

AMERICAN STANDARD SERIES

ALPHA 4

Perfectly suited for line array, car doors or side panels, and other tight fitting applications, the Alpha 4 is a very versatile 110 watt driver that can be used full range, as a midbass, or as a midrange. They can be stacked by themselves in a column for vocal applications, or in conjunction with a tweeter and a sub for compact, high performance PA or MI applications.

- 110 W Program Power
- 4" Nominal Diameter
- 8 Ω

APPLICATION		ENCLOSURE	
Midrange	<input checked="" type="checkbox"/>	Sealed Box	<input checked="" type="checkbox"/>
Midbass	<input checked="" type="checkbox"/>	Vented Box	<input checked="" type="checkbox"/>
Woofer	<input type="checkbox"/>	Scoop Loading	<input type="checkbox"/>
Subwoofer	<input type="checkbox"/>	Horn Loading	<input type="checkbox"/>
Bass Guitar	<input type="checkbox"/>		



SPECIFICATION

Nominal Basket Diameter	4", 102 mm
Nominal Impedance*	8 Ω
Power Rating*	
Program Power	110 W
Nominal Power	55 W
Resonance	123 Hz
Usable Frequency Range	105 Hz – 12 kHz
Sensitivity*	88 dB
Magnet Weight	10 oz.
Gap Height	0.14", 3.7 mm
Voice Coil Diameter	1", 25 mm

THIELE & SMALL PARAMETERS

Fs	123 Hz
Re	6.73 Ω
Le	0.28 mH
Qms	6.83
Qes	0.84
Qts	0.75
Vas	0.07 cu.ft., 1.94 liters
Vd	15 cc
Cms	0.42 mm/N
BL	4.94 T-M
Mms	4 grams
EBP	146
Xmax	2.6 mm
Sd	57.7 cm ²
Xlim	4.5 mm

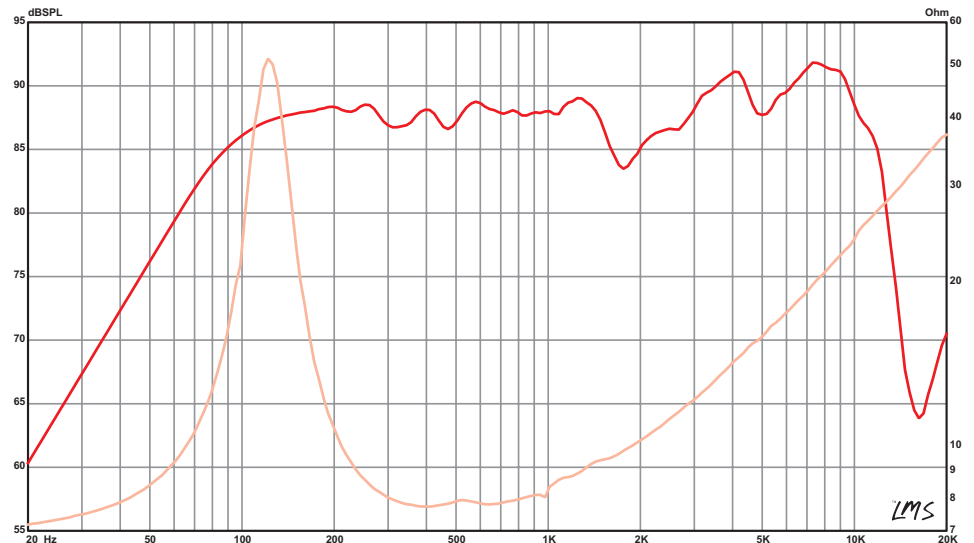
MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	1.84–4.53 liters,
Vented	0.07–0.16 cu.ft.
Driver Volume Displaced	3.96–7.08 liters,
Overall Diameter	0.14–0.25 cu.ft.
Baffle Hole Diameter	0.012 cu.ft., 0.33 liters
Front Sealing Gasket	4.57", 116.1 mm
Rear Sealing Gasket	3.77", 95.8 mm
Mounting Holes Diameter	Yes
Mounting Holes B.C.D.	Yes
Depth	0.15", 3.8 mm
Net Weight	4.25", 108 mm
Shipping Weight	2.31", 58.7 mm
	1.5 lbs , 0.68 kg
	1.9 lbs , 0.86 kg

MATERIALS OF CONSTRUCTION

Copper voice coil
Polyimide former
Ferrite magnet
Non-Vented core
Pressed steel basket
Paper cone
Cloth cone edge
Solid composition paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



VISIT EMINENCE.COM TO FIND A DEALER NEAR YOU.

* See footnotes on page 2 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.



FOOTNOTES

IMPEDANCE

Please consult www.eminence.com for specifications of models with alternative impedances.

POWER RATING

Multiple units exceed published ratings evaluated under EIA 426A specification while tested in a free-air, non-temperature-controlled environment. Multiple compression drivers exceeded published ratings evaluated under EIA-426A or AES specification while mounted on Eminence's H290, H290S, or H2EA horn in a non-temperature-controlled environment.

SENSITIVITY

The average output across the usable frequency range when applying 1W/1m into the nominal impedance. i.e: 2.83V/8Ω, 4V/16Ω. Eminence response curves are measured under the following conditions: All speakers are tested at 1W/1m using a variety of test set-ups for the appropriate impedance | LMS using 0.25" supplied microphone (software calibrated) mounted 1m from wall/baffle | 2 ft. x 2 ft. baffle is built into the wall with the speaker mounted flush against a steel ring for minimum diffraction | Yamaha P3500S amplifier | 2700 cu. ft. chamber with fiberglass on all six surfaces (three with custom-made wedges). Compression drivers were tested using a 2ft x 2ft baffle built into the wall with horn front mounted.

COAXIALS

BETA 8CX, 10CX, and 12CX are coaxial speakers with tweeter sold separately. Published usable frequency response contingent upon use of ASD:1001 HF Driver.

Prices, product cosmetics and specifications are subject to change without notice.

EMINENCE SPEAKER LLC

838 Mulberry Pike, Eminence, KY 40019



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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]

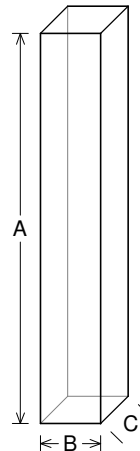
--Electromech. Parameters--

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

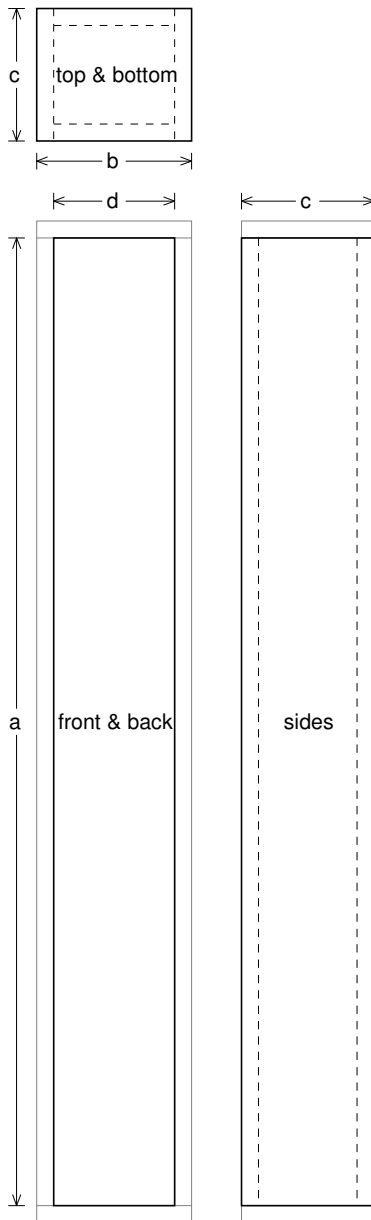
B = 5.355 in

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

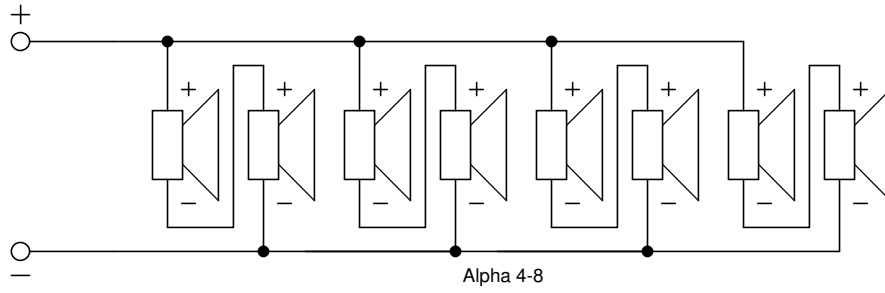
2 Sides: height (a) = 42.84 in
depth (c) = 5.869, thickness = 0.75 in

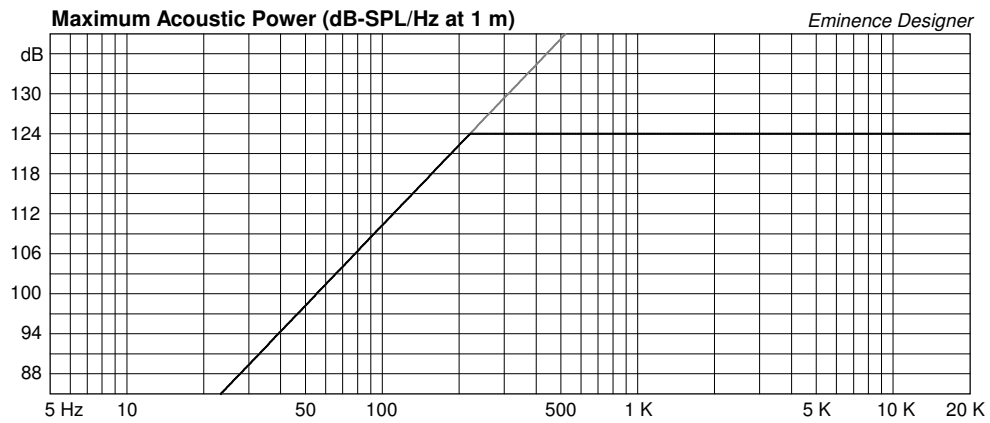
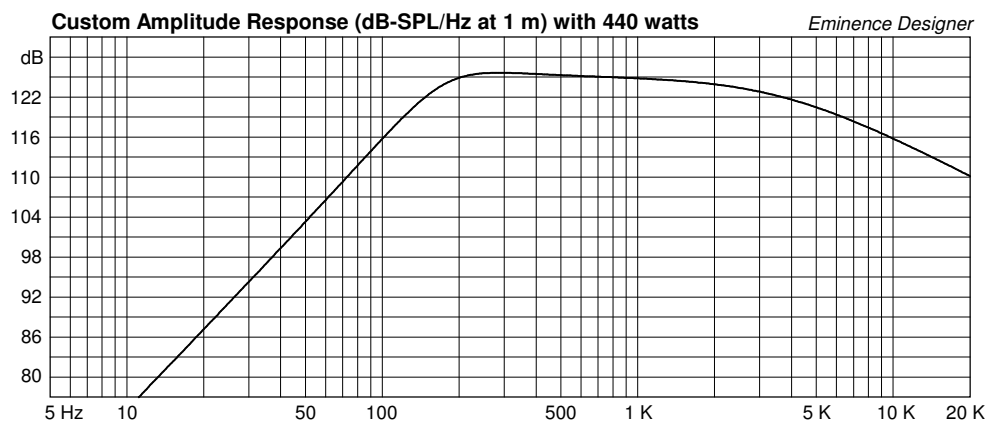
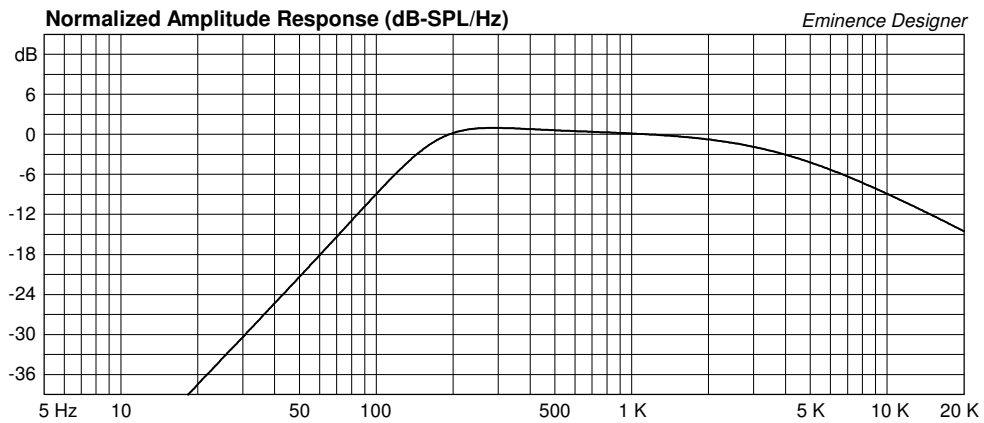
--Driver Mounting--

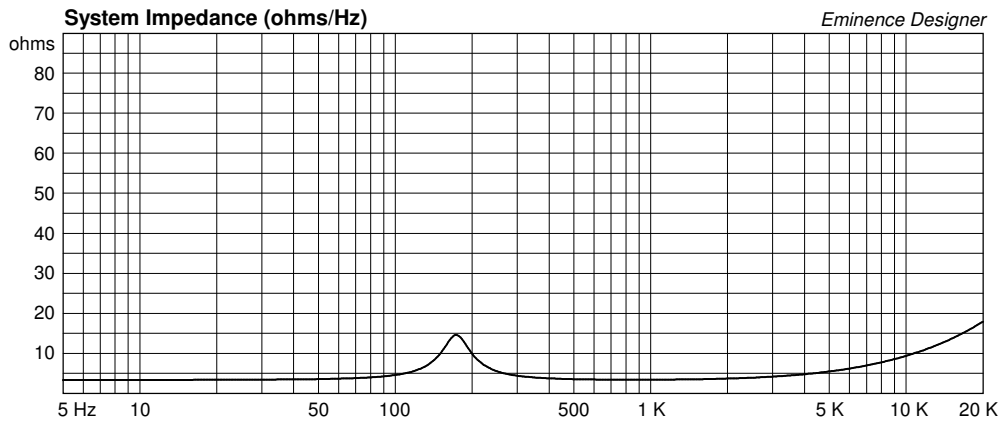
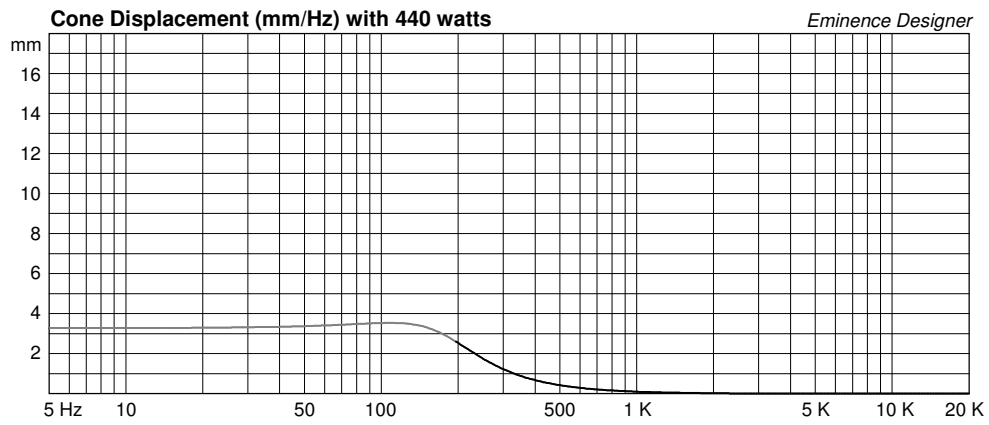
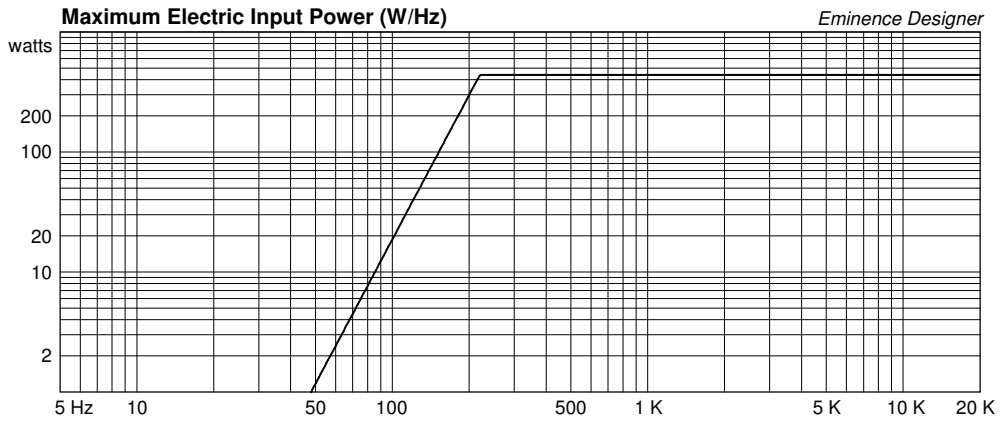
Mounting: Flush

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

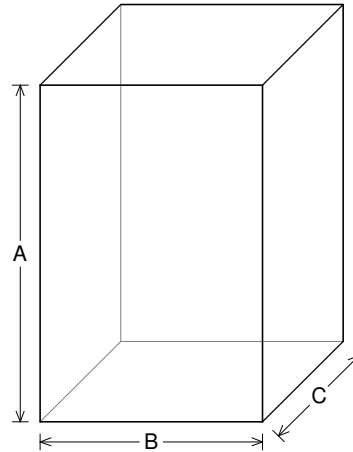
--Electromech. Parameters--

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

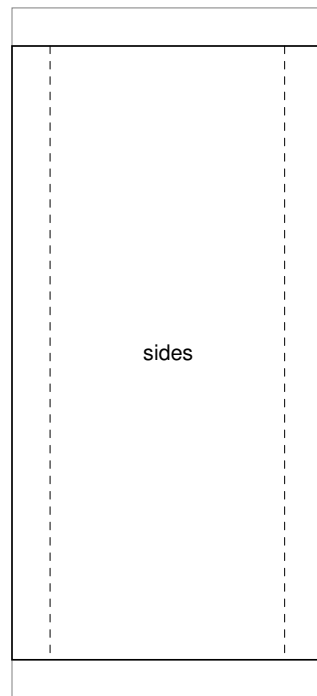
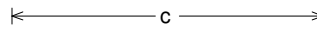
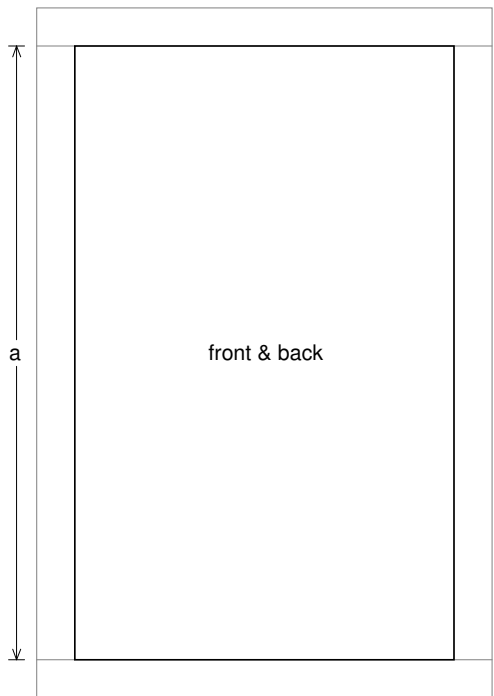
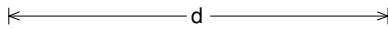
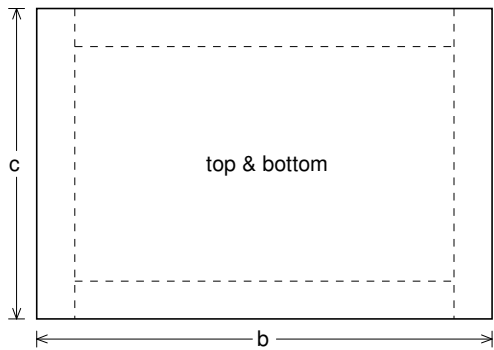
B = 7.469 in

C = 4.616 in

--Wall Thickness--

Front = 0.75 in

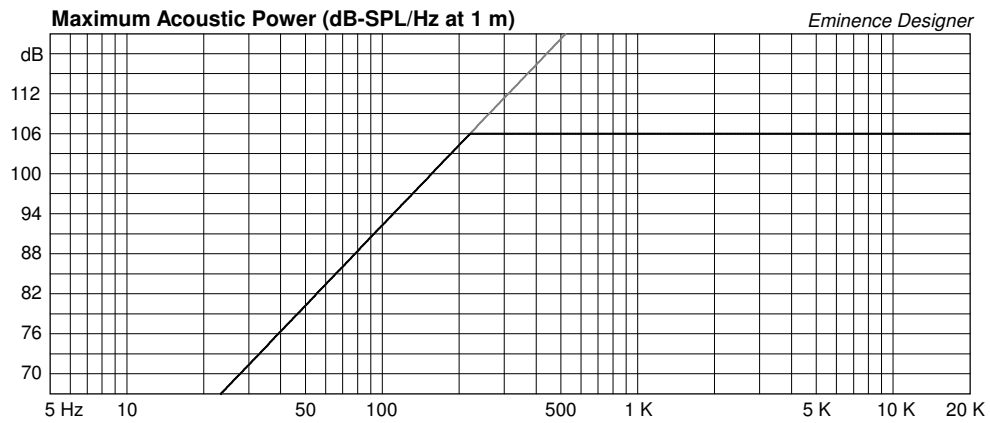
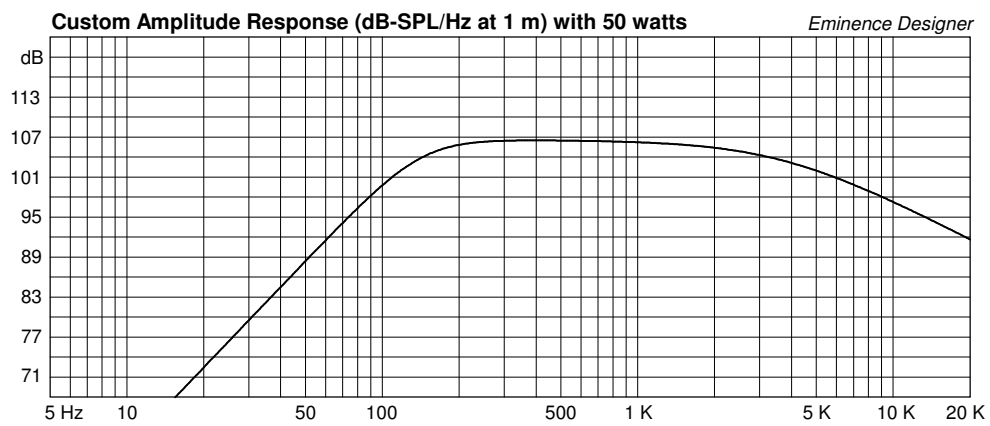
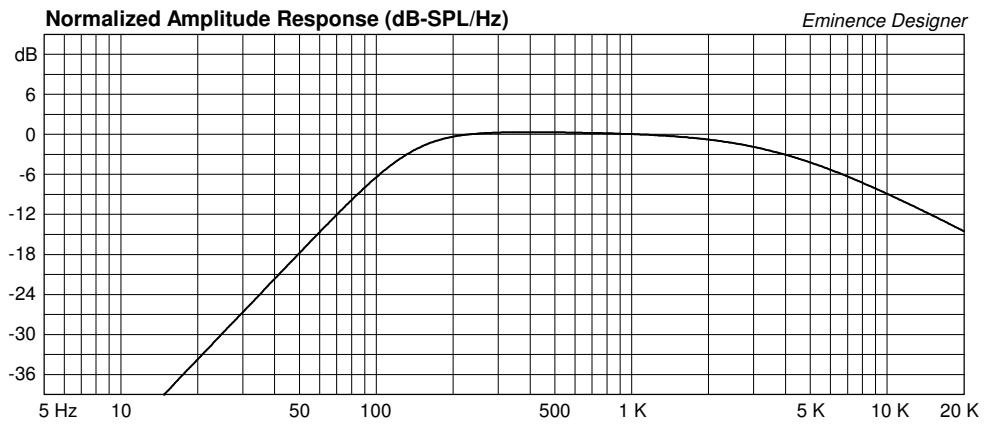
Side = 0.75 in

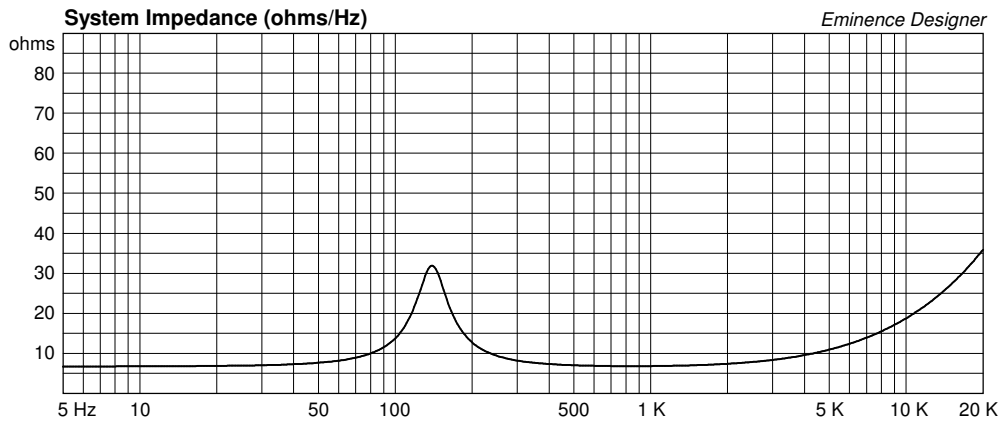
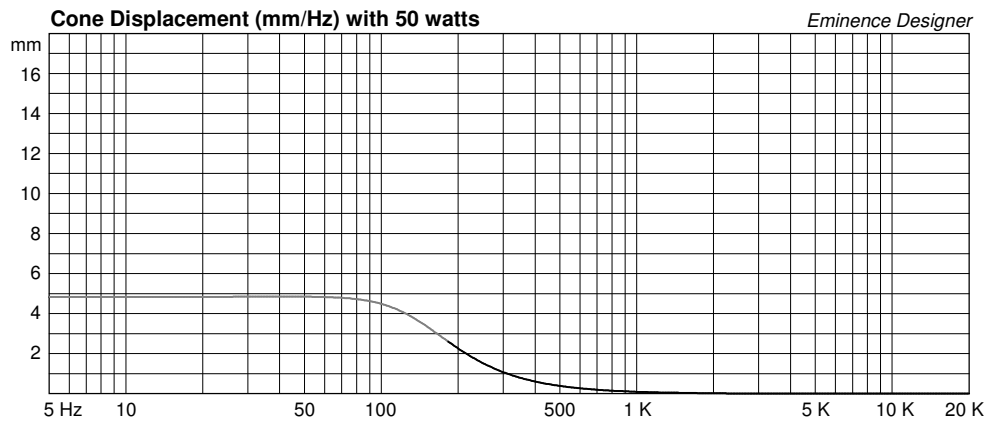
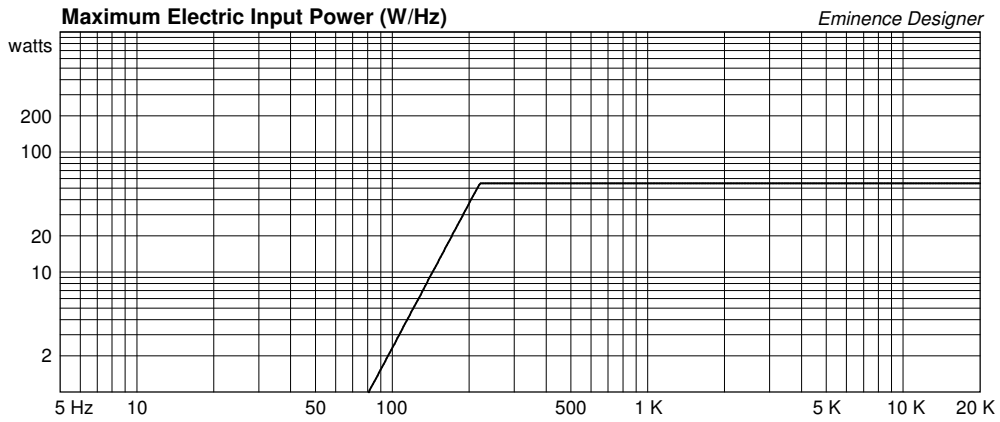


Box Parts

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--

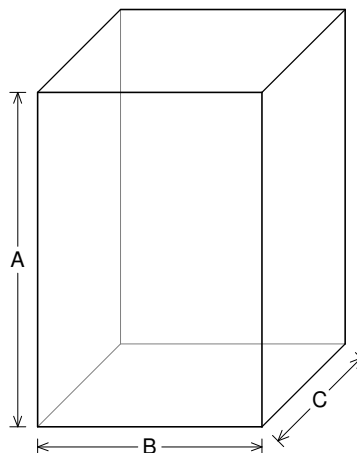
No. of Vents = 1

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

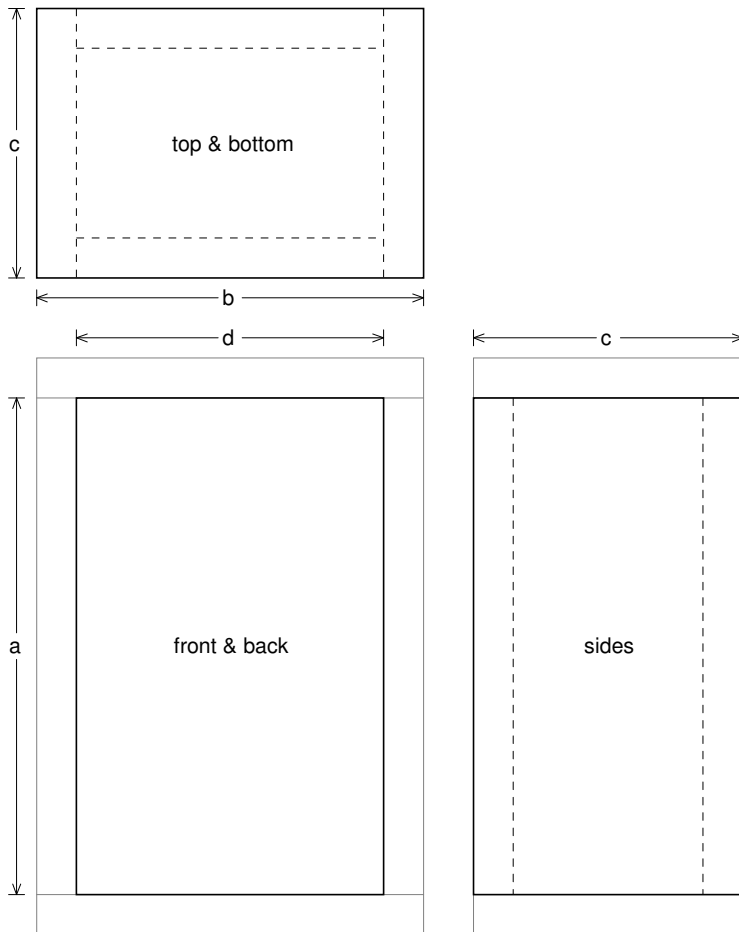
--Electromech. Parameters--

Qts = 0.75

no = 0.415 %

1-W SPL = 88.33 dB

2.83-V SPL = 89.08 dB



Box Parts

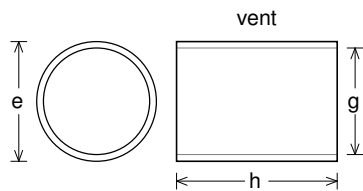
Box Shape: Optimum Square Prism
 1 Top, 1 Bottom: depth (c) = 5.065 in
 width (b) = 7.267, thickness = 0.75 in
 1 Front, 1 Back: height (a) = 9.332 in
 width (d) = 5.767, thickness = 0.75 in
 2 Sides: height (a) = 9.332 in
 depth (c) = 5.065, thickness = 0.75 in

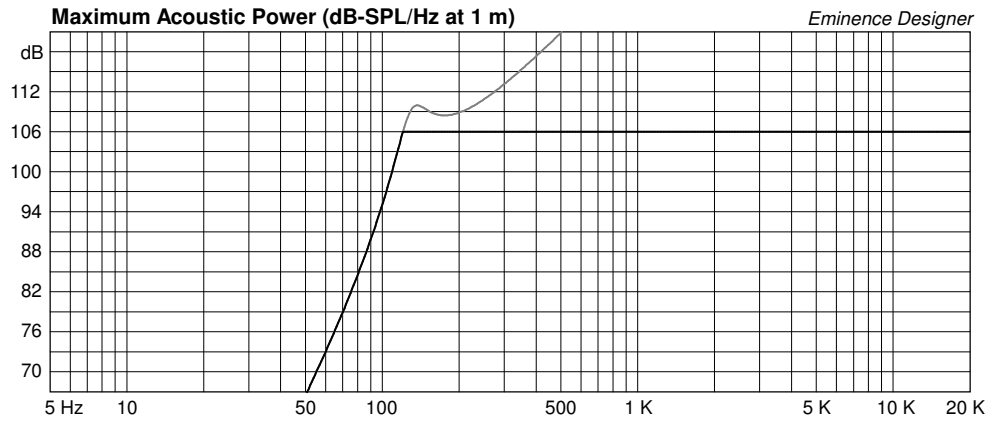
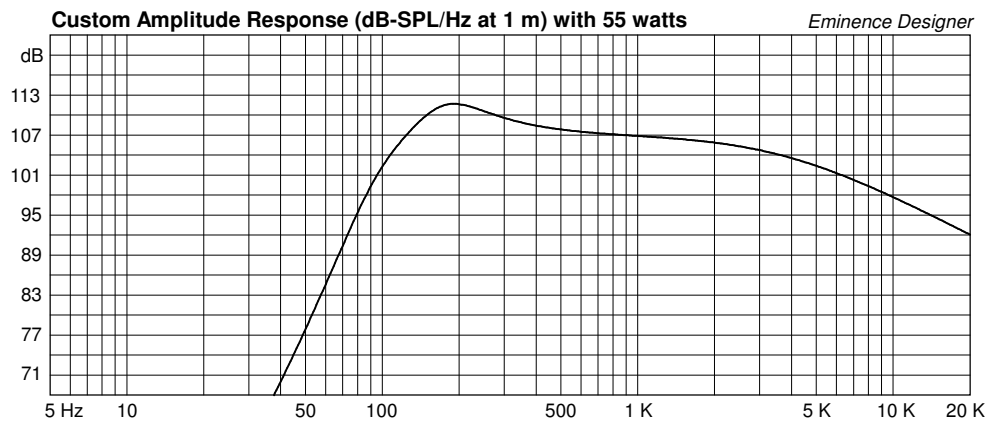
--Vent Parts--

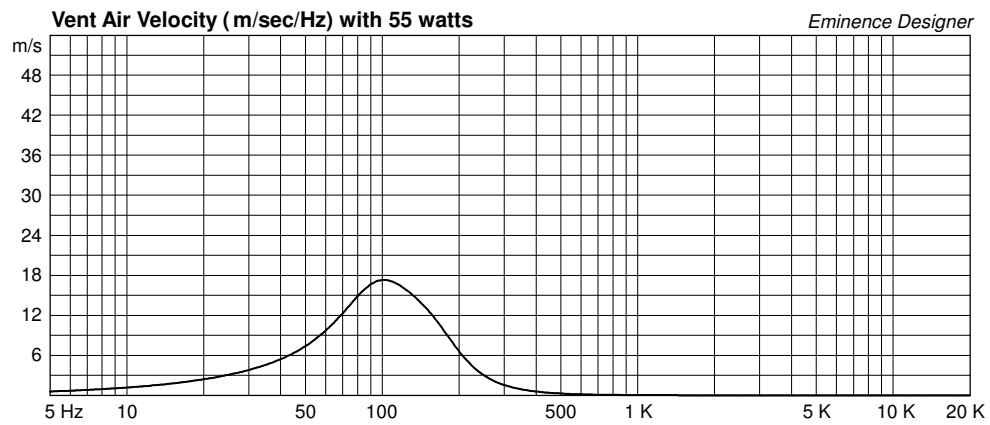
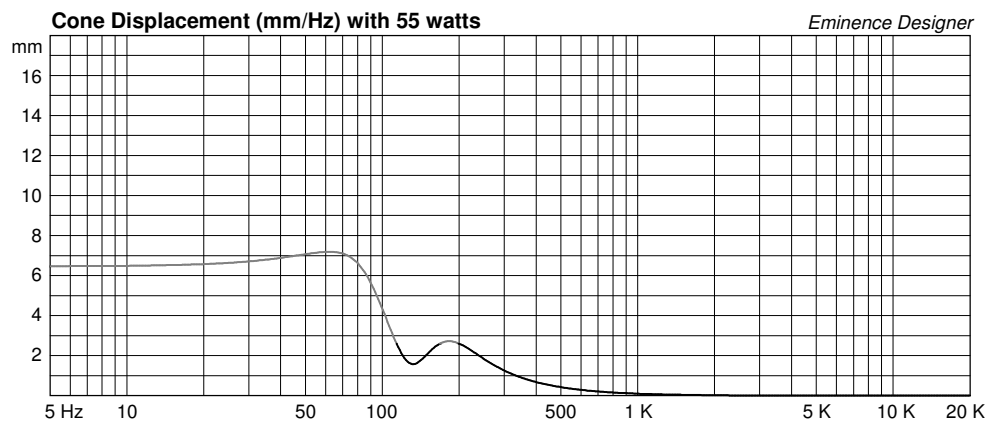
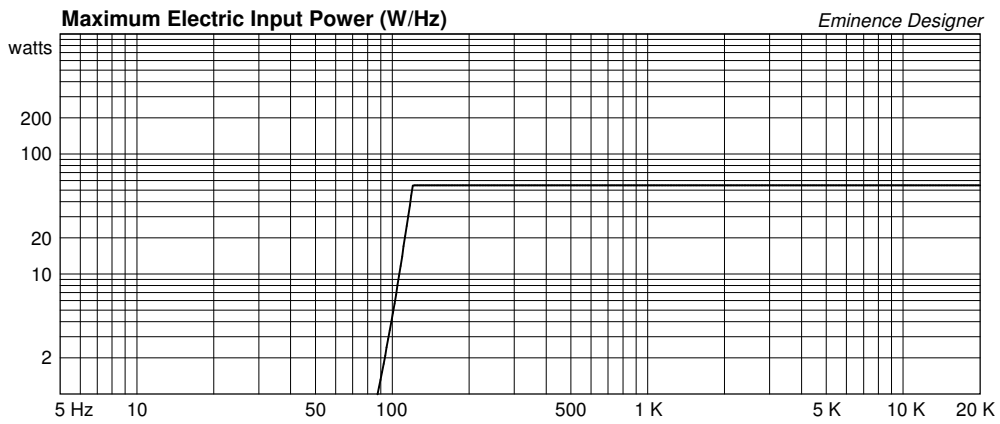
1 Duct: outside diameter (e) = 2.25 in
 inside diameter (g) = 2 in
 length (h) = 3.018 in

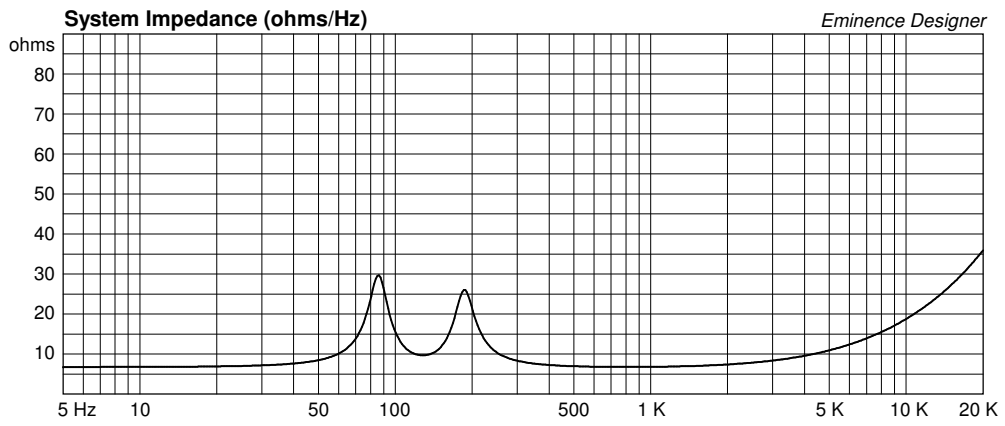
--Driver Mounting--

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

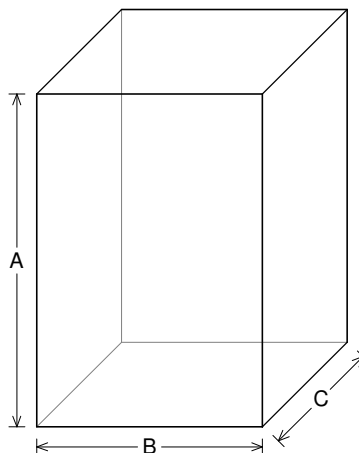
--Electromech. Parameters--

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

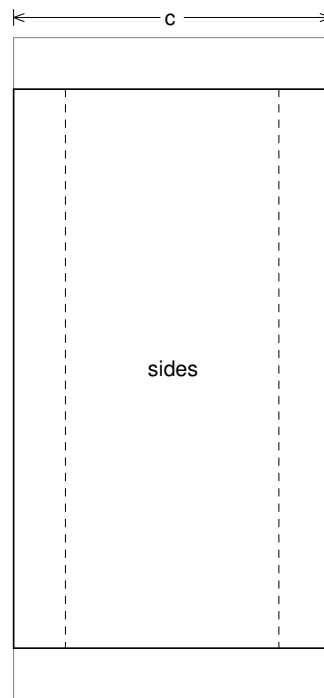
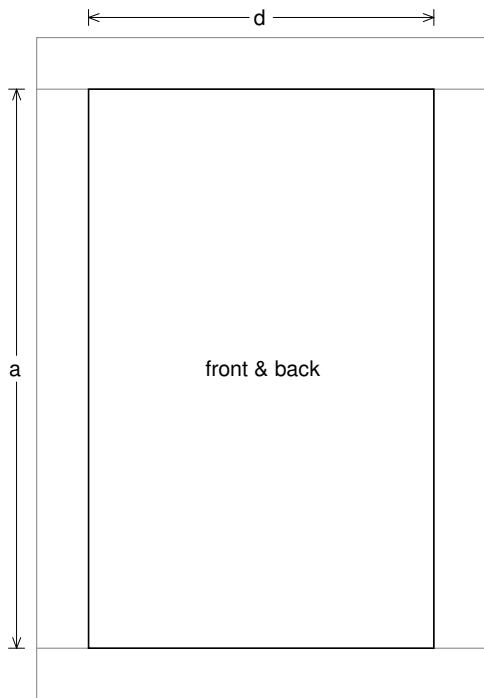
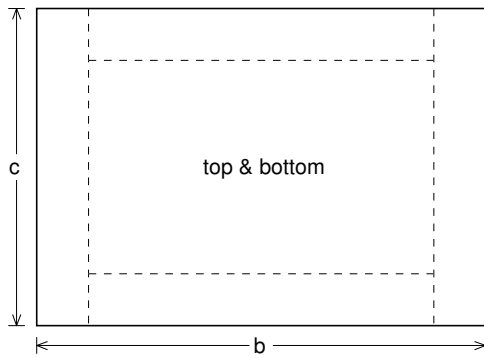
B = 5.004 in

C = 3.093 in

--Wall Thickness--

Front = 0.75 in

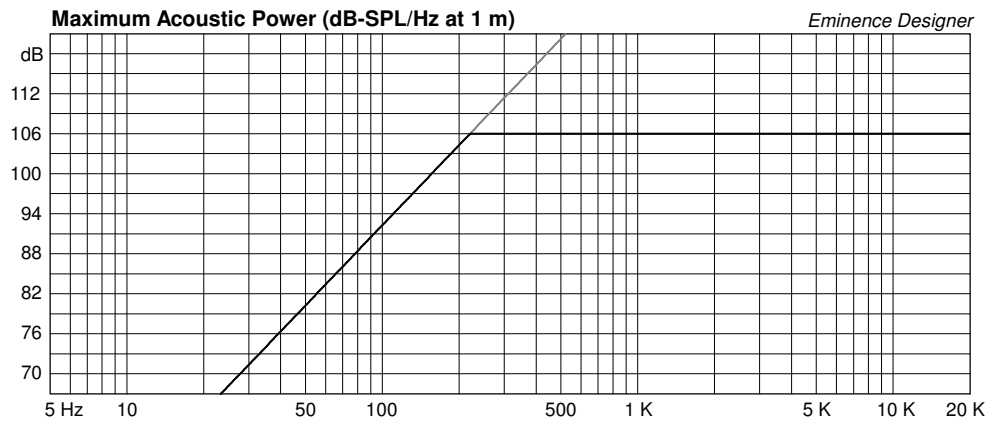
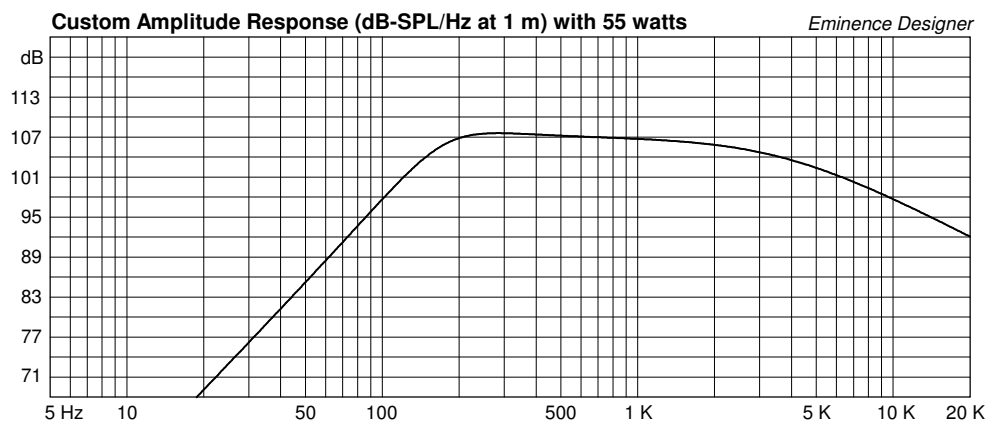
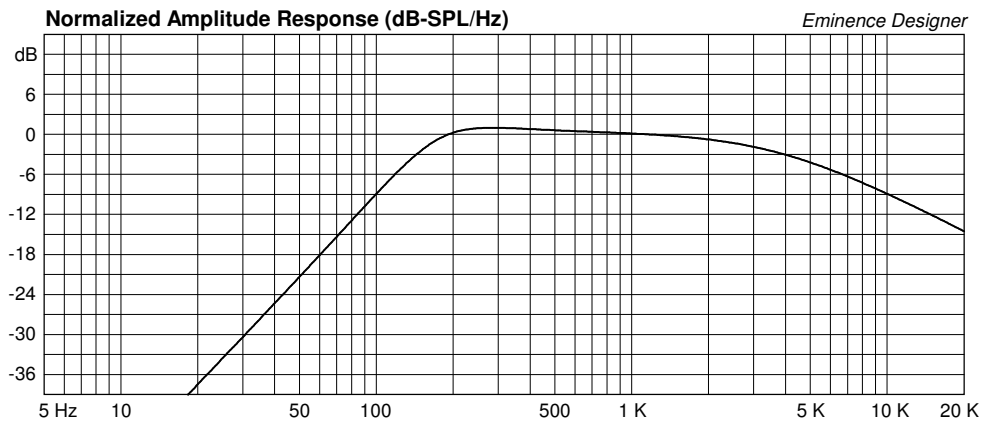
Side = 0.75 in

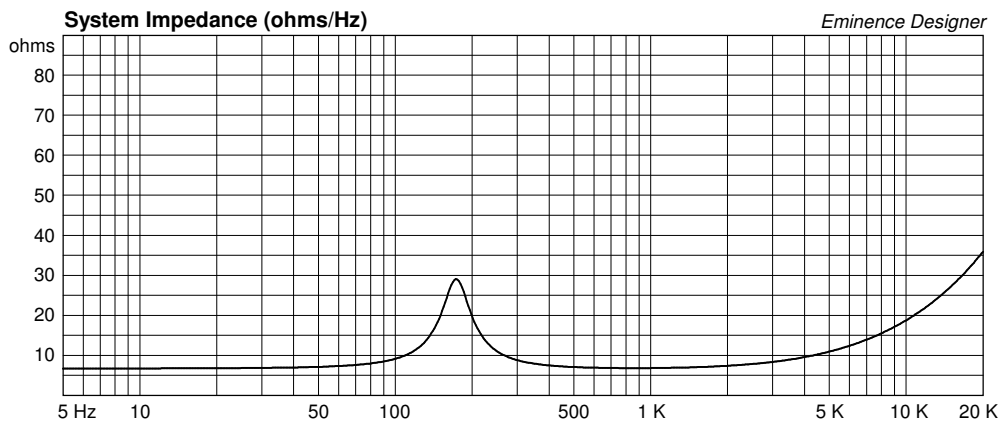
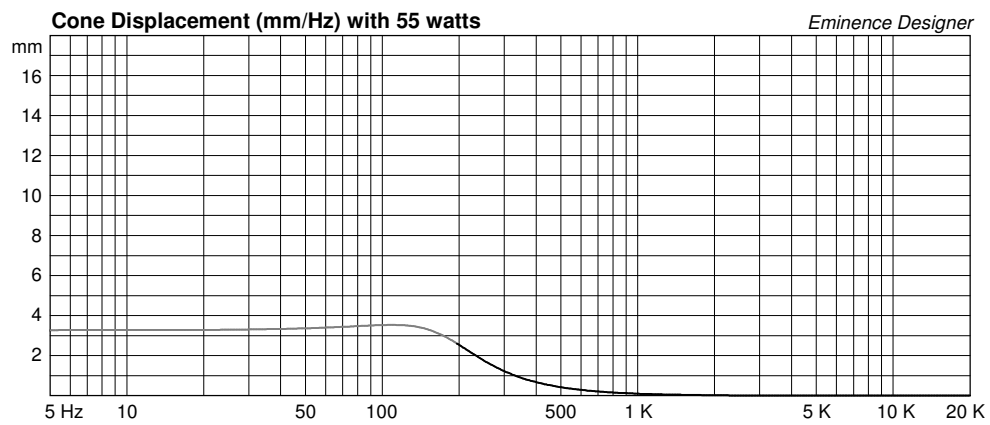
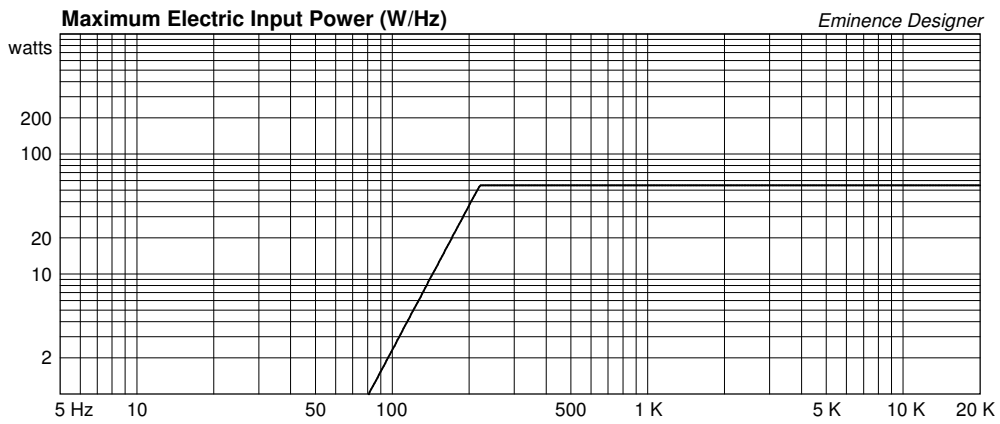


Box Parts

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--

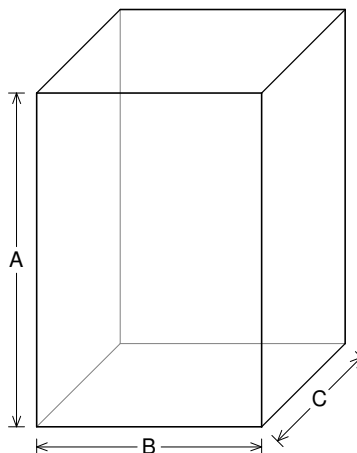
No. of Vents = 1

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

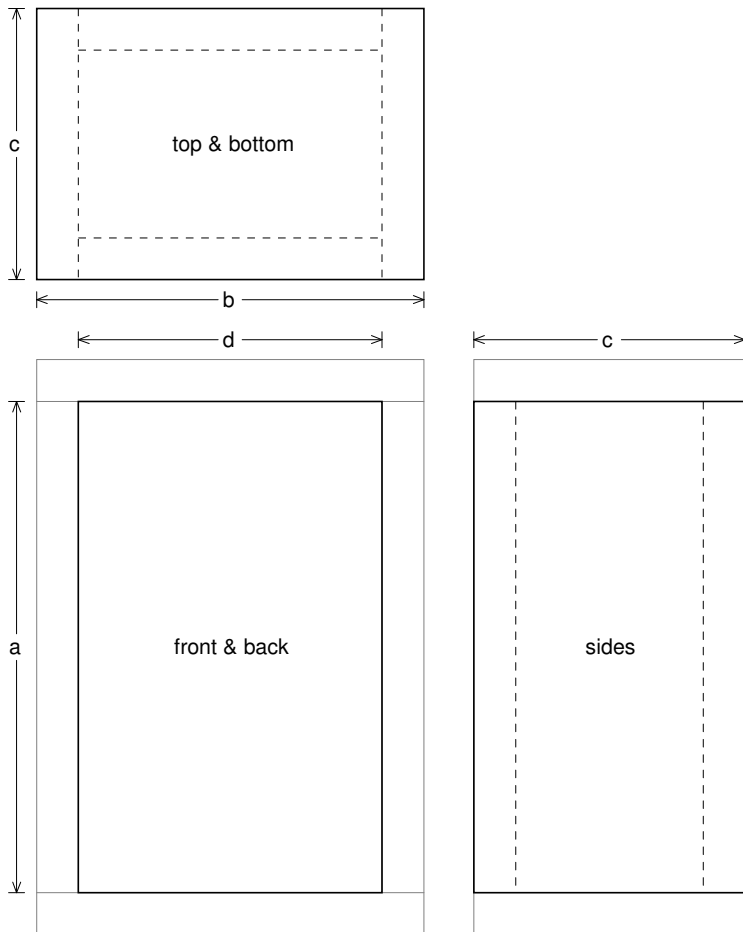
--Electromech. Parameters--

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

