Model 4313B Control Monitor

Smooth, powerful response, 40 Hz - 18 kHz ±3dB
89 dB SPL at 1 m with a 1 W input
Components: 250 mm (10 in) low frequency loudspeaker;
130 mm (5 in) midrange loudspeaker;
25 mm (1 in) high frequency dome radiator
Level controls for midrange and high frequency output
Oiled walnut enclosure

Setting new performance standards for compact studio monitors, the JBL 4313B offers the same smooth, wide-band, low-distortion reproduction that has made JBL's large monitors the choice of the recording industry. The 4313B is ideal for control rooms, small studios, mixdown facilities, or any other application in which the acoustic requirements call for a full-sized JBL monitor, but where space dictates a compact system. A newly developed low frequency loudspeaker, perfectly matched to the enclosure, produces deep, powerful bass response. The in-line mounting of the transducers gives the 4313B excellent stereo imaging and, in combination with exceptional transient response, an overall sound of outstanding clarity and openness.

Low Frequency Loudspeaker

JBL designed the powerful 250 mm (10 in) low frequency loudspeaker specifically for accuracy and distortion-free performance in the 4313B enclosure. The linear excursion design of the driver ensures that the 75 mm (3 in) edgewound copper voice coil remains in the magnetic gap during even the longest excursions. A heavy 4.7 kg (10¼ lb) cast magnetic assembly concentrates the full force of the massive magnet in the voice coil gap; flux density is 1.02 tesla (10,200 gauss). JBL coats the rear surface of the cone with an exclusive damping formulation that provides the precise mass and density necessary for optimum bass performance. The coating also prevents spurious resonances and extends the smooth response into the midrange region. Free-air resonance of the driver is 25 Hz.

Midrange Loudspeaker

The 4313B utilizes a 130 mm (5 in) midrange loudspeaker, housed in an isolated subchamber to prevent interaction with the low frequency driver. Powered by a 22 mm (⅞ in) copper voice coil operating in a magnetic field of 1.4 tesla (14,000 gauss), the extremely stiff cone does not break up at even the highest volume levels and delivers clear, undistorted reproduction with excellent transient response. The magnetic assembly weighs 0.74 kg (1⅝ lb).

High Frequency Dome Radiator

The 25 mm (1 in) dome provides high acoustic output with great clarity and wide dispersion. The dome is constructed of phenolic-impregnated linen, coated with a thin film of aluminum by means of a vapor deposition process. The entire surface of this extremely hard dome acts as a radiating area, and the dispersion characteristics are exceptionally good. A 25 mm (1 in) voice coil, energized by a 0.68 kg (1½ lb) magnetic assembly, operates in a magnetic field of 1.4 tesla (14,000 gauss). The integral baffle prevents extraneous reflections from the dome compliance.

Frequency Dividing Network

The dividing network achieves the smoothest possible frequency response and optimum blending of the component drivers of the 4313B. Special phase-correcting circuitry and conjugate circuits for impedance leveling ensure that the drivers operate in a manner approaching the theoretical ideal through the transition frequencies as well as the remainder of their respective operating ranges. The capacitors are non-inductive, non-polarized types with high AC current capacity, built expressly for use in dividing networks

and individually tested for conformity to rigid performance standards. Level controls allow individual adjustment of midrange and high frequency output.

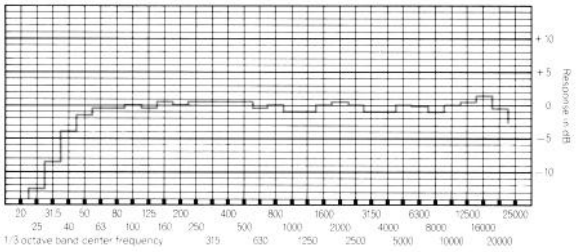
Enclosure

In keeping with current trends in studio design, JBL studio monitor enclosures feature contemporary styling. However, the enclosure contributes much more than a striking appearance. As with all JBL loudspeaker systems, the 4313B enclosure, transducers, and dividing network are designed and tested to function as a single, integrated unit. The 34 litre (1.2 ft³) internal volume and the dimensions of the ducted port have been carefully calculated to provide maximum bass response. The enclosure is solidly constructed of dense 19 mm (¾ in) stock throughout to prevent unwanted resonance. Internal padding absorbs spurious reflections and standing waves. All components mount directly to the baffle panel and are removable from the front of the enclosure.

Test Conditions

The accompanying graph and specifications were compiled from measurements made under standard laboratory test conditions. The loudspeaker system was mounted flush in the center of a large, flat baffle in an anechoic environment; a calibrated condenser microphone was suspended at a known distance from the sound source, sufficiently far to be safely out of the near field; and all electronic equipment was checked and calibrated before tests were run.

Response



Frequency response of the 4313B taken with ⅓-octave band pink noise. Measured response contour of a typical system averaged through an inclusive arc of 120° in the horizontal plane does not deviate more than 3 dB from the above curve.

Specifications

Maximum Power Input[1]	40 W continuous sine wave power
Nominal Impedance	8 Ω
Frequency Response	40 Hz - 18 kHz ±3 dB
Polar Response	No less than −6 dB at 130° horizontal and vertical to 15 kHz
Sensitivity[2]	89 dB SPL, 1 W, 1 m (3.3 ft)
Distortion ½ Power, 92 dB SPL/3 m (10 ft), Single Frequency	Less than 0.3% third harmonic generation from 100 Hz to 15 kHz
Crossover Frequencies	1 kHz, 4 kHz
Finish	Oiled walnut
Grille	Dark blue fabric
Enclosure Volume	34 L 1.2 ft³
Dimensions	595 mm x 359 mm x 249 mm deep 23 7/16 in x 14⅛ in x 9 13/16 in deep
Net Weight	21 kg 47 lb
Shipping Weight	24 kg 53 lb

[1] May be used with amplifiers rated up to 150 watts continuous sine wave per channel.

[2] Measured with input swept from 500 Hz to 2.5 kHz, with controls set for flattest response. Unlike many "theater type" loudspeaker systems that exhibit sensitivity peaks in the midrange, the JBL 4313B Control Monitor provides substantially the same sensitivity through the full range of audible frequencies. Measured sensitivity below 500 Hz or above 2.5 kHz may be considerably greater than that of other systems with high sensitivity ratings.