

8216A FOREGROUND 8216AT MUSIC SYSTEMS



FEATURES:

40 Hz to 20 kHz Frequency Range

89 dB SPL, 1 W, 1 m (3.3 ft)

Components: 165 mm (6½ in) low frequency loudspeaker, 25 mm (1 in) high frequency dome radiator

The JBL Industrial Series Model 8216A loudspeaker system offers sound contractors and audio system designers a professional quality alternative to conventional "foreground music" speakers. Its wideband response and high reliability make it ideal for use in retail establishments, restaurants, lounges and other commercial applications.

The two-way system features a 165 mm (6½ in) low frequency driver for smooth, extended bass response, and a 25 mm (1 in) dome tweeter to provide broad, even coverage of the high frequencies. The enclosure is ruggedly constructed of dense stock and covered in

black vinyl, with a black cloth grille. The "T" version is finished in oak vinyl and features an internally mounted 70 V line transformer with rear mounted selector switch to select 2 W, 4 W, 8 W, 15 W, or direct 8 ohm operation.

The system offers many of the design features found in our prestigious line of studio monitors and hi-fidelity systems. The dividing network has bypass capacitors wired in parallel with the larger active capacitor values in the circuit to reduce hysteresis effects on the signal. This provides improved resolution of complex transient waveforms. The woofer cone utilizes a laminated high polymer composite made by adding a plasticized layer to a pulp base. This results in optimum stiffness, mass, and internal damping, and ensures that the cone behaves more like a true piston. The tweeter dome is laminated with vapor deposited titanium. This yields

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the structural integrity of a "hard" dome and the damping characteristics of a traditional soft dome. A unique acoustic "contact lens" is an integral part of the tweeter design. It aids in flattening the high frequency response by shadowing the center of the dome of the tweeter.

Built to traditional JBL standards of quality and precision, the loudspeakers are subjected to stringent tests to ensure that the materials and adhesives will stand up to long-term use under adverse conditions.

SPECIFICATIONS:

SYSTEM:	
Frequency Range:	40 Hz to 20 kHz
Frequency Response:	60 Hz to 14 kHz (± 4 dB)
Power Capacity ¹ :	60 W
Sensitivity ² :	89 dB SPL, 1W, 1 m (3.3 ft)
Directivity ² : Factor (Q):	4
Index (Di):	6 dB
Nominal Impedance:	8 ohms
Crossover Frequency:	3.6 kHz
Polarity:	Positive voltage to Red Terminal causes outward low-frequency cone motion.
LOW FREQUENCY LOUDSPEAKER:	
Material:	Laminated High Polymer Cone
Nominal Diameter:	165 mm (6½ in)
HIGH FREQUENCY LOUDSPEAKER:	
Material:	Titanium Laminate Dome
Nominal Diameter:	25 mm (1 in)
GENERAL:	
Finish:	Black vinyl, A Oak Vinyl, AT
Grille Color:	Black
Dimensions:	375 mm x 254 mm x 235 mm deep 14¾ in x 10 in x 9¼ in deep
Net Weight:	A 82 kg (18 lb) AT 8.6 kg (19 lb)
Shipping Weight (Double Pack):	A 17.7 kg (39 lb) AT 18.6 kg (41 lb)

- Rating based on test signal of filtered random noise conforming to international standard IEC 268-5 (pink noise with 12 dB/octave rolloff below 40 Hz and above 5000 Hz with a peak-to-average ratio of 6 dB), two hours duration.
- Averaged from 500 Hz to 2.5 kHz

ARCHITECTURAL SPECIFICATIONS:

The loudspeaker system shall consist of a 165mm (6½ in) low frequency loudspeaker, 25 mm (1 in) dome high frequency driver, and frequency dividing network installed in a ported enclosure. The frame of the low frequency transducer shall be manufactured of stamped steel, and its magnetic assembly shall utilize a ferrite magnet. The voice coil shall be 38 mm (1½ in) in diameter and shall be made of round-wound copper.

The frequency dividing network shall have a crossover frequency of 3.6 kHz and shall be of the parallel L-C type. Polypropylene and / or polystyrene bypass capacitors shall be wired in parallel with the network's larger non-polarized electrolytic capacitors to reduce the hysteresis effects on the signal.

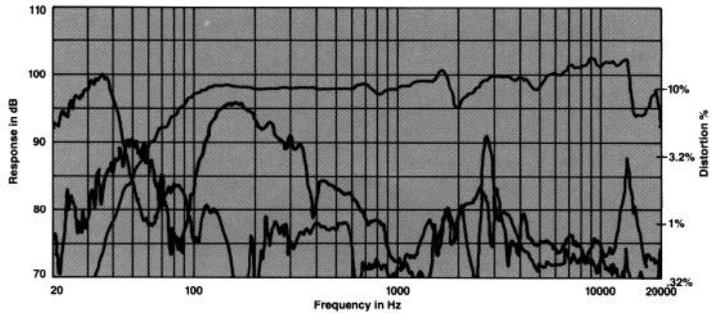
Performance specifications of a typical production unit shall be as follows: Measured sensitivity (SPL at 1 m (3.3 ft) on axis with 1 W input, swept 500 Hz-2.5 kHz) shall be at least 89 dB SPL. Usable frequency range shall extend from 40 Hz to 20 kHz. On-axis response, measured at a distance of 2 m (6.6 ft) or more under free-field conditions shall be ± 4 dB from 60 Hz to 14 kHz. Nominal impedance shall be 8 ohms. Rated power capacity shall be at least 60 watts continuous pink noise, based on test signal of filtered random noise conforming to international standard IEC 268-5 (pink noise with 12 dB / octave rolloff below 40 Hz and above 5000 Hz with a peak-to-average ratio of 6 dB), two hours duration.

The enclosure shall be solidly constructed of ¾ inch stock with all joints tightly fitted and glued. Overall dimensions shall be no greater than 375 mm (14¾ in) by 254 mm (10

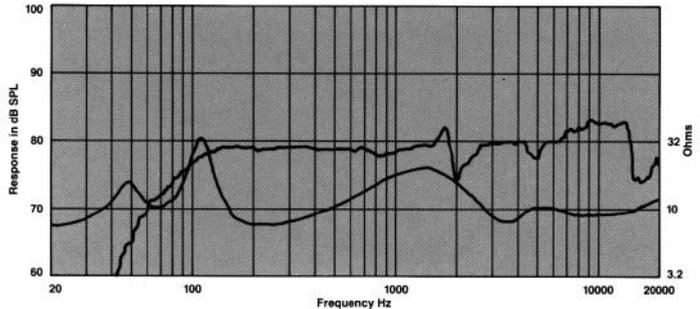
in) wide by 235 mm (9¼ in) deep. Finish shall be black vinyl with black fabric grille. The optional model 8216AT shall be finished on the sides in oak-grain vinyl, and have an internally mounted 70-volt transformer with a rear-mounted switch for selecting 2 W, 4 W, 8 W, 15 W or direct-in 8 ohm operation.

The system shall be JBL Industrial Series Model 8216A (8216AT).

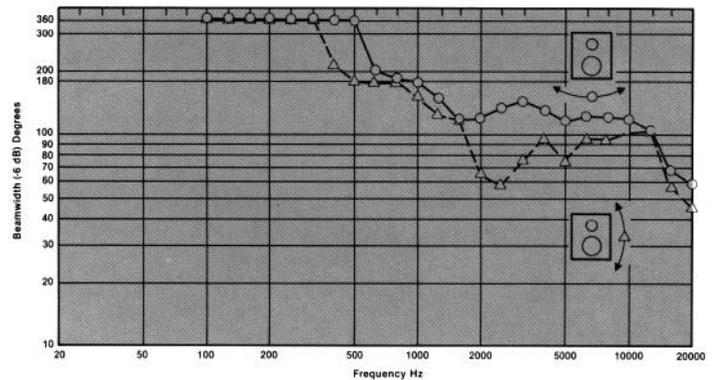
Distortion vs. Frequency 10W Distortion Raised to 20dB



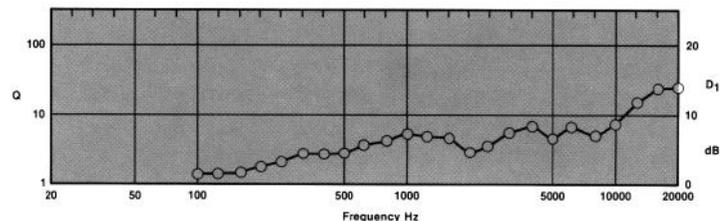
Frequency Response at 1W, 1 meter; Impedance



Beamwidth (-6 dB) vs. Frequency



Directivity vs. Frequency



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.

