

M Series: A New Standard Of Performance.

Though the world of music is continually evolving, there are a few constants. And in terms of sonic characteristics, the definitive sounds produced by the classic amps of the 50's, 60's and even early 70's, have been the personal quest of many musicians.

Consequently, the greatest challenge for manufacturers of musical instrument loudspeakers has been to design products capable of yielding the *vintage sound* while also reproducing the infinite number of sounds, textures and playing styles of today.

In response to this challenge, JBL embarked on a loudspeaker development project to recreate the much desired vintage sound but with the performance characteristics typical of our current generation of professional products. Nearly two years of focused design and engineering efforts have resulted in the M Series, musical instrument loudspeakers that give you the best of both worlds. Vintage sound *and* state-of-the-art performance.

The M121-8 and M151-8 are a new full range musical instrument transducer design that ensures high acoustic output and unparalleled reliability under the heaviest demand. Maximum efficiency and heat dissipation are achieved through the incorporation of a massive 16 pound magnet structure. Much of the vintage sound character is achieved through the selective suppression and control of harmonic



distortion elements. This is achieved through the application of Selective Harmonic Geometry (SHG™) in the magnetic circuit design. To significantly increase power handling, a new Thermoset Composite™ voice coil, employing a fiberglass former and ultra-high temperature adhesives, was also developed. Other transducer features include lacquer dipped curvilinear cones for superior strength and rigidity, and carefully matched compliance and spider components for maximum travel and linearity of the cone.

But beyond the development of new technology is the sound. Full, clear, and powerful. Contemporary, yet classic. Resonant at the bottom end, brilliant at the top. Before you select new loudspeakers, listen to M Series. Not because they represent the latest in transducer design, but because your music deserves the best.



JBL Professional
8500 Balboa Boulevard, Northridge, CA 91329

H A Harman International Company

Specifications

	M121-8	M151-8
Nominal Diameter:	300 mm (12 in)	380 mm (15 in)
Nominal Impedance:	8 Ω	8 Ω
Power Capacity ¹		
AES Shaped Noise:	300 Watts	300 Watts
Sensitivity ² :	102 dB	102 dB
Frequency Range (-10 dB) ³ :	60 - 6,000 Hz	40 - 4,000 Hz
Power Compression ⁴		
at -10 dB Power (30 W):	1.4 dB	1.4 dB
at -3 dB Power (150 W):	3.1 dB	3.1 dB
At Rated Power (300 W):	4.5 dB	4.5 dB
Distortion ⁵		
2nd Harmonic:	<3.0%	<3.0%
3rd Harmonic:	<1.0%	<1.0%
Recommended Enclosure Volume:	28 - 85 l 1.0 - 3.0 ft ³	56 - 170 l 2.0 - 6.0 ft ³
Effective Piston Diameter:	260 mm (10.2 in)	335 mm (13.2 in)
Maximum Excursion:		
Before Damage (p-p):	33 mm (1.3 in)	33 mm (1.3 in)
Minimum Impedance:	6.5 Ω ± 10% @ 25°C	6.5 Ω ± 10% @ 25°C
Voice Coil Diameter:	76 mm (3 in)	76 mm (3 in)
Voice Coil Material:	Edgewound Aluminum Ribbon	Edgewound Aluminum Ribbon
Voice Coil Winding Depth:	15.2 mm (0.6 in)	15.2 mm (0.6 in)
Magnetic Gap Depth:	12.7 mm (0.5 in)	12.7 mm (0.5 in)
Magnetic Assembly Weight:	7.3 kg (16 lbs)	7.3 kg (16 lbs)
Bl Factor:	17.5 N/A	18.8 N/A
Effective Moving Mass:	0.039 kg	0.070 kg
Polarity:	EIA/AES/IEC	EIA/AES/IEC
	Positive voltage on RED terminal gives forward diaphragm motion.	

THIELE/SMALL PARAMETERS⁶

f_s :	60 Hz	45 Hz
R_{es} :	5.2 Ω	4.8 Ω
Q_{ts} :	0.245	0.25
Q_{ms} :	4.0	4.8
Q_{es} :	0.25	0.27
V_{as} :	72 l (2.5 ft ³)	197 l (7.0 ft ³)
S_D :	0.053 m ² (82.2 in ²)	0.088 m ² (136.4 in ²)
X_{max} :	4.6 mm (0.18 in)	5 mm (0.20 in)
V_D :	244 cm ³ (14.9 in ³)	440 cm ³ (26.9 in ³)
L_e :	0.63 mH	0.72 mH
P_e :	300 Watts	300 Watts
η^o (Half Space Reference Efficiency):	6.0%	6.5%

MOUNTING INFORMATION

Overall Diameter:	311 mm (12 1/4 in)	355 mm (13 31/42 in)
Bolt Circle Diameter:	294 mm (11 9/16 in)	370 mm (14 9/16 in)
	Holes at 45°	Holes at 45°
Baffle Cut-out Diameter:		
Front Mount:	280 mm (11 1/16 in)	355 mm (13 31/32 in)
Rear Mount:	284 mm (11 13/64 in)	359 mm (14 9/64 in)
Depth:	149 mm (5 7/8 in)	168 mm (6 5/8 in)
Volume Displaced By Driver:	4 l (0.11 ft ³)	6 l (0.2 ft ³)
Net Weight:	8.2 kg (18.1 lbs)	8.4 kg (18.4 lbs)
Shipping Weight:	8.95 kg (19.7 lbs)	9.4 kg (20.7 lbs)

M Series Spec Notations

1 AES standard (M121-8, 100-1 kHz) (M151-8, 60-600 Hz).

2 Sensitivity is based upon a swept sine wave signal, averaged from 500 Hz to 2.5 kHz, measured in half space, for an input voltage of 2.83 volts.

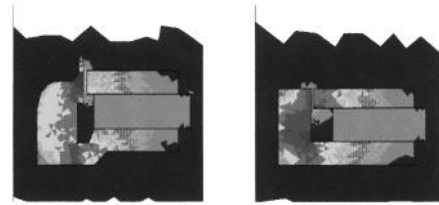
3 Frequency range is defined as the frequency extremes where the response is -10 dB from the rated sensitivity.

4 Power compression is the sensitivity loss, at the specified power, measured from 50-500 Hz, after a 5 minute AES standard pink noise preconditioning test at specified power.

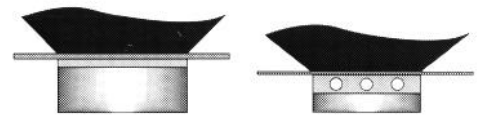
5 Distortion is measured at -10 dB rated power, from 100-500 Hz.

6 Thiele/Small parameters are measured after a 2 hour exercise period using a 300 W AES standard pink noise power test and will reflect the expected long term parameter values once the transducer has been installed and operated for a short period of time.

JBL continually engages in research related to product improvement. New materials, production methods, and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description, but will always equal or exceed the original design specifications unless otherwise stated.



Selective Harmonic Geometry (SHG™): Computerized modeling of magnet assemblies comparing the new JBL SHG™ to a typical competitor product. The dark violet color represents the greatest concentration of magnetic energy. 2nd and 3rd order harmonic distortion elements are selectively suppressed and controlled via the symmetrical distribution of magnetic energy across the entire gap of the SHG™ system.



Thermoset Composite™ Voice Coil Assembly: JBL's new Thermoset Composite™ voice coil design is not only extremely rugged, but also places more conductor in the magnetic gap through the use of edgewound ribbon wire and a 3 inch diameter former for greater efficiency and control compared to other more traditional designs.



MR812 and MR815 Loudspeaker Systems: The M121-8 and M151-8 transducers are available as part of the new MR Series as models MR812 and MR815, respectively, for your convenience.



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