

## Industrial Series

### Key Features:

- ▶ 40 Hz to 20 kHz Frequency Range
- ▶ 91 dB SPL 1 W, 1 m (3.3 ft)
- ▶ 100 W Power Capacity, continuous pink noise
- ▶ Components:
  - 203 mm (8 in) low frequency loudspeaker,
  - 130 mm (5 in) midrange loudspeaker,
  - 25 mm (1 in) high frequency dome radiator
- ▶ Tight-cluster design of components for uniform horizontal and vertical dispersion
- ▶ In-cabinet mounting hardware accepts Omnimount® or wall brackets for fast installation
- ▶ Approved by Lucasfilm, Ltd. for THX® installation
- ▶ Switchable crossover network allows SMPTE/ISO2969 Curve X high frequency de-emphasis for cinema surround installations or flat response for foreground applications
- ▶ Special cabinet shape incorporates angled front baffle ( 15°) for most common aiming angle
- ▶ Input terminals and crossover switch located on top of cabinet for quick access



### Specifications:

<b>SYSTEM:</b>	
Frequency Range ( -10 dB):	40 Hz to 20 kHz
Frequency Response ( ± 3 dB):	70 Hz to 14 kHz
Power Capacity <sup>1</sup> :	100 W continuous pink noise
Sensitivity <sup>2</sup> :	91 dB SPL, 1 W, 1 m (3.3 ft)
Directivity <sup>2</sup> : Factor (O):	3
Index (DI):	4.8 dB
Nominal Impedance:	8 ohms
Crossover Frequencies:	650 Hz and 3.1 kHz
Polarity:	Positive voltage to black terminal causes outward low-frequency cone motion.
<b>LOW FREQUENCY LOUDSPEAKER:</b>	
Material:	Laminated high polymer cone
Nominal Diameter:	201 mm (8 in)
<b>MIDRANGE LOUDSPEAKER:</b>	
Material:	Laminated high polymer cone
Nominal Diameter:	130 mm (5 in)
<b>HIGH FREQUENCY LOUDSPEAKER:</b>	
Material:	Titanium laminate dome
Nominal Diameter:	25 mm (1 in)
<b>GENERAL:</b>	
Finish:	Black vinyl
Grille Color:	Dark grey
Dimensions (H x W x D):	494 mm x 481 mm x 257 mm 19 7/16 in x 18 15/16 in x 10 1/8 in
Net Weight:	14 kg (31 lbs)

<sup>1</sup>Rating based on test signal of IEC filtered random noise with a peak-to-average ratio of 6 dB, two hours duration

<sup>2</sup>Averaged from 500 Hz to 2.5 kHz. 1 W is 2.83 V @ 8 ohms.

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.

## ▶ 8330 Surround Foreground Music System

The JBL Industrial Series Model 8330 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 as a theatre surround, and in retail establishments, restaurants, lounges and other commercial applications.

The three-way system features a 200 mm (8 in) low frequency driver for smooth, extended bass response, a 130 mm (5 in) midrange transducer for the critical midrange frequencies, and a 25 mm (2 in) titanium-laminate dome tweeter to provide broad, even coverage of the high frequencies. A dual-purpose, switchable crossover network makes the Model 8330 ideal for both cinema surround and commercial foreground music installations such as restaurants, retail establishments, and lounges. The special tight-cluster arrangement of the transducers, in conjunction with the crossover network design, provides uniform polar response in both the horizontal and vertical planes. The enclosure is constructed of dense stock in a unique cabinet shape which reduces internal resonances while providing a U-degree down aiming angle for the transducers. The location of the crossover network on the top panel permits easy access to the network switch and input terminals, subsequent to speaker mounting. Six internal T nuts allow quick attachment of Omnimount or other mounting hardware without opening the cabinet. Enclosure finish is satin black vinyl, with a dark grey grille.

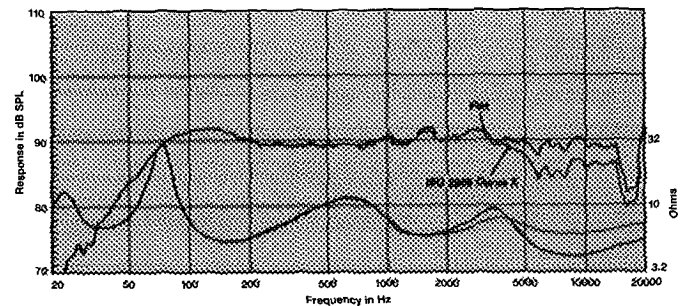
The Model 8330 offers many of the same design features found in JBL's prestigious line of studio monitors. The crossover network has bypass capacitors wired in parallel with the larger active capacitor values in the circuit to reduce hysteresis effects on the signal. This provides improved resolution of complex transient waveforms. The woofer and midrange cones utilize a laminated high polymer composite which provides a combination of optimum stiffness, mass, and internal damping to ensure that the cone behaves more like a true piston. The tweeter dome is laminated with vapor deposited titanium in order to obtain both 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, and provides flatter high-frequency response by shadowing the center section of the dome.

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.

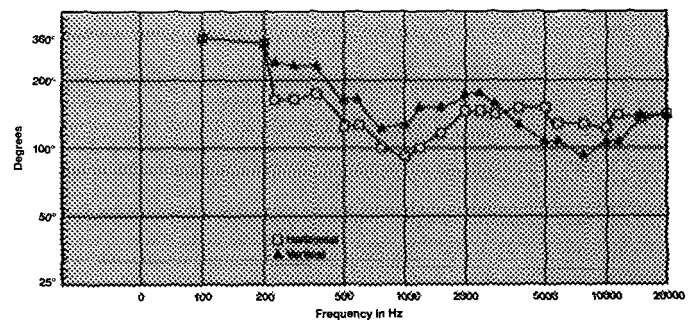
Omnimount is a registered trademark of Omnimount Systems.

THX is a registered trademark of Lucasfilm, Ltd.

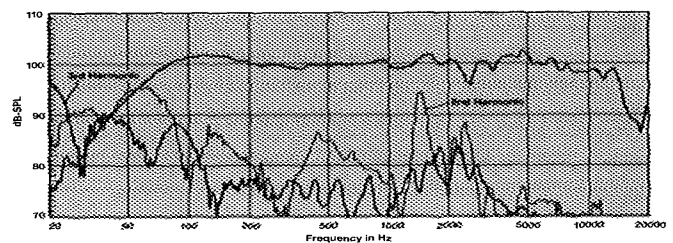
Frequency Response at 1 W, 1 meter; Impedance (Both positions of HF switch shown)

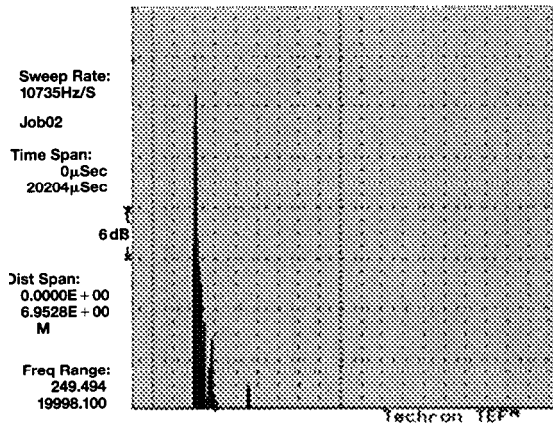


Beamwidth (  $\pm 6$  dB) vs. Frequency

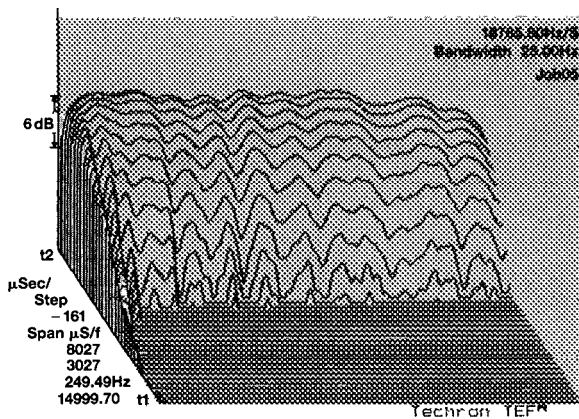


Distortion vs. Frequency, 10 W (distortion raised 20 dB)





Energy-Time Curve (time span, 0 to 20,204 microseconds; vertical divisions 6 dB; loudspeaker placed one meter from microphone). Note that the bulk of the loudspeaker's energy arrives at the microphone coherently.



Time-Energy-Frequency (TEF) Curves (250 Hz to 15 kHz). Front-back span is from 8027 microseconds to 3027 microseconds; vertical divisions 6 dB.

## Architectural Specifications:

The loudspeaker system shall consist of a 203 mm (8 in) low frequency loudspeaker, 130 mm (5 in) midrange loudspeaker, 25 mm (1 in) dome high frequency driver, and frequency dividing network installed in a ported enclosure. The frame of the low frequency and midrange transducers shall be manufactured of stamped steel, and their magnetic assembly shall utilize a ferrite magnet. The low frequency voice coil shall be 38 mm (1 1/2 in) in diameter and shall be made of round-wound copper.

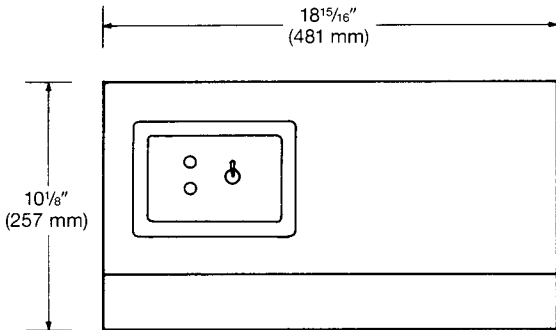
The frequency dividing network shall have crossover frequencies of 650 Hz and 3.1 kHz and shall be of the parallel L-C type. Polypropylene and/or polystyrene bypass capacitors shall be wired in parallel with the network's larger non-polarized electrolytic capacitors to reduce the hysteresis effects on the signal. The frequency dividing network shall be equipped with a two-position switch to allow selection of two high-frequency response curves. One curve shall be consistent with the ISO 2969 Curve X specification and the other curve shall correspond to the nominal system design (flat) response.

Performance specifications of a typical production unit shall be as follows: Measured sensitivity (SPL at 1 m (3.3 ft) on axis with 2.83 volts input, swept 500 Hz-Z.5 kHz) shall be at least 91 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  $\pm 3$  dB from 70 Hz to 14 kHz. Nominal impedance shall be 8 ohms, Rated power capacity shall be at least 100 watts continuous pink noise, based on test signal of filtered random noise conforming to international standard IEC 268-5 two hours duration.

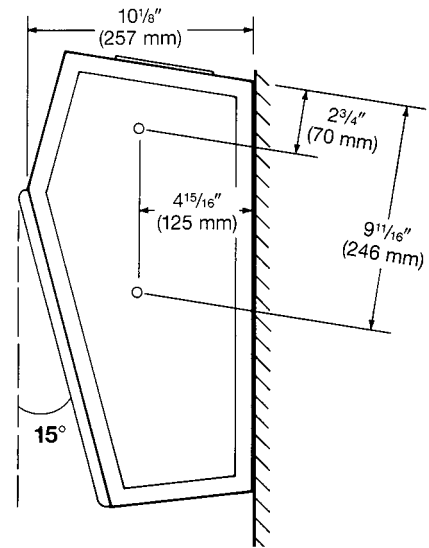
The enclosure shall be solidly constructed of 3/4 inch stock with all joints tightly fitted and glued. Overall dimensions shall be no greater than 494 mm (19 7/16 in) high by 481 mm (18 7/16 in) wide by 257 mm (10 1/8 in) deep. Finish shall be black vinyl with dark grey fabric grille. Six T-nuts and bolts shall be provided, one on each side panel and four on the rear panel for attaching Omnimount or other mounting hardware.

The system shall be JBL Industrial Series Model 8330.

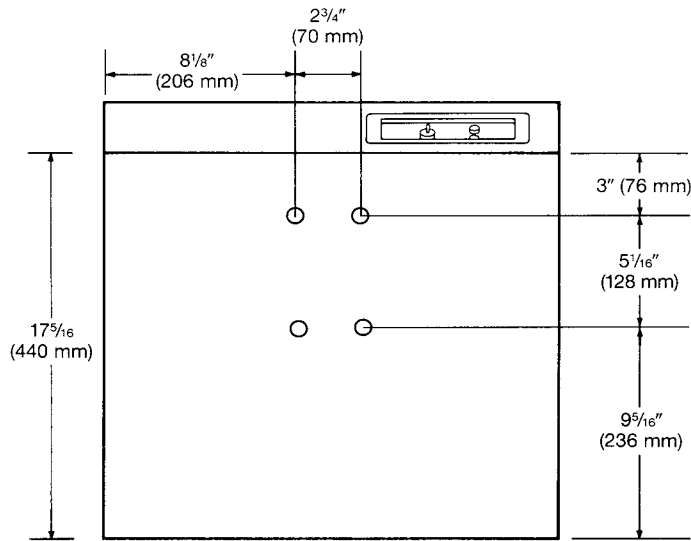
# ► 8330 Surround Foreground Music System



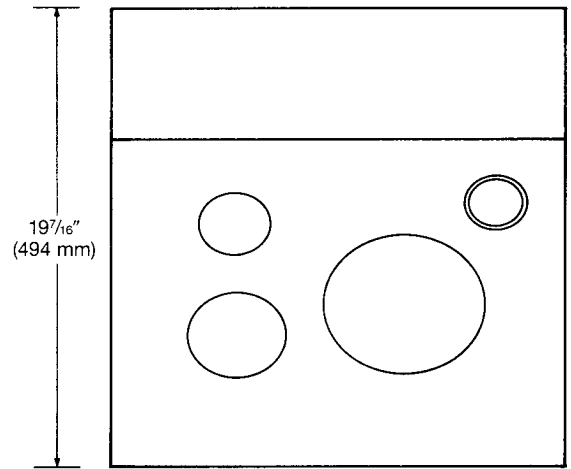
TOP VIEW



WALL MOUNTED VIEW



BACK VIEW



FRONT VIEW



JBL Professional  
 8500 Balboa Boulevard, P.O. Box 2200  
 Northridge, California 91329 U.S.A.

**H** A Harman International Company

SS 8330  
 CRP 5M  
 11/96