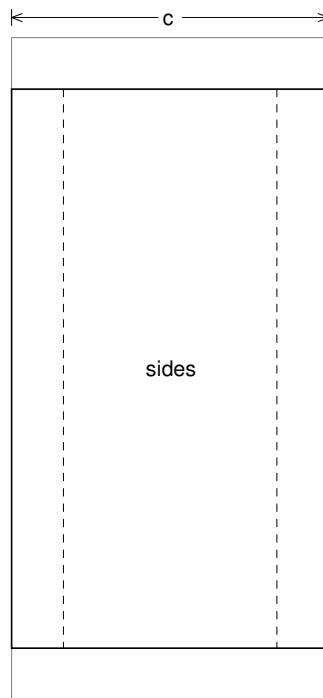
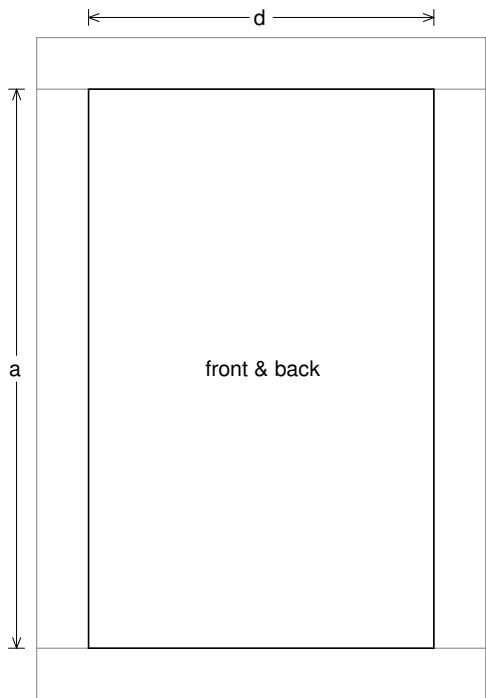
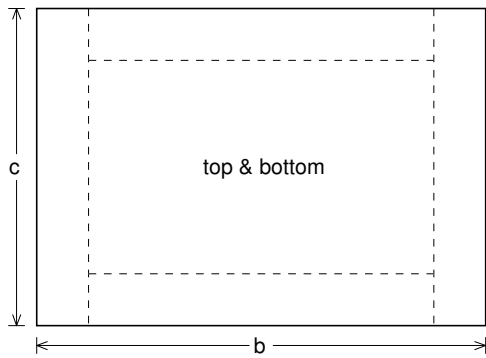
B = 5.004 in

C = 3.093 in

--Wall Thickness--

Front = 0.75 in

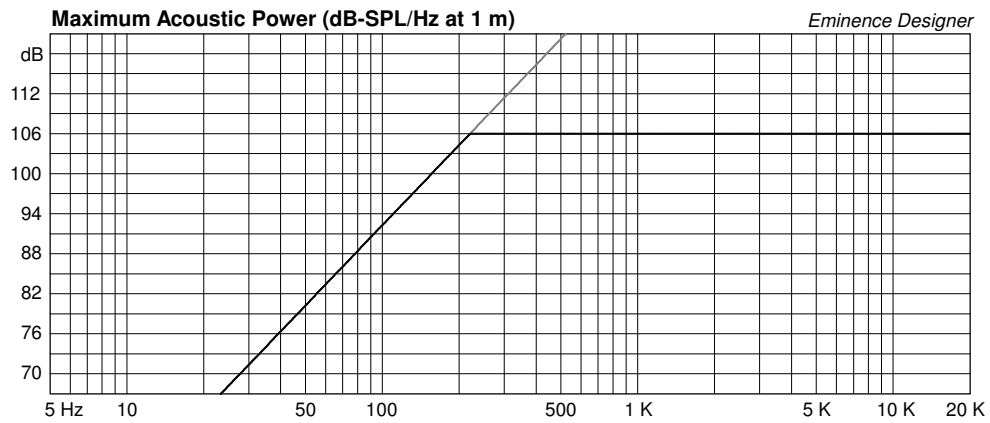
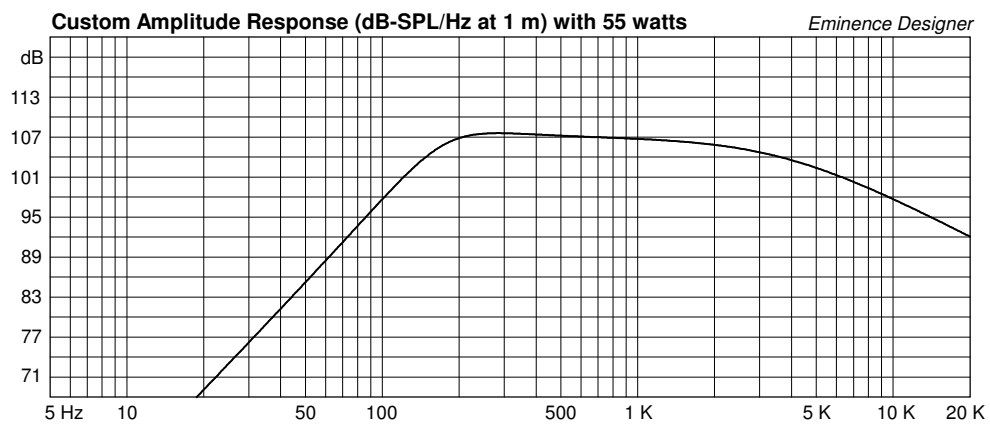
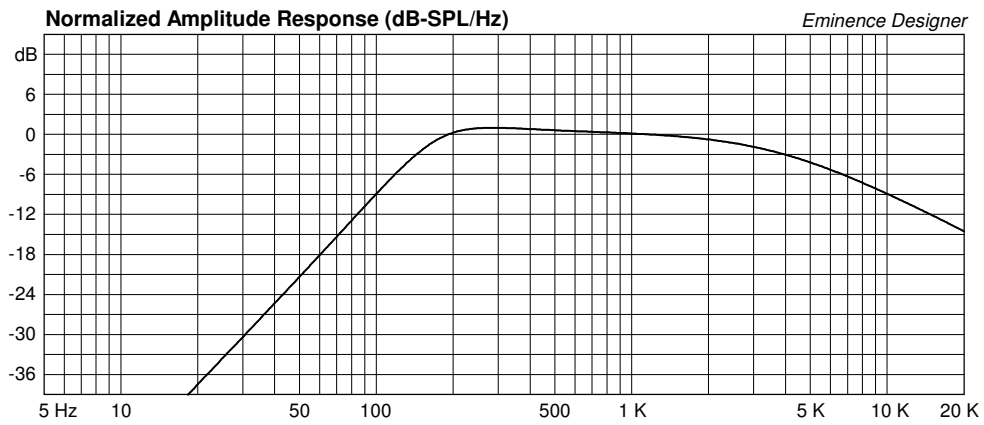
Side = 0.75 in

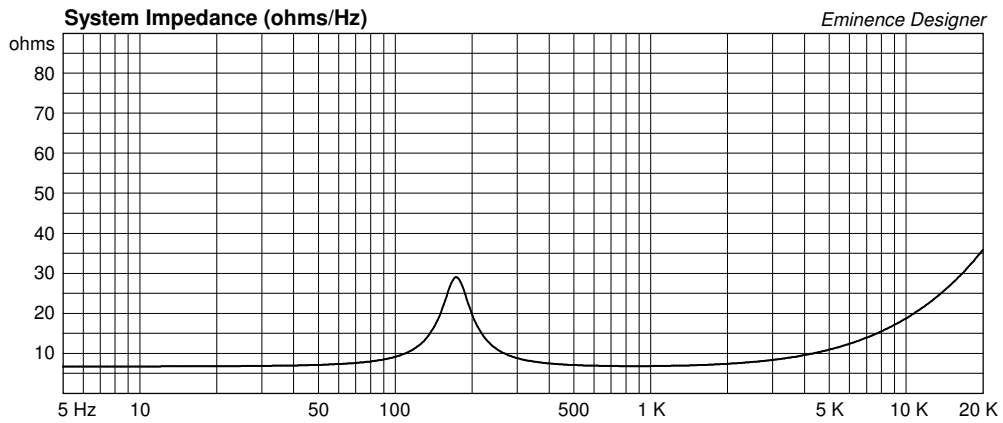
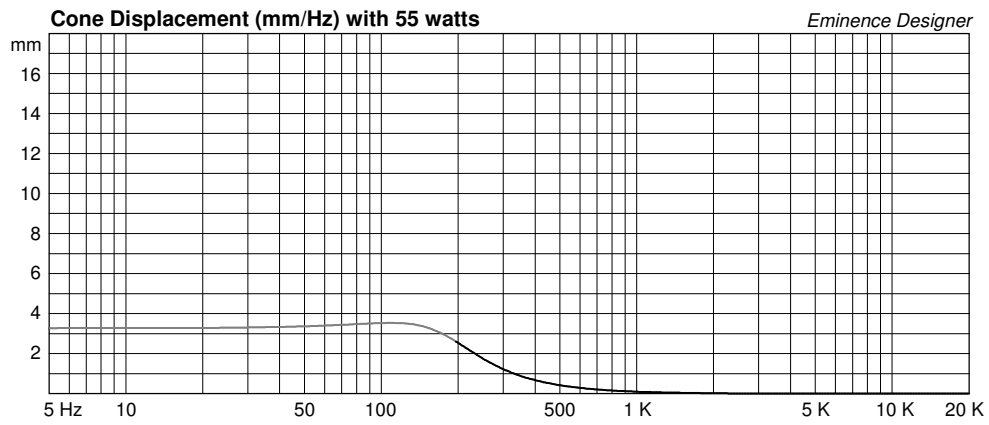
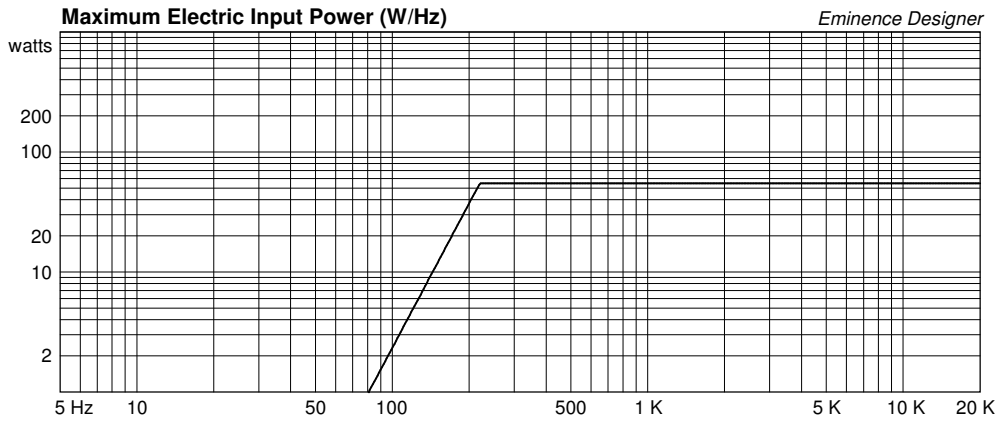


Box Parts

Box Shape: Optimum Square Prism
1 Top, 1 Bottom: depth (c) = 4.593 in
width (b) = 6.504, thickness = 0.75 in
1 Front, 1 Back: height (a) = 8.096 in
width (d) = 5.004, thickness = 0.75 in
2 Sides: height (a) = 8.096 in
depth (c) = 4.593, thickness = 0.75 in

--Driver Mounting--
Mounting: Flush





Alpha 4-8 Small Vented Midbass Design

By Jerry McNutt, Eminence Speaker LLC
55 watts, F3 at 118 Hz. Best used above 130 Hz.



Box Properties

--Description--

Name:

Type: Vented Box

Shape: Prism, square (optimum)

--Box Parameters--

Vb = 0.0843 cu.ft

V(total) = 0.0941 cu.ft

Fb = 150 Hz

QL = 7

F3 = 118.3 Hz

Fill = normal

--Vents--

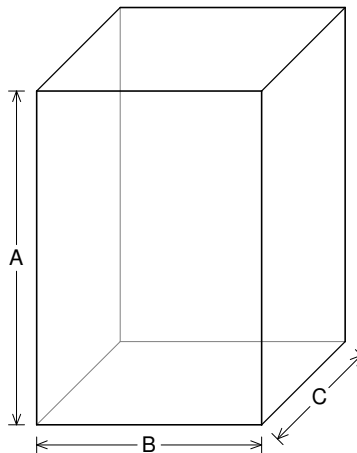
No. of Vents = 1

Vent shape = round

Vent ends = one flush

Dv = 2 in

Lv = 2.472 in



--External Dimensions--

A = 10.33 in

B = 6.957 in

C = 4.873 in

--Internal Dimensions--

A = 8.83 in

B = 5.457 in

C = 3.373 in

--Wall Thickness--

Front = 0.75 in

Side = 0.75 in

Driver Properties

--Description--

Name: Alpha 4-8

Type: Standard one-way driver

Company: Eminence Speaker LLC

Comment: 4" woofer/midrange

--Configuration--

No. of Drivers = 1

--Mechanical Parameters--

Fs = 123.1 Hz

Qms = 6.83

Vas = 1.94 liters

Cms = 0.42 mm/N

Mms = 3.96 g

Rms = 0.45 kg/s

Xmax = 2.6 mm

Xmech = 4.5 mm

P-Dia = 85.21 mm

Sd = 57.72 sq.cm

P-Vd = 0.0148 liters

--Electrical Parameters--

Qes = 0.84

Re = 6.73 ohms

Le = 0.28 mH

Z = 8 ohms

BL = 4.94 Tm

Pe = 55 watts

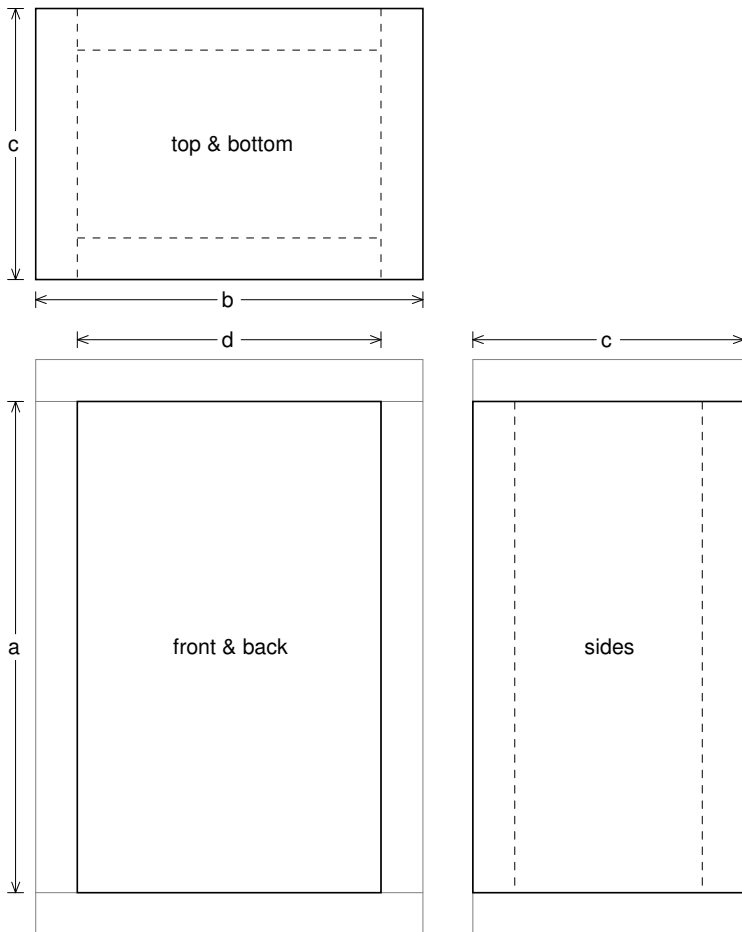
--Electromech. Parameters--

Qts = 0.75

no = 0.415 %

1-W SPL = 88.33 dB

2.83-V SPL = 89.08 dB



Box Parts

Box Shape: Optimum Square Prism
 1 Top, 1 Bottom: depth (c) = 4.873 in
 width (b) = 6.957, thickness = 0.75 in
 1 Front, 1 Back: height (a) = 8.83 in
 width (d) = 5.457, thickness = 0.75 in
 2 Sides: height (a) = 8.83 in
 depth (c) = 4.873, thickness = 0.75 in

--Vent Parts--

1 Duct: outside diameter (e) = 2.25 in
 inside diameter (g) = 2 in
 length (h) = 2.472 in

--Driver Mounting--

Mounting: Flush

