PROFESSIONAL AUDIO AND
MUSICAL INSTRUMENT LOUDSPEAKERS

ENCLOSURES, AMPLIFIERS AND
COMPLETE FINISHED SYSTEMS

EMINENCE®
DONGGUAN

YOUR COMPLETE MANUFACTURING SOLUTION

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HIGH QUALITY, CUSTOM SOLUTIONS WITH ON-TIME DELIVERY.

FROM COMMUNICATION, STATE-OF-THE-ART DESIGN, QUALITY, DELIVERY, AND SUPPORT AFTER THE SALE, EMINENCE IS YOUR COMPLETE MANUFACTURING SOLUTION.

Speed, quality, service and flexibility are the essential elements for any successful manufacturer operating in a global market. And as many OEM manufacturers look to strategically source their components and finished systems in locations that are situated to maximize efficiencies and reduce costs, the Eminence Dongguan factory has expanded to meet those needs.

Established in 2006, the Eminence Dongguan factory utilizes over 72,000 square feet of manufacturing and warehouse space, and is ISO 9001:2008 certified. This ensures our high standards are at the core of every project, and that we carry forward our unified company mission of providing the best quality, value and service to meet our customers' needs.

The Eminence roots have always been in custom design and manufacturing, and remains one of the very few loudspeaker manufacturers capable of producing a speaker to your exact specifications. The design and assembly of special models for a whole range of leading music equipment companies is still the bulk of Eminence business. From low frequency subwoofers to lightweight neodymium designs to high frequency devices and components, Eminence Dongguan can make your vision a reality.

THE WORLD'S PREMIER BRANDS CHOOSE EMINENCE.

From custom speaker designs to complete finished systems, Eminence Dongguan is their choice for quality, value and service.

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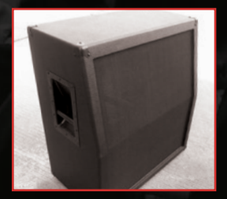

YOU'VE COME TO TRUST EMINENCE FOR QUALITY LOUDSPEAKERS. YOU CAN ALSO TRUST EMINENCE TO TAKE YOUR COMPLETE PRODUCT FROM CONCEPT TO MARKET.

FINISHED SYSTEMS

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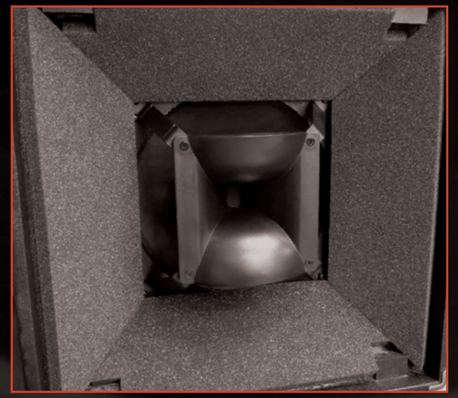
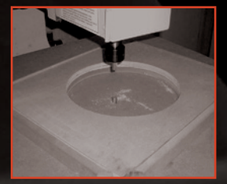




FINISHED SYSTEMS

FROM GUITAR AND BASS AMPLIFIER DESIGN TO PROFESSIONAL AUDIO ENCLOSURES, OUR TURN-KEY SOLUTIONS OFFER A COMPETITIVE ADVANTAGE.

Through our St. Louis Design Center and the Eminence Dongguan Cabinet Shop, we can provide manufacturers with complete design and manufacturing of your guitar and bass amplifiers, and professional audio enclosures. We've spent the last 45 years collaborating with the best designers and best brands in the development of some of the music industry's most well respected products. Our engineers understand the complete product development process and combine to represent a wealth of knowledge in sound reproduction and guitar tone.

Today, most brands sub-contract the design and manufacturing of their products. However, many OEM and ODM suppliers lead to concerns with communication, intellectual property, quality, delivery, and service after the sale. Eminence has expanded to meet those concerns head on through the Eminence Cabinet Shop. Today, Eminence can take your product, be it from your designs or simply from your concept, through the design and documentation process, production, certification, and on to market.

Eminence has produced thousands of confidential manufacturer-specific formulas since 1966. The engineering department places hundreds of man years of experience at your disposal. Whether your requirement is for one of the stock loudspeaker models from this catalog, our Eminence USA product line, or a true custom requirement for a loudspeaker or finished system, we invite you to contact us about it.

- ✔ PROFESSIONAL AUDIO ENCLOSURES
- ✔ GUITAR AND BASS AMPLIFIER DESIGN
- ✔ ONE-, TWO-, AND THREE-WAY SYSTEMS
- ✔ DESIGN ENGINEERING
- ✔ CERTIFICATION ASSISTANCE

EPA-C3012

12” High power pro audio mid/bass or woofer. Good for small sealed or vented designs.

SPECIFICATION	
Nominal Basket Diameter	12”, 305 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	450 W
Music Program	900 W
Resonance	50 Hz
Usable Frequency Range	70 Hz – 3 kHz
Sensitivity***	96.7 dB
Magnet Weight	80 oz.
Gap Height	0.39”, 9.9 mm
Voice Coil Diameter	3”, 76 mm

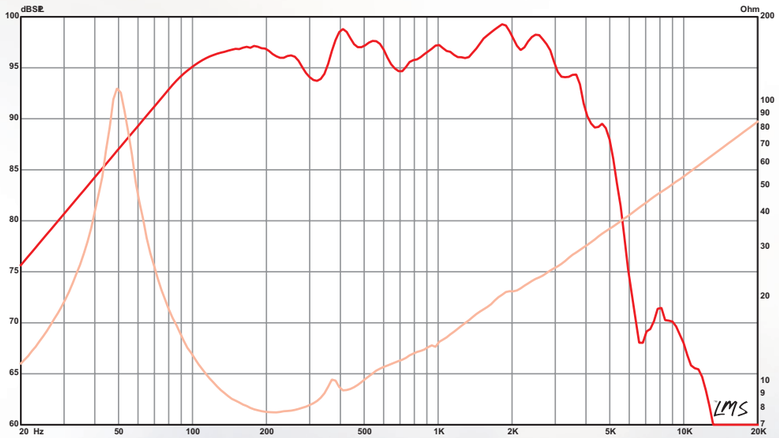
THIELE & SMALL PARAMETERS*	
Fs	50 Hz
Re	6.4 Ω
Le	1.03 mH
Qms	6.55
Qes	0.39
Qts	0.37
Vas	2.58 cu.ft., 72.95 liters
Vd	157.8 cc
Cms	0.19 mm/N
BL	16.6 T-M
Mms	53 grams
EBP	128
Xmax	3 mm
Sd	525.9 cm2
Xlim	8.5 mm

MOUNTING INFORMATION	
Recommended Enclosure Volume	
Sealed	25.49–62.3 liters, 0.9–2.2 cu.ft.
Vented	36.81–63.71 liters, 1.3–2.25 cu.ft.
Driver Volume Displaced	0.09 cu.ft., 2.55 liters
Overall Diameter	12.38”, 314.5 mm
Baffle Hole Diameter	11.06”, 280.9 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.28”, 7.1 mm
Mounting Holes B.C.D.	11.69”, 296.9 mm
Depth	5.57”, 141.5 mm
Net Weight	16.82 lbs , 7.63 kg
Shipping Weight	18.23 lbs , 8.27 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core
- Cast aluminum basket
- Curved paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-C3015

15” High power driver for pro audio and MI applications. Great for two-way PA cabinets.

SPECIFICATION	
Nominal Basket Diameter	15”, 381 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	450 W
Music Program	900 W
Resonance	35 Hz
Usable Frequency Range	53 Hz – 2.6 kHz
Sensitivity***	98 dB
Magnet Weight	80 oz.
Gap Height	0.39”, 9.9 mm
Voice Coil Diameter	3”, 76 mm

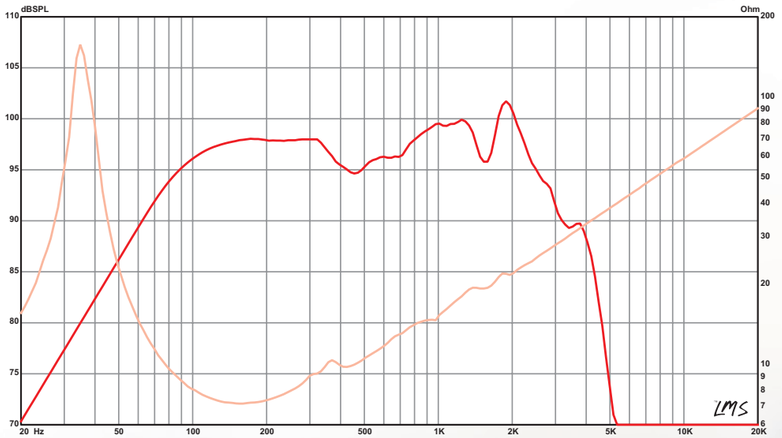
THIELE & SMALL PARAMETERS*	
Fs	35 Hz
Re	5.8 Ω
Le	1.17 mH
Qms	11.8
Qes	0.39
Qts	0.37
Vas	10.13 cu.ft., 286.73 liters
Vd	397.7 cc
Cms	0.28 mm/N
BL	15.7 T-M
Mms	73 grams
EBP	92
Xmax	4.6 mm
Sd	864.6 cm2
Xlim	12 mm

MOUNTING INFORMATION	
Recommended Enclosure Volume	
Sealed	51–113 liters, 1.8–4 cu.ft.
Vented	59–116 liters, 2.1–4.1 cu.ft.
Driver Volume Displaced	0.138 cu.ft., 3.92 liters
Overall Diameter	15.32”, 389.1 mm
Baffle Hole Diameter	14”, 355.6 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.28”, 7.1 mm
Mounting Holes B.C.D.	14.56”, 369.8 mm
Depth	6.14”, 156 mm
Net Weight	17.46 lbs , 7.92 kg
Shipping Weight	19.64 lbs , 8.91 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core, bumped backplate
- Cast aluminum basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-C3015LF

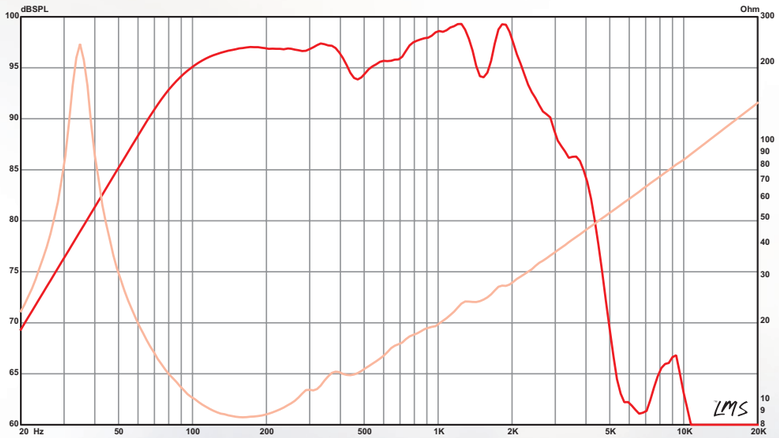
15” High power driver for pro audio and MI applications. Great for compact subwoofers and for high power two- or three-way systems.

SPECIFICATION		THIELE & SMALL PARAMETERS*		MOUNTING INFORMATION	
Nominal Basket Diameter	15”, 381 mm	Fs	35 Hz	Recommended Enclosure Volume	
Nominal Impedance*	8 Ω	Re	6.9 Ω	Sealed	N/A
Power Rating**		Le	1.66 mH		
Watts	550 W	Qms	13.52	Vented	59–187 liters,
Music Program	1100 W	Qes	0.32		2.1–6.6 cu.ft.
Resonance	35 Hz	Qts	0.31	Driver Volume Displaced	0.152 cu.ft., 4.3 liters
Usable Frequency Range	42 Hz – 2.4 kHz	Vas	8.89 cu.ft., 251.85 liters	Overall Diameter	15.32”, 389.1 mm
Sensitivity***	97 dB	Vd	562 cc	Baffle Hole Diameter	14”, 355.6 mm
Magnet Weight	105 oz.	Cms	0.24 mm/N	Front Sealing Gasket	Yes
Gap Height	0.39”, 9.9 mm	BL	20.1 T-M	Rear Sealing Gasket	Yes
Voice Coil Diameter	3”, 76 mm	Mms	87 grams	Mounting Holes Diameter	0.28”, 7.1 mm
		EBP	108	Mounting Holes B.C.D.	14.56”, 369.8 mm
		Xmax	6.5 mm	Depth	6.57”, 166.9 mm
		Sd	864.6 cm2	Net Weight	20.11 lbs , 9.12 kg
		Xlim	13 mm	Shipping Weight	22.29 lbs , 10.11 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented w/extended core
- Cast aluminum basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-C3018

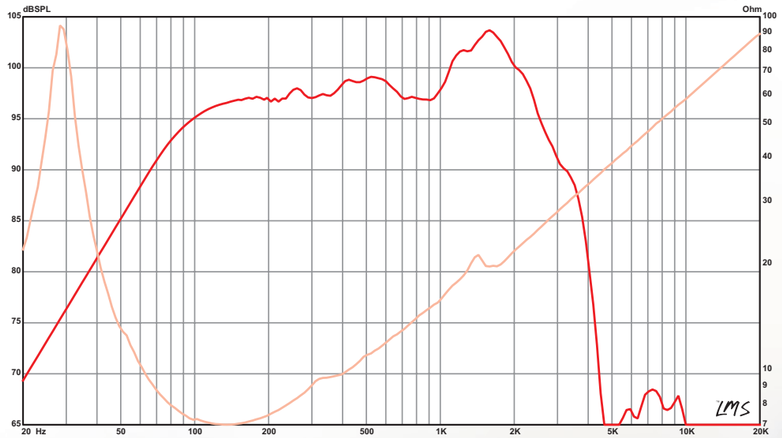
18” High power subwoofer for ported PA enclosures and sealed bass guitar cabinets.

SPECIFICATION		THIELE & SMALL PARAMETERS*		MOUNTING INFORMATION	
Nominal Basket Diameter	18”, 457 mm	Fs	29 Hz	Recommended Enclosure Volume	
Nominal Impedance*	8 Ω	Re	5.7 Ω	Sealed	85–156 liters,
Power Rating**		Le	1.16 mH		3–5.5 cu.ft.
Watts	425 W	Qms	6.43	Vented	113–244 liters,
Music Program	850 W	Qes	0.43		4–8.6 cu.ft.
Resonance	29 Hz	Qts	0.4	Driver Volume Displaced	0.234 cu.ft., 6.62 liters
Usable Frequency Range	40 Hz – 1 kHz	Vas	18.42 cu.ft., 521.72 liters	Overall Diameter	18”, 457.2 mm
Sensitivity***	97.7 dB	Vd	538.3 cc	Baffle Hole Diameter	16.6”, 421.6 mm
Magnet Weight	80 oz.	Cms	0.27 mm/N	Front Sealing Gasket	Yes
Gap Height	0.39”, 9.9 mm	BL	16.6 T-M	Rear Sealing Gasket	Yes
Voice Coil Diameter	3”, 76 mm	Mms	114 grams	Mounting Holes Diameter	0.28”, 7.1 mm
		EBP	67	Mounting Holes B.C.D.	17.25”, 438.2 mm
		Xmax	4.6 mm	Depth	7.6”, 193 mm
		Sd	1178 cm2	Net Weight	19.64 lbs , 8.91 kg
		Xlim	9.5 mm	Shipping Weight	23.59 lbs , 10.7 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core, bumped backplate
- Cast aluminum basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-C3018LF

18” High power pro audio subwoofer with long Xmax and large motor to ensure deep distortion-free bass.

SPECIFICATION

Nominal Basket Diameter	18”, 457 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	600 W
Music Program	1200 W
Resonance	32 Hz
Usable Frequency Range	39 Hz – 1 kHz
Sensitivity***	97.7 dB
Magnet Weight	105 oz.
Gap Height	0.39”, 9.9 mm
Voice Coil Diameter	3”, 76 mm

THIELE & SMALL PARAMETERS*

Fs	32 Hz
Re	6.9 Ω
Le	1.64 mH
Qms	7.53
Qes	0.41
Qts	0.39
Vas	13.62 cu.ft., 385.72 liters
Vd	766 cc
Cms	0.2 mm/N
BL	20.4 T-M
Mms	123 grams
EBP	78
Xmax	6.5 mm
Sd	1178 cm2
Xlim	12.2 mm

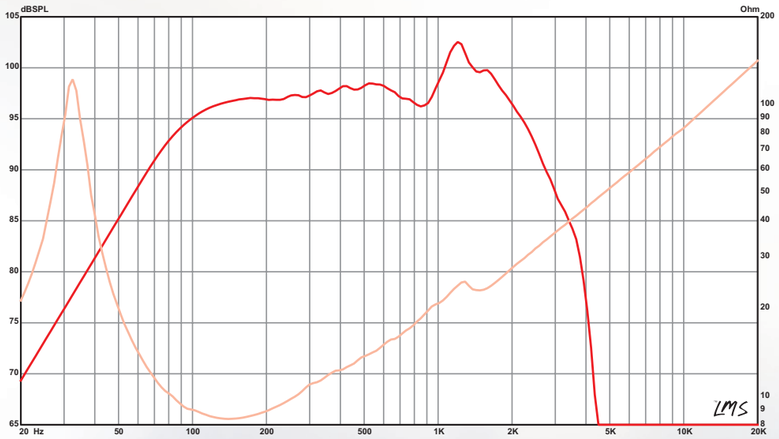
MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	68–127 liters, 2.4–4.5 cu.ft.
Vented	91–255 liters, 3.2–9 cu.ft.
Driver Volume Displaced	0.24 cu.ft., 6.8 liters
Overall Diameter	18”, 457.2 mm
Baffle Hole Diameter	16.6”, 421.6 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.28”, 7.1 mm
Mounting Holes B.C.D.	17.25”, 438.2 mm
Depth	8.05”, 204.5 mm
Net Weight	22.51 lbs , 10.21 kg
Shipping Weight	26.17 lbs , 11.87 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core, bumped backplate
- Cast aluminum basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-CHP3018LF

18” High power pro audio subwoofer with long Xmax and large motor to ensure deep distortion-free bass.

SPECIFICATION

Nominal Basket Diameter	18”, 457 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	700 W
Music Program	1400 W
Resonance	34 Hz
Usable Frequency Range	35 Hz – 0.6 kHz
Sensitivity***	99 dB
Magnet Weight	120 oz.
Gap Height	0.39”, 9.9 mm
Voice Coil Diameter	3”, 76 mm

THIELE & SMALL PARAMETERS*

Fs	34 Hz
Re	6.4 Ω
Le	1.43 mH
Qms	10.55
Qes	0.34
Qts	0.33
Vas	13.61 cu.ft., 385.28 liters
Vd	688 cc
Cms	0.2 mm/N
BL	21.2 T-M
Mms	112 grams
EBP	99
Xmax	5.8 mm
Sd	1178 cm2
Xlim	12.2 mm

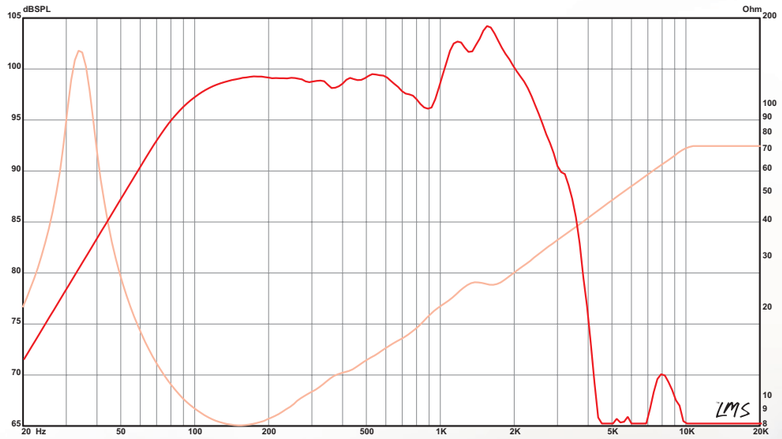
MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	N/A
Vented	85–311 liters, 3–11 cu.ft.
Driver Volume Displaced	0.24 cu.ft., 6.8 liters
Overall Diameter	18”, 457.2 mm
Baffle Hole Diameter	16.6”, 421.6 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.28”, 7.1 mm
Mounting Holes B.C.D.	17.25”, 438.2 mm
Depth	7.91”, 200.9 mm
Net Weight	25.13 lbs , 11.4 kg
Shipping Weight	28.79 lbs , 13.06 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented w/extended core and bumped backplate
- Cast aluminum basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-CN2510

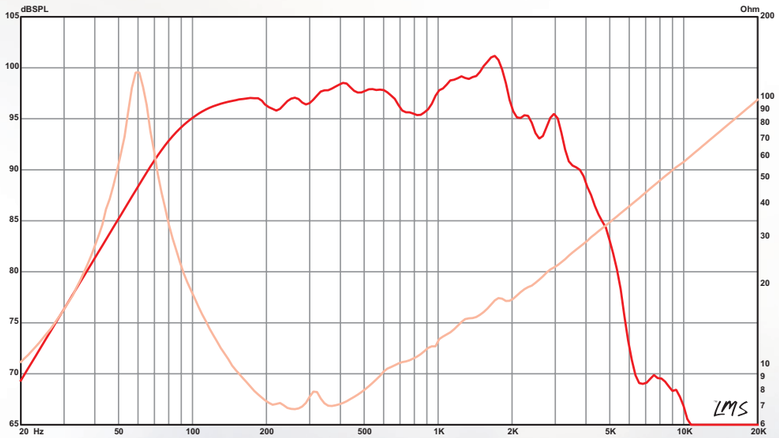
12” Lightweight high power driver for pro audio mid/bass and bass guitar applications.

SPECIFICATION		THIELE & SMALL PARAMETERS*		MOUNTING INFORMATION	
Nominal Basket Diameter	10”, 254 mm	Fs	59 Hz	Recommended Enclosure Volume	
Nominal Impedance*	8 Ω	Re	5.1 Ω	Sealed	N/A
Power Rating**		Le	1.06 mH		
Watts	225 W	Qms	7.6	Vented	16–50 liters,
Music Program	450 W	Qes	0.26		0.6–1.8 cu.ft.
Resonance	59 Hz	Qts	0.25	Driver Volume Displaced	0.026 cu.ft., 0.74 liters
Usable Frequency Range	64 Hz – 2.5 kHz	Vas	1.42 cu.ft., 40.32 liters	Overall Diameter	10.25”, 260.4 mm
Sensitivity***	97.5 dB	Vd	124.4 cc	Baffle Hole Diameter	9.15”, 232.4 mm
Magnet Weight	7 oz.	Cms	0.23 mm/N	Front Sealing Gasket	Yes
Gap Height	0.28”, 7.1 mm	BL	15.25 T-M	Rear Sealing Gasket	Yes
Voice Coil Diameter	2.5”, 64 mm	Mms	32 grams	Mounting Holes Diameter	0.28”, 7.1 mm
		EBP	228	Mounting Holes B.C.D.	9.73”, 247.1 mm
		Xmax	3.5 mm	Depth	4.9”, 124.5 mm
		Sd	335.4 cm2	Net Weight	4.72 lbs , 2.14 kg
		Xlim	7.5 mm	Shipping Weight	5.69 lbs , 2.58 kg

MATERIALS OF CONSTRUCTION

- Aluminum voice coil
- Polyimide former
- Neodymium magnet
- Vented core
- Cast aluminum basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-CN2512

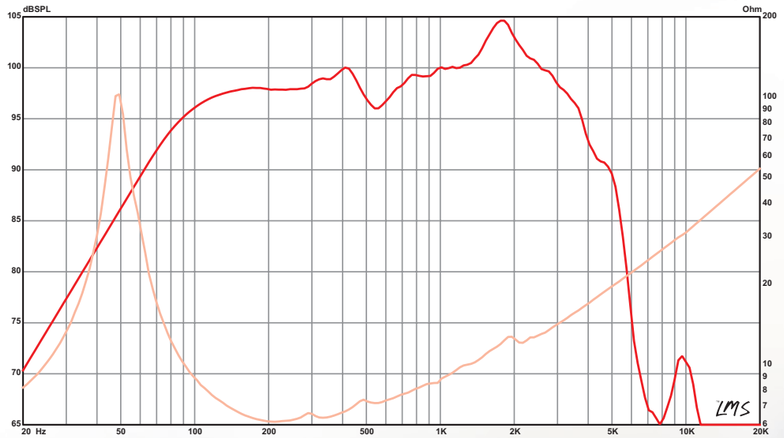
12” Lightweight pro audio woofer for two-way systems and MI applications.

SPECIFICATION		THIELE & SMALL PARAMETERS*		MOUNTING INFORMATION	
Nominal Basket Diameter	12”, 305 mm	Fs	49 Hz	Recommended Enclosure Volume	
Nominal Impedance*	8 Ω	Re	5.1 Ω	Sealed	23–59 liters,
Power Rating**		Le	0.55 mH		0.8–2.1 cu.ft.
Watts	225 W	Qms	9.29	Vented	28–102 liters,
Music Program	450 W	Qes	0.45		1–3.6 cu.ft.
Resonance	49 Hz	Qts	0.43	Driver Volume Displaced	0.05 cu.ft., 1.42 liters
Usable Frequency Range	49 Hz – 3.5 kHz	Vas	3.3 cu.ft., 93.51 liters	Overall Diameter	12.38”, 314.5 mm
Sensitivity***	99.5 dB	Vd	236.7 cc	Baffle Hole Diameter	11.06”, 280.9 mm
Magnet Weight	7 oz.	Cms	0.24 mm/N	Front Sealing Gasket	Yes
Gap Height	0.28”, 7.1 mm	BL	12.4 T-M	Rear Sealing Gasket	Yes
Voice Coil Diameter	2.5”, 64 mm	Mms	44 grams	Mounting Holes Diameter	0.28”, 7.1 mm
		EBP	110	Mounting Holes B.C.D.	11.62”, 295.2 mm
		Xmax	4.5 mm	Depth	5.9”, 149.9 mm
		Sd	525.9 cm2	Net Weight	5.11 lbs , 2.32 kg
		Xlim	8.5 mm	Shipping Weight	6.53 lbs , 2.96 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Neodymium magnet
- Vented core
- Cast aluminum basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

ND NEODYMIUM PROFESSIONAL SERIES

EPA-CN2515

15” Lightweight pro audio woofer for two-way systems and MI applications.

SPECIFICATION

Nominal Basket Diameter	15”, 381 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	225 W
Music Program	450 W
Resonance	39 Hz
Usable Frequency Range	50 Hz – 3.7 kHz
Sensitivity***	100 dB
Magnet Weight	7 oz.
Gap Height	0.28”, 7.1 mm
Voice Coil Diameter	2.5”, 64 mm

THIELE & SMALL PARAMETERS*

Fs	39 Hz
Re	5.3 Ω
Le	1.08 mH
Qms	10.08
Qes	0.35
Qts	0.34
Vas	9.19 cu.ft., 260.34 liters
Vd	302.6 cc
Cms	0.25 mm/N
BL	15.7 T-M
Mms	66 grams
EBP	112
Xmax	3.5 mm
Sd	864.6 cm2
Xlim	8.5 mm

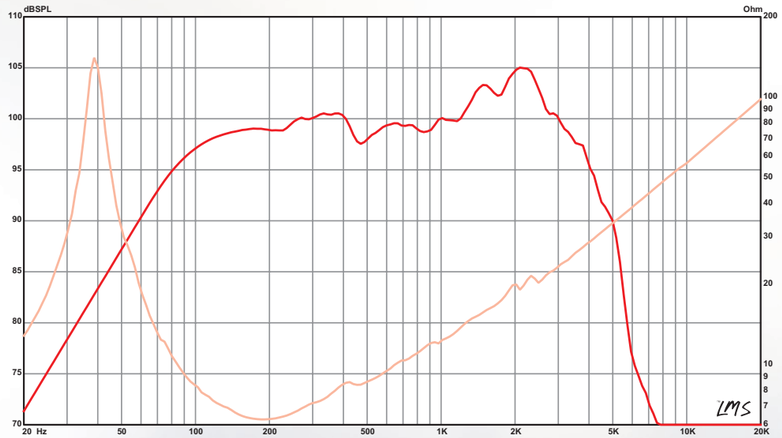
MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	52–88 liters, 1.9–3.1 cu.ft.
Vented	48–110 liters, 1.7–3.9 cu.ft.
Driver Volume Displaced	0.084 cu.ft., 2.38 liters
Overall Diameter	15.32”, 389.1 mm
Baffle Hole Diameter	14”, 355.6 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.28”, 7.1 mm
Mounting Holes B.C.D.	14.56”, 369.8 mm
Depth	6.81”, 173 mm
Net Weight	5.86 lbs , 2.66 kg
Shipping Weight	8.42 lbs , 3.82 kg

MATERIALS OF CONSTRUCTION

- Aluminum voice coil
- Polyimide former
- Neodymium magnet
- Vented core
- Cast aluminum basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

From design and manufacturing to the stage or studio. Once you’ve experienced the performance of Eminence, you’ll never accept anything else.

FOOTNOTES

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

** Multiple units exceed published ratings evaluated under EIA 426A specification while tested in a free-air, non-temperature-controlled environment.

*** 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 | Carver PM-120 amplifier | 2700 cu. ft. chamber with fiberglass on all six surfaces (three with custom-made wedges).

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

EPA-S1506

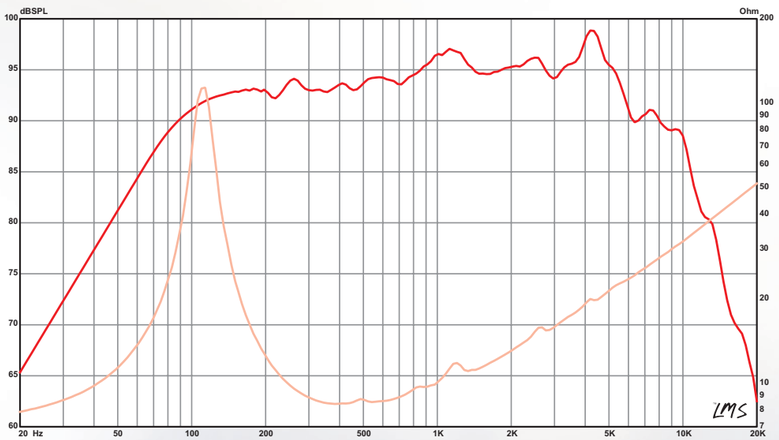
6” Medium power pro audio and MI driver. Works well as a mid in small sealed boxes, or as a mid/bass driver in vented box.

SPECIFICATION		THIELE & SMALL PARAMETERS*		MOUNTING INFORMATION	
Nominal Basket Diameter	6.5”, 165 mm	Fs	111 Hz	Recommended Enclosure Volume	
Nominal Impedance*	8 Ω	Re	6.7 Ω	Sealed	2–5 liters,
Power Rating**		Le	0.55 mH		0.1–0.2 cu.ft.
Watts	100 W	Qms	9.57	Vented	5–7 liters,
Music Program	200 W	Qes	0.49		0.2–0.3 cu.ft.
Resonance	111 Hz	Qts	0.47	Driver Volume Displaced	0.014 cu.ft., 0.41 liters
Usable Frequency Range	103 Hz – 6 kHz	Vas	0.16 cu.ft., 4.49 liters	Overall Diameter	6.58”, 167.1 mm
Sensitivity***	94.7 dB	Vd	22.3 cc	Baffle Hole Diameter	5.6”, 142.2 mm
Magnet Weight	20 oz.	Cms	0.2 mm/N	Front Sealing Gasket	Yes
Gap Height	0.24”, 6.1 mm	BL	9.8 T-M	Rear Sealing Gasket	Yes
Voice Coil Diameter	1.5”, 38 mm	Mms	10 grams	Mounting Holes Diameter	0.22”, 5.6 mm
		EBP	225	Mounting Holes B.C.D.	6.14”, 156 mm
		Xmax	1.8 mm	Depth	2.88”, 73.2 mm
		Sd	126.7 cm2	Net Weight	3.84 lbs , 1.74 kg
		Xlim	5 mm	Shipping Weight	4.41 lbs , 2 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core, bumped backplate
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-S1508

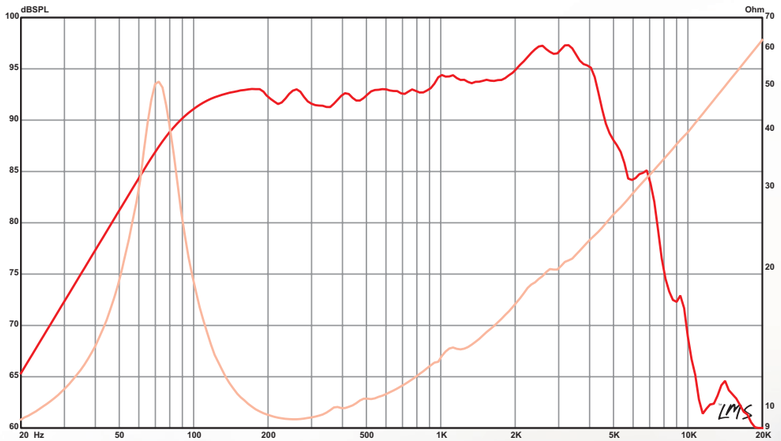
8” Medium power pro audio and MI driver. Works well as a mid in small sealed boxes, or as a mid/bass driver in vented box. Can also be used for Bass Guitar in medium sized vented cabinets

SPECIFICATION		THIELE & SMALL PARAMETERS*		MOUNTING INFORMATION	
Nominal Basket Diameter	8”, 203 mm	Fs	74 Hz	Recommended Enclosure Volume	
Nominal Impedance*	8 Ω	Re	6.8 Ω	Sealed	4–9 liters,
Power Rating**		Le	0.62 mH		0.1–0.3 cu.ft.
Watts	125 W	Qms	8.3	Vented	9–36 liters,
Music Program	250 W	Qes	0.76		0.3–1.3 cu.ft.
Resonance	74 Hz	Qts	0.7	Driver Volume Displaced	0.02 cu.ft., 0.58 liters
Usable Frequency Range	52 Hz – 4.7 kHz	Vas	0.59 cu.ft., 16.66 liters	Overall Diameter	8.24”, 209.3 mm
Sensitivity***	93.7 dB	Vd	68.1 cc	Baffle Hole Diameter	7.1”, 180.3 mm
Magnet Weight	20 oz.	Cms	0.26 mm/N	Front Sealing Gasket	Yes
Gap Height	0.24”, 6.1 mm	BL	8.6 T-M	Rear Sealing Gasket	Yes
Voice Coil Diameter	1.5”, 38 mm	Mms	18 grams	Mounting Holes Diameter	0.22”, 5.6 mm
		EBP	97	Mounting Holes B.C.D.	7.79”, 197.9 mm
		Xmax	3.3 mm	Depth	3.3”, 83.8 mm
		Sd	214 cm2	Net Weight	3.97 lbs , 1.8 kg
		Xlim	6.5 mm	Shipping Weight	4.67 lbs , 2.12 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core, bumped backplate
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-S1510

10” Medium power pro audio and MI driver. Works well as a mid in small sealed boxes, or as a mid/bass driver in vented box. Can also be used for Bass Guitar in medium sized vented cabinets

SPECIFICATION	
Nominal Basket Diameter	10”, 254 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	125 W
Music Program	250 W
Resonance	50 Hz
Usable Frequency Range	84 Hz – 5 kHz
Sensitivity***	95.3 dB
Magnet Weight	20 oz.
Gap Height	0.24”, 6.1 mm
Voice Coil Diameter	1.5”, 38 mm

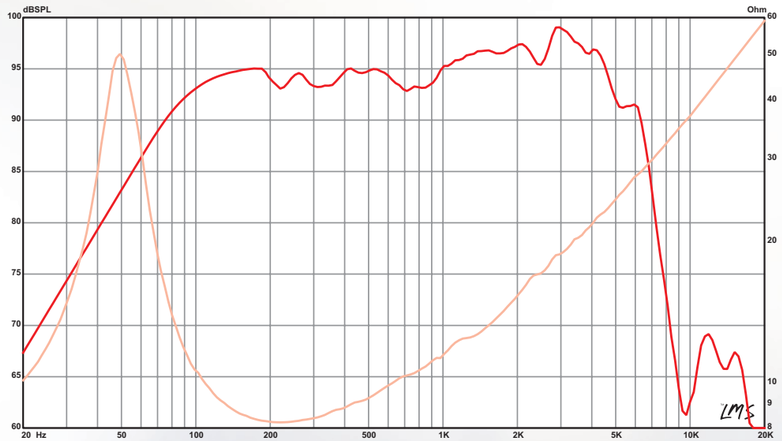
THIELE & SMALL PARAMETERS*	
Fs	50 Hz
Re	6.6 Ω
Le	0.66 mH
Qms	3.81
Qes	0.58
Qts	0.5
Vas	2.83 cu.ft., 80.23 liters
Vd	113 cc
Cms	0.46 mm/N
BL	9 T-M
Mms	23 grams
EBP	86
Xmax	3.2 mm
Sd	355.4 cm2
Xlim	9 mm

MOUNTING INFORMATION	
Recommended Enclosure Volume	
Sealed	8–35 liters, 0.3–1.3 cu.ft.
Vented	37–61 liters, 1.3–2.2 cu.ft.
Driver Volume Displaced	0.034 cu.ft., 0.95 liters
Overall Diameter	10.11”, 256.8 mm
Baffle Hole Diameter	9.13”, 231.9 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.23”, 5.8 mm
Mounting Holes B.C.D.	9.69”, 246.1 mm
Depth	3.8”, 96.5 mm
Net Weight	4.85 lbs , 2.2 kg
Shipping Weight	5.82 lbs , 2.64 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core, bumped backplate
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-S2510

10” High power pro audio or MI mid/bass driver. Works well as a midrange in a small sealed box or as a mid/bass driver in small vented boxes.

SPECIFICATION	
Nominal Basket Diameter	10”, 254 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	275 W
Music Program	550 W
Resonance	60 Hz
Usable Frequency Range	70 Hz – 3.7 kHz
Sensitivity***	98 dB
Magnet Weight	56 oz.
Gap Height	0.39”, 9.9 mm
Voice Coil Diameter	2.5”, 64 mm

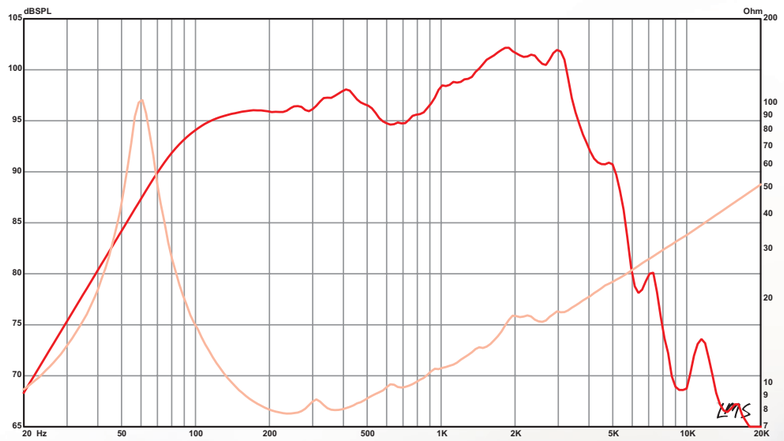
THIELE & SMALL PARAMETERS*	
Fs	60 Hz
Re	5.7 Ω
Le	0.6 mH
Qms	7.35
Qes	0.36
Qts	0.35
Vas	1.5 cu.ft., 42.43 liters
Vd	56.9 cc
Cms	0.24 mm/N
BL	13.2 T-M
Mms	29 grams
EBP	165
Xmax	1.6 mm
Sd	355.4 cm2
Xlim	8 mm

MOUNTING INFORMATION	
Recommended Enclosure Volume	
Sealed	5–17 liters, 0.2–0.6 cu.ft.
Vented	16–33 liters, 0.6–1.2 cu.ft.
Driver Volume Displaced	0.05 cu.ft., 1.42 liters
Overall Diameter	10.13”, 257.3 mm
Baffle Hole Diameter	9.05”, 229.9 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.25”, 6.4 mm
Mounting Holes B.C.D.	9.69”, 246.1 mm
Depth	4”, 101.6 mm
Net Weight	11.18 lbs , 5.07 kg
Shipping Weight	12.21 lbs , 5.54 kg

MATERIALS OF CONSTRUCTION

- Aluminum voice coil
- Polyimide former
- Ferrite magnet
- Vented core
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-S1512

12” Medium power pro audio and MI driver. Works well as a mid in small sealed boxes, or as a mid/bass driver in vented box. Can also be used for Bass Guitar in medium sized vented cabinets

SPECIFICATION

Nominal Basket Diameter	12”, 305 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	125 W
Music Program	250 W
Resonance	47 Hz
Usable Frequency Range	40 Hz – 5 kHz
Sensitivity***	96.5 dB
Magnet Weight	20 oz.
Gap Height	0.24”, 6.1 mm
Voice Coil Diameter	1.5”, 38 mm

THIELE & SMALL PARAMETERS*

Fs	47 Hz
Re	6.7 Ω
Le	0.67 mH
Qms	5.9
Qes	0.92
Qts	0.79
Vas	4 cu.ft., 113.23 liters
Vd	167.2 cc
Cms	0.29 mm/N
BL	9.2 T-M
Mms	39 grams
EBP	51
Xmax	3.2 mm
Sd	525.9 cm2
Xlim	6.7 mm

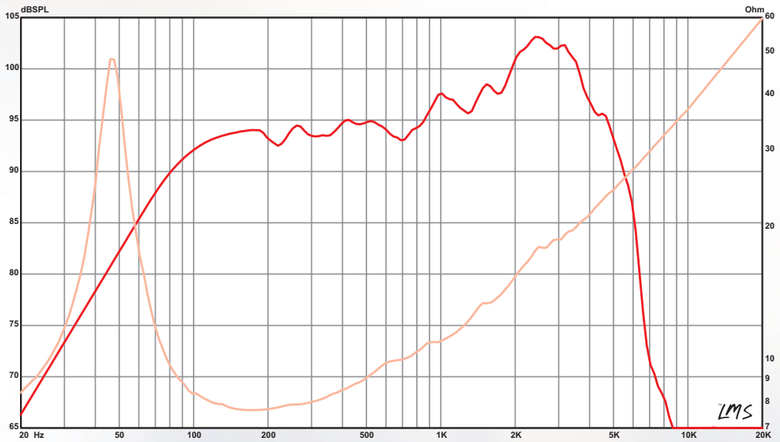
MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	20–51 liters, 0.7–1.8 cu.ft.
Vented	93–147 liters, 3.3–5.2 cu.ft.
Driver Volume Displaced	0.063 cu.ft., 1.78 liters
Overall Diameter	12.25”, 311.2 mm
Baffle Hole Diameter	11”, 279.4 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.25”, 6.4 mm
Mounting Holes B.C.D.	11.72”, 297.7 mm
Depth	4.63”, 117.6 mm
Net Weight	4.87 lbs , 2.21 kg
Shipping Weight	6.28 lbs , 2.85 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core, bumped backplate
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-S2012

12” Pro audio or MI woofer for small sealed or vented cabinets. Great for small two-way cabinets.

SPECIFICATION

Nominal Basket Diameter	12”, 305 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	200 W
Music Program	400 W
Resonance	42 Hz
Usable Frequency Range	47 Hz – 3.8 kHz
Sensitivity***	96 dB
Magnet Weight	38 oz.
Gap Height	0.32”, 8.1 mm
Voice Coil Diameter	2”, 51 mm

THIELE & SMALL PARAMETERS*

Fs	42 Hz
Re	5.9 Ω
Le	0.8 mH
Qms	7.07
Qes	0.57
Qts	0.53
Vas	4.4 cu.ft., 124.58 liters
Vd	203.5 cc
Cms	0.32 mm/N
BL	11 T-M
Mms	44 grams
EBP	74
Xmax	3.9 mm
Sd	525.9 cm2
Xlim	7.5 mm

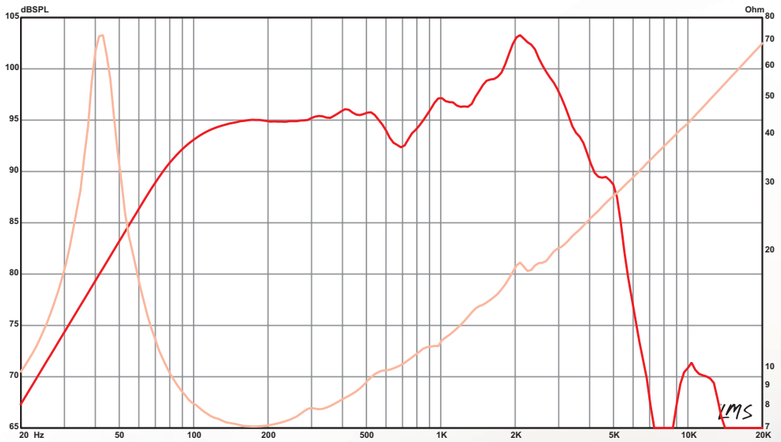
MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	17–54 liters, 0.6–1.9 cu.ft.
Vented	48–91 liters, 1.7–3.2 cu.ft.
Driver Volume Displaced	0.071 cu.ft., 2 liters
Overall Diameter	12.27”, 311.7 mm
Baffle Hole Diameter	11.09”, 281.7 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.25”, 6.4 mm
Mounting Holes B.C.D.	11.72”, 297.7 mm
Depth	5.22”, 132.6 mm
Net Weight	8 lbs , 3.63 kg
Shipping Weight	9.41 lbs , 4.27 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-S2512

12” High power pro audio or MI mid/woofer. Works well as a midrange in a small sealed box or as a mid/woofer in medium sized vented boxes.

SPECIFICATION

Nominal Basket Diameter	12”, 305 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	300 W
Music Program	600 W
Resonance	50 Hz
Usable Frequency Range	60 Hz – 4 kHz
Sensitivity***	100 dB
Magnet Weight	56 oz.
Gap Height	0.39”, 9.9 mm
Voice Coil Diameter	2.5”, 64 mm

THIELE & SMALL PARAMETERS*

Fs	50 Hz
Re	5.7 Ω
Le	0.62 mH
Qms	7.48
Qes	0.41
Qts	0.39
Vas	3.66 cu.ft., 103.64 liters
Vd	84.1 cc
Cms	0.27 mm/N
BL	12.8 T-M
Mms	37 grams
EBP	122
Xmax	1.6 mm
Sd	525.9 cm2
Xlim	6.5 mm

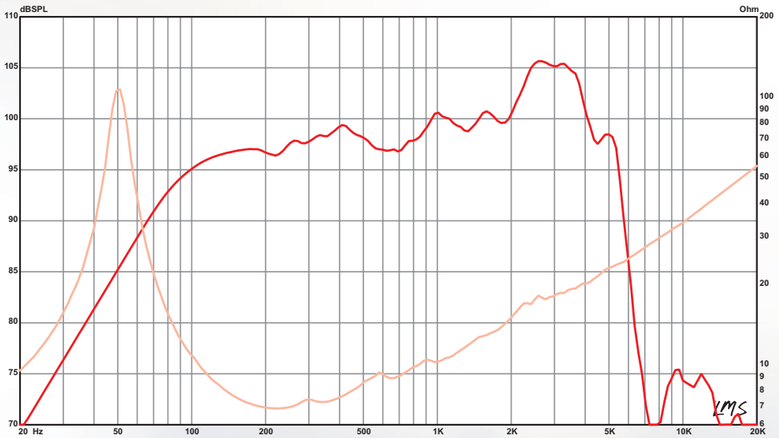
MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	10–37 liters, 0.3–1.3 cu.ft.
Vented	27–85 liters, 1–3 cu.ft.
Driver Volume Displaced	0.079 cu.ft., 2.25 liters
Overall Diameter	12.25”, 311.2 mm
Baffle Hole Diameter	11”, 279.4 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.25”, 6.4 mm
Mounting Holes B.C.D.	11.72”, 297.7 mm
Depth	5”, 127 mm
Net Weight	11.93 lbs , 5.41 kg
Shipping Weight	13.45 lbs , 6.1 kg

MATERIALS OF CONSTRUCTION

- Aluminum voice coil
- Polyimide former
- Ferrite magnet
- Vented core
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-S1515

15” Medium power pro audio and MI driver. Works well in medium to large sealed cabinets, or in large vented cabinets.

SPECIFICATION

Nominal Basket Diameter	15”, 381 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	125 W
Music Program	250 W
Resonance	41 Hz
Usable Frequency Range	47 Hz – 4.2 kHz
Sensitivity***	97.7 dB
Magnet Weight	20 oz.
Gap Height	0.24”, 6.1 mm
Voice Coil Diameter	1.5”, 38 mm

THIELE & SMALL PARAMETERS*

Fs	41 Hz
Re	6.7 Ω
Le	0.68 mH
Qms	3.48
Qes	1.19
Qts	0.89
Vas	9.61 cu.ft., 272.17 liters
Vd	280.2 cc
Cms	0.25 mm/N
BL	9.3 T-M
Mms	59 grams
EBP	35
Xmax	3.2 mm
Sd	881.2 cm2
Xlim	6.5 mm

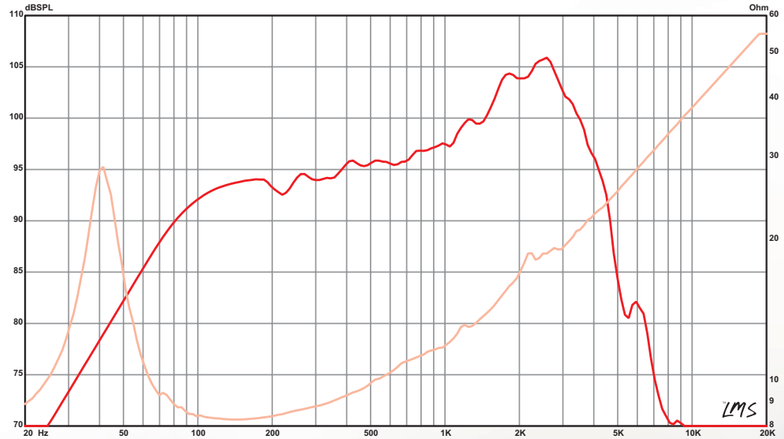
MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	54–117 liters, 1.9–4.1 cu.ft.
Vented	119–172 liters, 4.2–6.1 cu.ft.
Driver Volume Displaced	0.113 cu.ft., 3.21 liters
Overall Diameter	15.15”, 384.8 mm
Baffle Hole Diameter	13.84”, 351.5 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.25”, 6.4 mm
Mounting Holes B.C.D.	14.56”, 369.8 mm
Depth	5.62”, 142.8 mm
Net Weight	5.95 lbs , 2.7 kg
Shipping Weight	8.49 lbs , 3.85 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core, bumped backplate
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-S2015

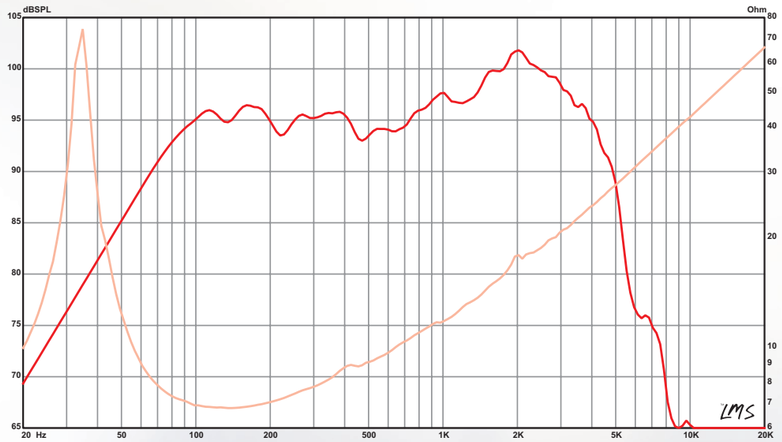
15” Pro audio or MI woofer for small sealed or vented cabinets. Great for small two-way cabinets.

SPECIFICATION		THIELE & SMALL PARAMETERS*		MOUNTING INFORMATION	
Nominal Basket Diameter	15”, 381 mm	Fs	34 Hz	Recommended Enclosure Volume	
Nominal Impedance*	8 Ω	Re	6 Ω	Sealed	396–119 liters,
Power Rating**		Le	0.79 mH		14–4.2 cu.ft.
Watts	200 W	Qms	9.51	Vented	82–212 liters,
Music Program	400 W	Qes	0.78		22.9–7.5 cu.ft.
Resonance	34 Hz	Qts	0.72	Driver Volume Displaced	0.118 cu.ft., 3.33 liters
Usable Frequency Range	40 Hz – 4 kHz	Vas	11.9 cu.ft., 336.9 liters	Overall Diameter	15.15”, 384.8 mm
Sensitivity***	96.6 dB	Vd	334.6 cc	Baffle Hole Diameter	13.84”, 351.5 mm
Magnet Weight	38 oz.	Cms	0.32 mm/N	Front Sealing Gasket	Yes
Gap Height	0.32”, 8.1 mm	BL	10.5 T-M	Rear Sealing Gasket	Yes
Voice Coil Diameter	2”, 51 mm	Mms	66 grams	Mounting Holes Diameter	0.25”, 6.4 mm
		EBP	44	Mounting Holes B.C.D.	14.56”, 369.8 mm
		Xmax	3.87 mm	Depth	6.5”, 165.1 mm
		Sd	864.6 cm2	Net Weight	9.08 lbs , 4.12 kg
		Xlim	12 mm	Shipping Weight	11.27 lbs , 5.11 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented w/extended core
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EPA-S2515

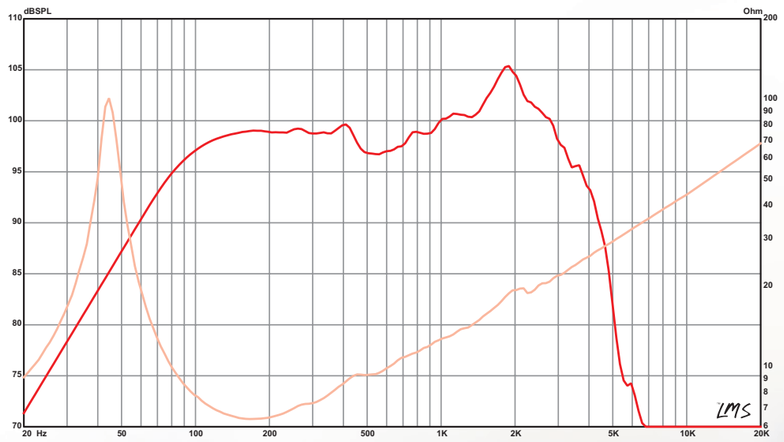
15” High power 15 inch for pro audio and MI applications. Great for small sealed floor wedges or medium sized vented boxes for mains, monitors, or bass guitar.

SPECIFICATION		THIELE & SMALL PARAMETERS*		MOUNTING INFORMATION	
Nominal Basket Diameter	15”, 381 mm	Fs	44 Hz	Recommended Enclosure Volume	
Nominal Impedance*	8 Ω	Re	5.1 Ω	Sealed	28–64 liters,
Power Rating**		Le	0.86 mH		1–2.3 cu.ft.
Watts	300 W	Qms	9.97	Vented	57–130 liters,
Music Program	600 W	Qes	0.45		2–4.6 cu.ft.
Resonance	44 Hz	Qts	0.44	Driver Volume Displaced	0.128 cu.ft., 3.62 liters
Usable Frequency Range	52 Hz – 3.6 kHz	Vas	6.81 cu.ft., 192.81 liters	Overall Diameter	15.15”, 384.8 mm
Sensitivity***	99.5 dB	Vd	274.9 cc	Baffle Hole Diameter	13.84”, 351.5 mm
Magnet Weight	56 oz.	Cms	0.19 mm/N	Front Sealing Gasket	Yes
Gap Height	0.39”, 9.9 mm	BL	14.7 T-M	Rear Sealing Gasket	Yes
Voice Coil Diameter	2.5”, 64 mm	Mms	70 grams	Mounting Holes Diameter	0.25”, 6.4 mm
		EBP	97	Mounting Holes B.C.D.	14.56”, 369.8 mm
		Xmax	3.2 mm	Depth	6”, 152.4 mm
		Sd	864.6 cm2	Net Weight	12.48 lbs , 5.66 kg
		Xlim	10 mm	Shipping Weight	14.66 lbs , 6.65 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented core
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EGTR-S108

8” Lightweight 30 watt guitar speaker with a 1 inch voice coil and 9 oz magnet.

SPECIFICATION

Nominal Basket Diameter	8”, 203 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	30 W
Music Program	N/A
Resonance	101 Hz
Usable Frequency Range	100 Hz – 6.5 kHz
Sensitivity***	94.5 dB
Magnet Weight	9 oz.
Gap Height	0.24”, 6.1 mm
Voice Coil Diameter	1”, 25 mm

THIELE & SMALL PARAMETERS*

Fs	101 Hz
Re	6.1 Ω
Le	0.42 mH
Qms	9.87
Qes	1.49
Qts	1.3
Vas	0.62 cu.ft., 17.49 liters
Vd	14 cc
Cms	0.26 mm/N
BL	4.9 T-M
Mms	9 grams
EBP	68
Xmax	0.6 mm
Sd	218.2 cm2

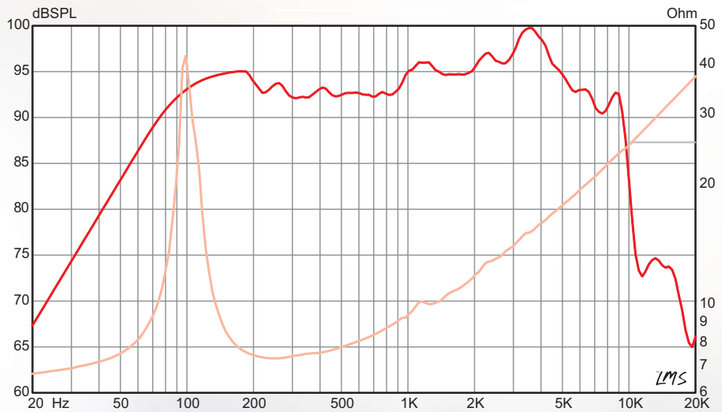
MOUNTING INFORMATION

Enclosure Type	
Sealed	Acceptable
Vented	Acceptable
Driver Volume Displaced	0.018 cu.ft., 0.51 liters
Overall Diameter	8.24”, 209.3 mm
Baffle Hole Diameter	7.1”, 180.3 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.22”, 5.6 mm
Mounting Holes B.C.D.	7.79”, 197.9 mm
Depth	2.9”, 73.7 mm
Net Weight	2.38 lbs , 1.08 kg
Shipping Weight	3.09 lbs , 1.4 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Extended core
- Pressed steel basket
- Full molded paper cone
- Paper cone edge
- Zurette dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EGTR-S1010

10” High sensitivity 10 inch guitar speaker with a 1 inch voice coil and 15 oz magnet.

SPECIFICATION

Nominal Basket Diameter	10”, 254 mm
Nominal Impedance*	8 or 4 Ω
Power Rating**	
Watts	30 W
Music Program	N/A
Resonance	147 Hz
Usable Frequency Range	100 Hz – 5.5 kHz
Sensitivity***	99.1 dB
Magnet Weight	15 oz.
Gap Height	0.24”, 6.1 mm
Voice Coil Diameter	1”, 25 mm

THIELE & SMALL PARAMETERS*

Fs	147 Hz
Re	6.1 Ω
Le	0.39 mH
Qms	12.52
Qes	2.18
Qts	1.86
Vas	0.47 cu.ft., 13.31 liters
Vd	23.6 cc
Cms	0.07 mm/N
BL	6.6 T-M
Mms	17 grams
EBP	67
Xmax	0.6 mm
Sd	371.5 cm2

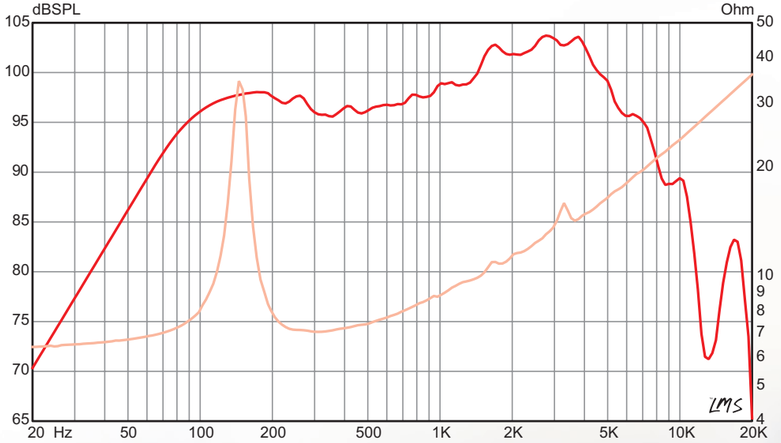
MOUNTING INFORMATION

Enclosure Type	
Sealed	Acceptable
Vented	Acceptable
Driver Volume Displaced	0.032 cu.ft., 0.9 liters
Overall Diameter	10.11”, 256.8 mm
Baffle Hole Diameter	9.13”, 231.9 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.23”, 5.8 mm
Mounting Holes B.C.D.	9.69”, 246.1 mm
Depth	3.85”, 97.8 mm
Net Weight	3.17 lbs , 1.44 kg
Shipping Weight	4.14 lbs , 1.88 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Standard core
- Pressed steel basket
- Full molded paper cone
- Paper cone edge
- Zurette dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EGTR-S1510

10” A beefier 10 inch guitar speaker with a 1.5 inch voice coil and 34 oz magnet.

SPECIFICATION

Nominal Basket Diameter	10”, 254 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	50 W
Music Program	N/A
Resonance	109 Hz
Usable Frequency Range	80 Hz – 4 kHz
Sensitivity***	99.7 dB
Magnet Weight	34 oz.
Gap Height	0.32”, 8.1 mm
Voice Coil Diameter	1.5”, 38 mm

THIELE & SMALL PARAMETERS*

Fs	109 Hz
Re	6.7 Ω
Le	0.65 mH
Qms	8.26
Qes	0.71
Qts	0.65
Vas	0.75 cu.ft., 21.16 liters
Vd	28.3 cc
Cms	0.11 mm/N
BL	11.2 T-M
Mms	19 grams
EBP	154
Xmax	0.8 mm
Sd	371.5 cm2

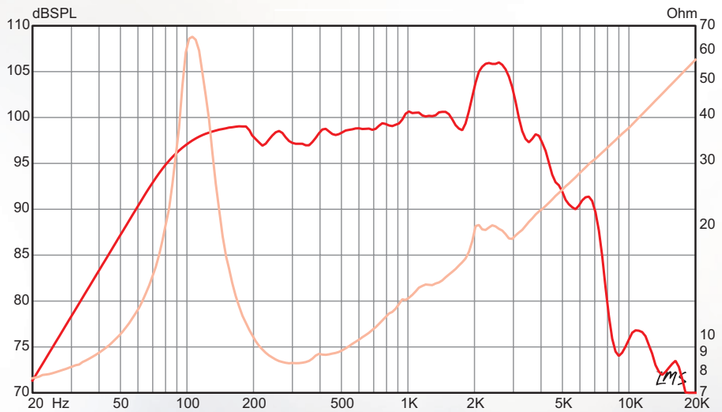
MOUNTING INFORMATION

Enclosure Type	
Sealed	Acceptable
Vented	Acceptable
Driver Volume Displaced	0.034 cu.ft., 0.95 liters
Overall Diameter	10.11”, 256.8 mm
Baffle Hole Diameter	9.13”, 231.9 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.23”, 5.8 mm
Mounting Holes B.C.D.	9.69”, 246.1 mm
Depth	4.13”, 104.9 mm
Net Weight	6.66 lbs , 3.02 kg
Shipping Weight	7.65 lbs , 3.47 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Extended core
- Pressed steel basket
- Full molded paper cone
- Paper cone edge
- Zurette dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EGTR-S1012

12” A 35 watt 12 inch guitar speaker with a 1 inch voice coil weighing in at less than 4 lbs.

SPECIFICATION

Nominal Basket Diameter	12”, 305 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	35 W
Music Program	N/A
Resonance	104 Hz
Usable Frequency Range	80 Hz – 5 kHz
Sensitivity***	100.2 dB
Magnet Weight	15 oz.
Gap Height	0.24”, 6.1 mm
Voice Coil Diameter	1”, 25 mm

THIELE & SMALL PARAMETERS*

Fs	104 Hz
Re	5.9 Ω
Le	0.28 mH
Qms	13.89
Qes	2.5
Qts	2.12
Vas	1.26 cu.ft., 35.76 liters
Vd	44.7 cc
Cms	0.08 mm/N
BL	6.5 T-M
Mms	28 grams
EBP	42
Xmax	0.8 mm
Sd	552 cm2

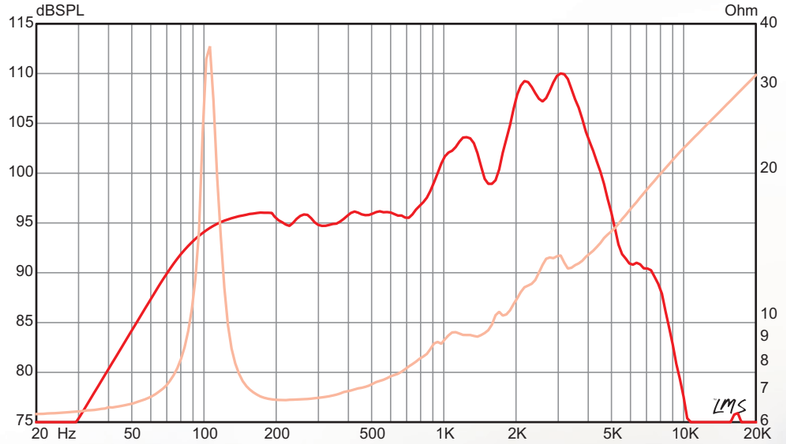
MOUNTING INFORMATION

Enclosure Type	
Sealed	Acceptable
Vented	Acceptable
Driver Volume Displaced	0.049 cu.ft., 1.4 liters
Overall Diameter	12.25”, 311.2 mm
Baffle Hole Diameter	11.01”, 279.7 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.25”, 6.4 mm
Mounting Holes B.C.D.	11.72”, 297.7 mm
Depth	4.41”, 112 mm
Net Weight	3.88 lbs , 1.76 kg
Shipping Weight	5.29 lbs , 2.4 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Standard core
- Pressed steel basket
- Full molded paper cone
- Paper cone edge
- Zurette dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EGTR-S1712

12” An efficient 75 watt 12 inch British-voiced guitar speaker.

SPECIFICATION

Nominal Basket Diameter	12”, 305 mm
Nominal Impedance*	8 or 16 Ω
Power Rating**	
Watts	75 W
Music Program	N/A
Resonance	87 Hz
Usable Frequency Range	80 Hz – 4.5 kHz
Sensitivity***	100.8 dB
Magnet Weight	38 oz.
Gap Height	0.32”, 8.1 mm
Voice Coil Diameter	1.75”, 44 mm

THIELE & SMALL PARAMETERS*

Fs	87 Hz
Re	6.4 Ω
Le	0.66 mH
Qms	16.06
Qes	0.67
Qts	0.64
Vas	1.78 cu.ft., 50.31 liters
Vd	42.6 cc
Cms	0.12 mm/N
BL	12.6 T-M
Mms	30 grams
EBP	130
Xmax	0.8 mm
Sd	558.6 cm2

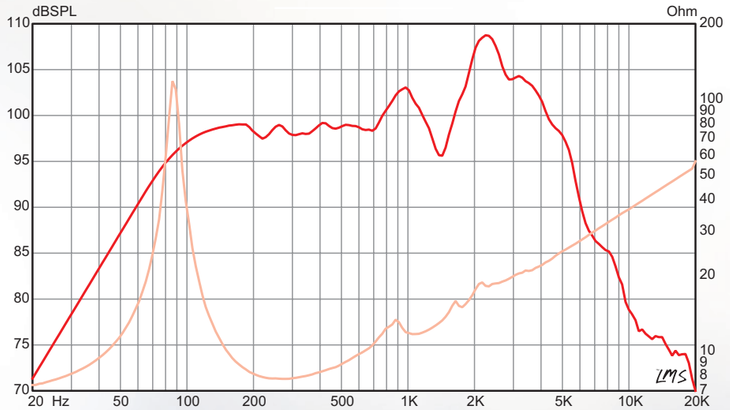
MOUNTING INFORMATION

Enclosure Type	
Sealed	Acceptable
Vented	Acceptable
Driver Volume Displaced	0.071 cu.ft., 2 liters
Overall Diameter	12.25”, 311.2 mm
Baffle Hole Diameter	11”, 279.4 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.25”, 6.4 mm
Mounting Holes B.C.D.	11.72”, 297.7 mm
Depth	5.1”, 129.5 mm
Net Weight	7.78 lbs , 3.53 kg
Shipping Weight	9.19 lbs , 4.17 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Nomex former
- Ferrite magnet
- Standard core
- Pressed steel basket
- Full molded paper cone
- Paper cone edge
- Zurette dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EGTR-SA1712

12” A 100 watt 12 inch American-voiced guitar speaker with high sensitivity.

SPECIFICATION

Nominal Basket Diameter	12”, 305 mm
Nominal Impedance*	8 or 16 Ω
Power Rating**	
Watts	100 W
Music Program	N/A
Resonance	98 Hz
Usable Frequency Range	80 Hz – 4.5 kHz
Sensitivity***	100 dB
Magnet Weight	34 oz.
Gap Height	0.32”, 8.1 mm
Voice Coil Diameter	1.75”, 44 mm

THIELE & SMALL PARAMETERS*

Fs	98 Hz
Re	5.8 Ω
Le	0.63 mH
Qms	13.81
Qes	0.89
Qts	0.83
Vas	1.13 cu.ft., 31.88 liters
Vd	40.9 cc
Cms	0.09 mm/N
BL	11.2 T-M
Mms	31 grams
EBP	110
Xmax	0.8 mm
Sd	519.5 cm2

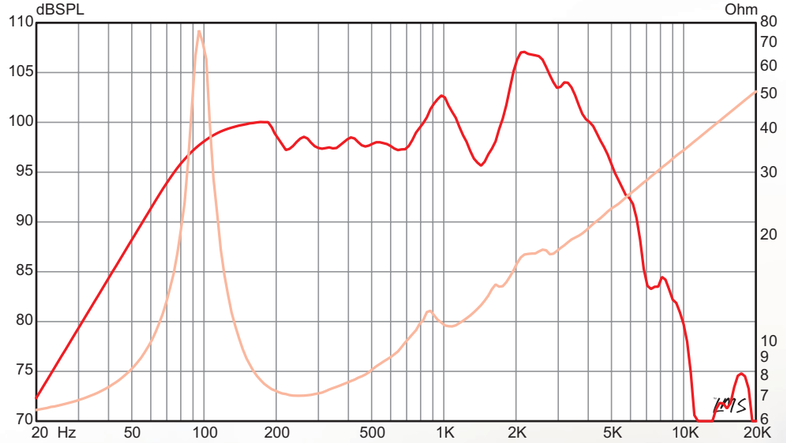
MOUNTING INFORMATION

Enclosure Type	
Sealed	Acceptable
Vented	Acceptable
Driver Volume Displaced	0.071 cu.ft., 2 liters
Overall Diameter	12.25”, 311.2 mm
Baffle Hole Diameter	11”, 279.4 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.25”, 6.4 mm
Mounting Holes B.C.D.	11.72”, 297.7 mm
Depth	5”, 127 mm
Net Weight	7.5 lbs , 3.4 kg
Shipping Weight	8.91 lbs , 4.04 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Standard core
- Pressed steel basket
- Full molded paper cone
- Paper cone edge
- Zurette dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EBG-S2010

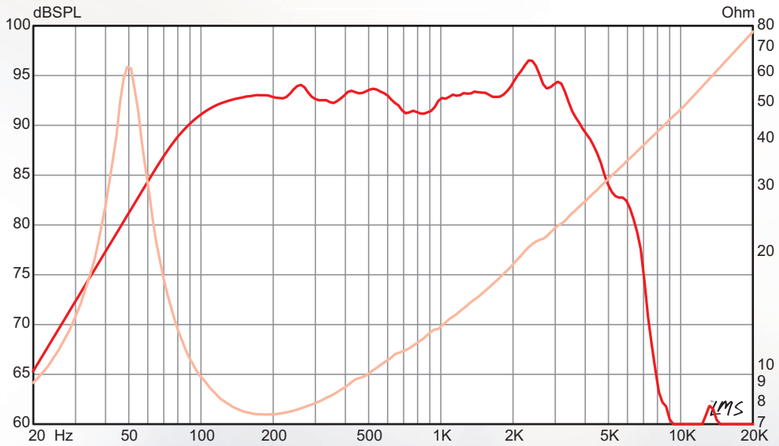
10” Bass guitar driver for sealed or vented cabinets. Classic American bass guitar tone.

SPECIFICATION		THIELE & SMALL PARAMETERS*		MOUNTING INFORMATION	
Nominal Basket Diameter	10”, 254 mm	Fs	50 Hz	Recommended Enclosure Volume	
Nominal Impedance*	8 or 4 Ω	Re	5.9 Ω	Sealed	14–28 liters,
Power Rating**		Le	0.92 mH		0.5–1 cu.ft.
Watts	200 W	Qms	5.53	Vented	27–68 liters,
Music Program	400 W	Qes	0.55		1–2.4 cu.ft.
Resonance	50 Hz	Qts	0.5	Driver Volume Displaced	0.04 cu.ft., 1.13 liters
Usable Frequency Range	46 Hz – 3.5 kHz	Vas	2.15 cu.ft., 60.75 liters	Overall Diameter	10.11”, 256.8 mm
Sensitivity***	93.2 dB	Vd	140.7 cc	Baffle Hole Diameter	9.13”, 231.9 mm
Magnet Weight	34 oz.	Cms	0.35 mm/N	Front Sealing Gasket	Yes
Gap Height	0.32”, 8.1 mm	BL	10 T-M	Rear Sealing Gasket	Yes
Voice Coil Diameter	2”, 51 mm	Mms	30 grams	Mounting Holes Diameter	0.23”, 5.8 mm
		EBP	90	Mounting Holes B.C.D.	9.69”, 246.1 mm
		Xmax	4 mm	Depth	4”, 101.6 mm
		Sd	355.4 cm2	Net Weight	7.72 lbs , 3.5 kg
		Xlim	8 mm	Shipping Weight	8.69 lbs , 3.94 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented w/extended core and bumped backplate
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EBG-S2010HO

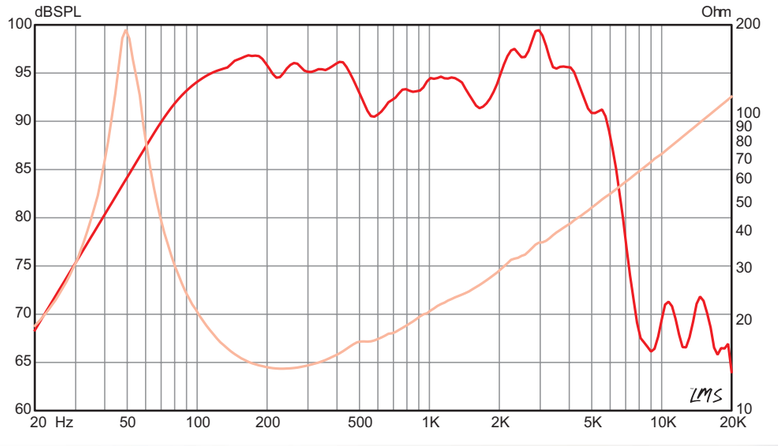
10” High-output extended range bass guitar or PA driver.

SPECIFICATION		THIELE & SMALL PARAMETERS*		MOUNTING INFORMATION	
Nominal Basket Diameter	10”, 254 mm	Fs	50 Hz	Recommended Enclosure Volume	
Nominal Impedance*	16 Ω	Re	11.3 Ω	Sealed	14–28 liters,
Power Rating**		Le	1.36 mH		0.5–1 cu.ft.
Watts	200 W	Qms	7.59	Vented	17–51 liters,
Music Program	400 W	Qes	0.4		0.6–1.8 cu.ft.
Resonance	50 Hz	Qts	0.38	Driver Volume Displaced	0.04 cu.ft., 1.13 liters
Usable Frequency Range	60 Hz – 4.3 kHz	Vas	2.6 cu.ft., 73.65 liters	Overall Diameter	10.11”, 256.8 mm
Sensitivity***	95 dB	Vd	138.6 cc	Baffle Hole Diameter	9.13”, 231.9 mm
Magnet Weight	34 oz.	Cms	0.42 mm/N	Front Sealing Gasket	Yes
Gap Height	0.32”, 8.1 mm	BL	14.6 T-M	Rear Sealing Gasket	Yes
Voice Coil Diameter	2”, 51 mm	Mms	24 grams	Mounting Holes Diameter	0.23”, 5.8 mm
		EBP	123	Mounting Holes B.C.D.	9.69”, 246.1 mm
		Xmax	3.9 mm	Depth	4.12”, 104.7 mm
		Sd	355.4 cm2	Net Weight	6.95 lbs , 3.15 kg
		Xlim	8 mm	Shipping Weight	8.07 lbs , 3.66 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Extended core
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Zurette dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EBG-S2015

15” Bass guitar driver producing smooth and tight bass in sealed cabinets, or thick, rich, low bass in vented cabinets

SPECIFICATION

Nominal Basket Diameter	15”, 381 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	200 W
Music Program	400 W
Resonance	35 Hz
Usable Frequency Range	43 Hz – 4 kHz
Sensitivity***	97 dB
Magnet Weight	38 oz.
Gap Height	0.31”, 7.9 mm
Voice Coil Diameter	2”, 51 mm

THIELE & SMALL PARAMETERS*

Fs	35 Hz
Re	6 Ω
Le	0.89 mH
Qms	6.38
Qes	0.63
Qts	0.57
Vas	11.72 cu.ft., 331.75 liters
Vd	342.4 cc
Cms	0.32 mm/N
BL	11.6 T-M
Mms	64 grams
EBP	56
Xmax	4 mm
Sd	864.6 cm2
Xlim	10 mm

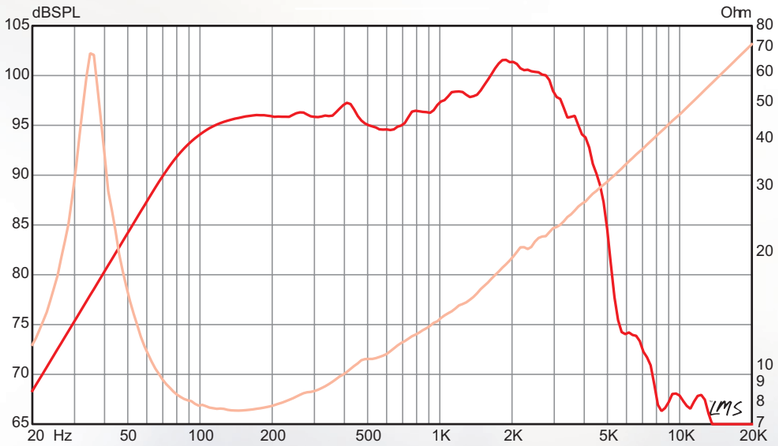
MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	40–142 liters, 1.4–5 cu.ft.
Vented	96–195 liters, 3.4–6.9 cu.ft.
Driver Volume Displaced	0.118 cu.ft., 3.33 liters
Overall Diameter	15.15”, 384.8 mm
Baffle Hole Diameter	13.84”, 351.5 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.25”, 6.4 mm
Mounting Holes B.C.D.	14.56”, 369.8 mm
Depth	6”, 152.4 mm
Net Weight	9.02 lbs , 4.09 kg
Shipping Weight	11.77 lbs , 5.34 kg

MATERIALS OF CONSTRUCTION

- Copper voice coil
- Polyimide former
- Ferrite magnet
- Vented w/extended core and bumped backplate
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

EBG-S2515

15” 15 inch pro audio driver for bass guitar or PA mid/bass. Extended top end performance.

SPECIFICATION

Nominal Basket Diameter	15”, 381 mm
Nominal Impedance*	8 Ω
Power Rating**	
Watts	250 W
Music Program	500 W
Resonance	50 Hz
Usable Frequency Range	57 Hz – 5.5 kHz
Sensitivity***	100 dB
Magnet Weight	56 oz.
Gap Height	0.39”, 9.9 mm
Voice Coil Diameter	2.5”, 64 mm

THIELE & SMALL PARAMETERS*

Fs	50 Hz
Re	5.7 Ω
Le	0.57 mH
Qms	7.65
Qes	0.73
Qts	0.67
Vas	5.9 cu.ft., 167.2 liters
Vd	121 cc
Cms	0.16 mm/N
BL	12.5 T-M
Mms	63 grams
EBP	69
Xmax	1.4 mm
Sd	864.6 cm2
Xlim	8 mm

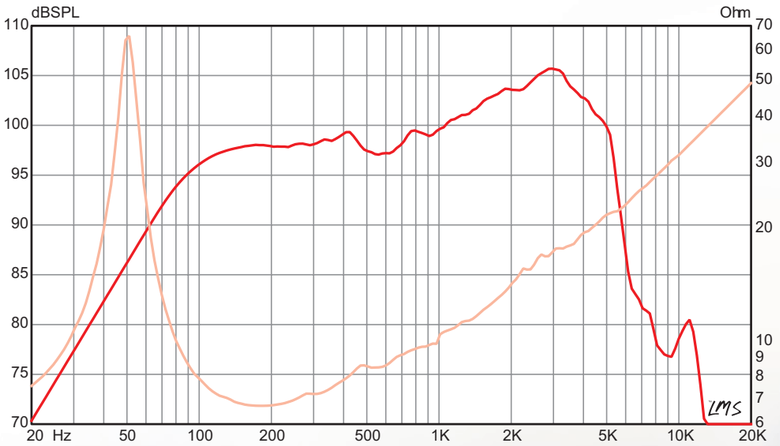
MOUNTING INFORMATION

Recommended Enclosure Volume	
Sealed	42–85 liters, 1.5–3 cu.ft.
Vented	48–122 liters, 1.7–4.3 cu.ft.
Driver Volume Displaced	0.128 cu.ft., 3.62 liters
Overall Diameter	15.15”, 384.8 mm
Baffle Hole Diameter	13.84”, 351.5 mm
Front Sealing Gasket	Yes
Rear Sealing Gasket	Yes
Mounting Holes Diameter	0.25”, 6.4 mm
Mounting Holes B.C.D.	14.56”, 369.8 mm
Depth	6.63”, 168.4 mm
Net Weight	15.06 lbs , 6.83 kg
Shipping Weight	17.24 lbs , 7.82 kg

MATERIALS OF CONSTRUCTION

- Aluminum voice coil
- Polyimide former
- Ferrite magnet
- Vented core
- Pressed steel basket
- Treated paper cone
- Sealed cloth cone edge
- Treated paper dust cap

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

ASD:1001

☑ SCREW-ON
☑ BOLT-ON

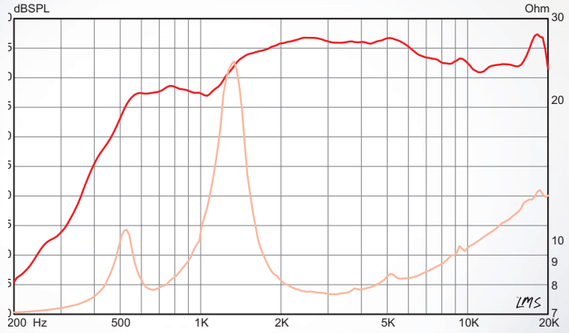
SPECIFICATION

Throat Size	1.0", 25.4 mm
Nominal Impedance*	8 Ω
Power Rating**	50 W (EIA-426A)
Resonance	592 Hz
Usable Frequency Range	2.5 kHz - 20 kHz
Recommended Crossover	2.5 kHz / 18 dB
Sensitivity***	104.4 dB
Magnet Material	Ferrite
Magnet Weight	12 oz, 0.34 kg
Voice Coil Diameter	1.3", 33 mm
Voice Coil Former	Aluminum
Diaphragm Material	Titanium
Minimum Impedance	7.7 ohm @ 3.0 kHz
Re	6.70 Ω

MOUNTING INFORMATION

Overall Diameter	3.50", 88.9 mm
Driver Volume Displaced	0.009 cu.ft., 0.26 liters
Depth	2.45", 62.2 mm
Weight	2.00 lb, 0.9 kg
Mounting Thread	1 3/8 in. 18 ext.
Mounting Holes Diameter	2X M6
Mounting Holes B.C.D.	3.00", 76.2 mm

FREQUENCY RESPONSE & IMPEDANCE CURVE*



APT:50

☑ SCREW-ON
☐ BOLT-ON

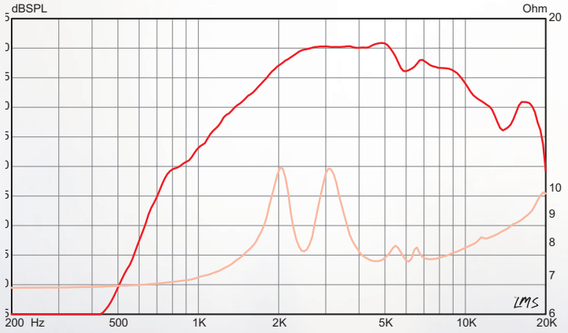
SPECIFICATION

Throat Size	1.0", 25.4 mm
Nominal Impedance*	8 Ω
Power Rating**	35 W (AES)
Resonance	2.1 kHz
Usable Frequency Range	3.5 kHz - 20 kHz
Recommended Crossover	3.5 kHz / 12 dB
Sensitivity***	104.7 dB
Magnet Material	Ferrite
Magnet Weight	8 oz, 0.23 kg
Voice Coil Diameter	1.0", 25 mm
Voice Coil Former	Kapton
Diaphragm Material	Phenolic
Minimum Impedance	7.4 ohm @ 6.1 kHz
Re	6.30 Ω

MOUNTING INFORMATION

Overall Diameter	2.75", 69.9 mm
Driver Volume Displaced	0.004 cu.ft., 0.12 liters
Depth	2.53", 64.3 mm
Weight	1.70 lb, 0.8 kg
Mounting Thread	Use Apt Horn or Adaptor
Mounting Holes Diameter	N/A
Mounting Holes B.C.D.	N/A

FREQUENCY RESPONSE & IMPEDANCE CURVE*



* See footnotes on page 15 for information regarding usable frequency range, nominal impedance, power rating and sensitivity.

ADAPTORS

B2S-A

Aluminum adaptor converts bolt-on driver to accept a screw-on horn. 2x 1/4-20 or 3x M6 driver to 1 3/8" 18 thread horn.

S2B-A

Aluminum adaptor converts screw-on driver to accept a bolt-on horn. 1 3/8" 18 ext. driver to 2x 1/4-20 or 3x M6 horn.

CABINET HARDWARE

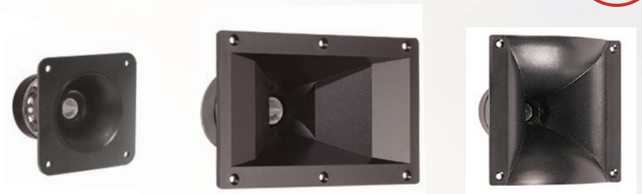
TOP HAT-CH

Adjustable-angle speaker stand receptacle for loud-speaker boxes. Vertical angle can be adjusted in 4° increments to +/- 18°. Fits SPS56B and most other standard speaker stands. Internal Ø 36mm. Black polyamide. Patent pending.

USAGE GUIDE

Driver	Horn Option
APT:50	APT:80S
	APT:150S
	APT:200S
	BH410
	H290S
ASD1001S	APT:150*
	APT200S
	H290S
	BH410
ASD1001B	H290B

* Driver bracing recommended



APT horn flares are available separately for use with any driver with 1 3/8" ext. thread.

	APT:80	APT:150	APT:200
Description	APT:50 Driver with APT:80S Horn	APT:50 Driver with APT:150S Horn	APT:50 Driver with APT:200S Horn
Type	Conical	Constant Directivity	Bi-Radial
Throat Size	1", 25 mm	1", 25 mm	1", 25 mm
Dispersion	80° Conical	100° x 50°	90° x 90°
Recommended Crossover	3.5 kHz / 12 dB	3.5 kHz / 12 dB	3.5 kHz / 12 dB
Width/Height/Depth	3.4" x 3.4" x 3.7", 87 x 87 x 95 mm	7.6" x 4.5" x 5.1" 192 x 114 x 130 mm	5.9" x 6.0" x 6.3", 150 x 152 x 160 mm
Cut-out	3.15", 80 mm	6.7" x 3.4", 170 x 86 mm	4.3" x 4.4", 109 x 112 mm
Attachment Method	Screw-on	Screw-on	Screw-on
Weight	1.8 lb., 0.82 kg	1.9 lb., 0.86 kg	2.5 lb., 1.13 kg
Material	ABS	ABS	ABS

	H290S	H2EA	BH410
Type	Radial	Exponential	Exponential
Throat Size	1.0", 25.4 mm	2.0", 50.8 mm	1.0", 25.4 mm
Attachment Method	Screw-on or Bolt-on (H290B)	Bolt-on	Screw-on
Dispersion	90 x 40	60 x 40	60 x 60
Recommended Crossover	1.0 kHz	700 Hz	1.2 kHz
Width/Height/Depth	11.7" x 6.6" x 6.6", 297.2 x 167.6 x 167.6 mm	12.4" x 7.3" x 6.1", 315 x 185.4 x 154.9 mm	5.59" x 5.59" x 4.38", 142 x 142 x 111.3 mm
Cut-out	9.7 x 4.9", 246 x 124 mm	11.3 x 6.3", 287 x 160 mm	3.56 x 3.56", 90.4 x 90.4 mm
Weight	1.10 lb., 0.50 kg	4.90 lb., 2.22 kg	0.35 lb., 0.16 kg
Material	ABS	Aluminum	ABS

UNDERSTANDING LOUDSPEAKER DATA

The ability to choose the most appropriate loudspeaker for a particular enclosure is directly related to your understanding of the performance data that manufacturers provide with their products. Prior to 1970, there were no easy or affordable methods accepted as standard in the industry for obtaining this data. The recognized methods were expensive and often unrealistic for the thousands of individuals needing loudspeaker performance information.

THIELE-SMALL PARAMETERS

In the early seventies, several technical papers were presented to the AES (Audio Engineering Society) that resulted in the development of what we know today as "Thiele-Small Parameters". These papers were authored by A.N. Thiele, and Richard H. Small.

The Thiele and Small papers concentrated on showing how the following parameters define the relationship between a speaker and a particular enclosure. Eminence recommends that you develop a basic understanding for the meaning of each parameter so that you can make informed decisions when choosing your loudspeakers.

FS This parameter is the free-air resonant frequency of a speaker. Simply stated, it is the point at which the weight of the moving parts of the speaker becomes balanced with the force of the speaker suspension when in motion. It is important to know this information so that you can prevent your enclosure from ringing like a bell when it reaches its resonant frequency. As a general rule of thumb, a lower Fs indicates a woofer that would be better for low-frequency reproduction than a woofer with a higher Fs. However, other parameters affect the ultimate performance of a woofer as well and may make a speaker with a higher Fs a better candidate for your application.

RE This parameter is very simply the DC resistance of the driver in question. In other words, this measurement is made with an ohm meter and is often referred to as the "DCR". This measurement will almost always be less than the impedance listed by the manufacturer. Many consumers get concerned when they see that the Re is less than the published impedance and fear that their amplifier is getting a load that is too heavy. Due to the fact that the inductance of a speaker rises with a rise in frequency, it is not likely that the amplifier will often see the DC resistance as its load.

LE This parameter is the voice coil inductance of the speaker measured in millihenries (mH). The industry standard is to measure inductance at 1,000 Hz. This is a difficult parameter to explain, but basically as frequencies get higher there will be a rise in impedance above the DC resistance rating. This can be attributed to the fact that the voice coil is acting as an inductor. Consequently, the impedance of a speaker is not a fixed resistance, but can be represented as a curve that changes as the input frequency changes. Maximum impedance or Zmax occurs at Fs.

Q PARAMETERS Qts, Qes, and Qtc are all measurements related to the control of a speaker's suspension when it reaches the resonant frequency.

QMS is a measurement of the control coming from the speaker's mechanical suspension system; the surround and spider.

QES is a measurement of the control coming from the speaker's electrical suspension system; the voice coil and magnet.

QTS is called the "Total Q" of the driver and is derived from an equation where Qes is multiplied by Qms and the result is divided by the sum of the same. The result is Qts. As a general guideline, woofers fall into three categories relative to their Qts:

1. Qts of .4 or below indicates a woofer well suited for a vented enclosure.
2. Qts between .4 and .7 indicates a woofer well suited for a sealed enclosure.
3. Qts of .7 or above indicates a woofer well suited for free-air or infinite baffle applications.

These suggestions are simply rules of thumb and do not always apply. For instance, the Eminence Kilomax 18 has a Qts of .56 that would indicate a sealed enclosure, but we know that the Kilomax is one of the most highly regarded woofers in the Professional Audio industry for a ported enclosure.

VAS/CMS Vas (Not to be confused with the recommended enclosure size) represents the equivalent stiffness in an air volume to the force of the compliance (Cms) of the suspension in a particular speaker. It is one of the trickiest parameters to measure. Air changes relative to humidity and temperature. Cms is measured in meters per Newton. It is the force exerted by the mechanical suspension of the speaker. It is simply a measurement of its stiffness.

VD This parameter is the Peak Diaphragm Displacement Volume. It is the Xmax (Voice Coil Overhang) of the driver multiplied by the Sd (Surface area of the cone). Simply stated it is a measurement of how much air the cone will move at full excursion and is usually noted in cc.

BL Expressed in Tesla meters is a measurement of the motor strength of a speaker. This is created by the product of the magnetic field strength times the length of wire in the field. If you were to take a given mass, that when placed on the cone of a speaker would move the cone downward from its home position, then measure the current in amperes required to move the cone back to home position, you can calculate Bl. The formula is Ma in grams divided the current in amperes.

MMS This parameter is the combination of the weight of the cone assembly plus the driver radiation mass load. Confusing…but the weight of the cone assembly is easy. Most manufacturers know that weight when the speaker is designed. It is the sum of the weight of the cone assembly components. The driver radiation mass load is the confusing part. In simple terminology, it is the weight of the air that the cone will have to push. Air certainly has mass and needs to be recognized in these calculations.

RMS This parameter represents the mechanical resistance of a driver's suspension losses. It is a measurement of the absorption qualities of the speaker suspension and is stated in N*sec/m.

EBP This measurement represents Fs / Qe. It is used in many enclosure design formulas to determine if a speaker is more suitable for a closed or vented design. An EBP close to 100 usually indicates a speaker that is best suited for a vented enclosure. On the contrary, an EBP closer to 50 usually indicates a speaker best suited for a closed box design.

XMAX Short for Maximum Linear Excursion. Speaker output becomes non-linear when the voice coil begins to leave the magnetic gap. Although suspensions can create non-linearity in output, the point at which the number of turns in the gap (see Bl) begins to decrease is when distortion starts to increase. Some manufacturers have often used the maximum excursion of the speaker which when exceeded would result in mechanical damage. This parameter is recognized as Xlim. The bottom line is; be sure you are comparing apples to apples. Most manufacturers will specify the way this measurement is obtained. Distortion is typically very audible before Xlim is reached due to the increase in non-linearity in the motor and suspensions.

SD This parameter is the actual surface area of the cone, normally given in square cm.

ZMAX This parameter represents the speaker's impedance at resonance and it is usually many times the DCR of the driver.

ADDITIONAL PERFORMANCE DATA

In addition to Thiele-Small Parameters, loudspeaker manufacturers typically publish additional measurements and performance information. Again, it is wise to become familiar with this data and what it actually means to you.

USABLE FREQUENCY RANGE This data is relatively self-explanatory. It is the frequency range for which Eminence feels the device will prove useful. Each manufacturer uses different techniques for determining "Usable Frequency Range". Most methods are recognized as acceptable in the industry, but can lend different results.

Eminence response curves are measured as follows: 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.] [Hafler P1500 Trans-Nova amplifier] [2,700 cu. ft. anechoic chamber with fiberglass on all six surfaces (three with custom-made wedges).]

SPL (Average Sensitivity) This data represents one of the most useful specifications published for any transducer. It is a representation of the output you can expect from a device relative to the input power. This is important because it requires 2 times the power to increase the volume of a speaker 3 dB.

To increase the volume of a 50 watt guitar amplifier 3 dB (an audible, but relatively small amount), it would require a total of 100 watts of power. The same thing could be achieved by replacing the speaker with one that is 3 dB more sensitive (usually a more economical alternative).

Most manufacturers determine sensitivity by putting the speaker in a baffle and measuring the sound pressure level inside an anechoic chamber at a distance of one meter, with 1 watt of input power across the frequency response curve. A loudspeaker measurement software program then would generally calculate the average sound pressure level over the response curve. This is a good method and usually very accurate. The problem is that one manufacturer may place the microphone one meter from the dust cap of the speaker and gain a distinct advantage over the manufacturer who placed the microphone one meter from the baffle board. Again, be sure you understand how this specification was derived.

The Eminence method represents the average output across the usable frequency range when applying 1W/1m into the nominal impedance. i.e: 2.83V/8Ω, 4V/16Ω.

POWER RATING This specification is very important to transducer selection. Obviously, you need to choose a loudspeaker that is capable of handling the input power you are going to provide. By the same token, you can destroy a loudspeaker by using too little power. Generally speaking, the number one contributor to a transducer's ability to handle power is its ability to release thermal energy. Those loudspeaker characteristics are affected by several design choices, but most notably voice coil size, magnet size, venting, and the adhesives used in voice coil construction.

Larger coil and magnet sizes provide more area for heat to dissipate, while venting allows thermal energy to escape and cooler air to enter the motor structure. Equally important is the ability of the voice coil to handle thermal energy. Eminence is well known for the use of proprietary adhesives and voice coil components that maximize the coil's ability to handle extreme temperatures.

Mechanical factors must also be considered when determining power handling. A transducer might be able to handle 1,000 watts from a thermal perspective, but would fail long before that level was reached from a mechanical issue such as the coil hitting the back plate, the coil coming out of the gap, the cone buckling from too much outward movement, or the spider bottoming on the top plate. Be sure to consider the suggested usable frequency range and the Xlim parameter in conjunction with the power rating and enclosure design to avoid such failures.

The Eminence power rating is derived using an EIA 426A noise source and test standard. All tests are conducted for 8 hours in a free-air, non-temperature controlled environment. The Eminence Music Program rating is double that of our standard Watts rating.

From design and manufacturing to the stage or studio.
Once you've experienced the performance of Eminence,
you'll never accept anything else.

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