

JBL MI Series Loudspeakers and Systems



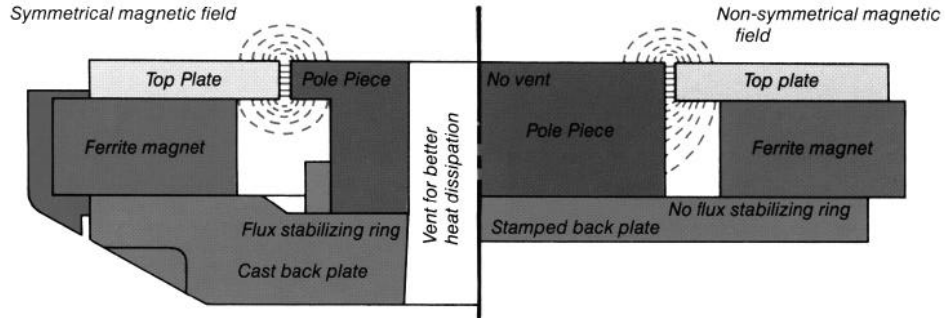
Musical Instrument Loudspeakers

The new JBL MI Series Loudspeakers are engineered with the latest advances in transducer design and technologies to give you response that is flat and even...in tune with the sound of the 80's. They let you add the color you want. And, they give you the satisfaction of knowing you're using the world's most popular line of speakers for producing your music.

A careful evaluation of the MI Series proves they give you a lot more. The frames are die cast...not cheap stamped baskets. A die cast frame provides a better heat-sink allowing greater power handling and because a die cast frame can't flex, it reduces resonances from the frame.



JBL ribbon-wire voice coil.



Cross-sections of JBL (left) and conventional magnetic structures.

The voice coils are fabricated from special wire that has been milled into a flat ribbon. Flat wire can be wound more tightly than round wire, putting more conductor (wire) in the gap. The design is more efficient and more rugged.

The voice coils are precision flat wound, in four layers with staggered seams. This construction is physically very strong and resists deformation from heat. The result is greater efficiency and increased power handling.

The MI Series loudspeakers feature JBL Symmetrical Field Geometry (SFG) magnetic structure, a design that contributes to the clean sound. Typical magnetic structures, with non-symmetrical magnetic fields, add significant amounts of distortion because of the nonlinear pull such a field exerts on the voice coil. (See illustration).

If you're looking for a speaker that will let you produce today's music, listen to the MI Series at your JBL dealer. The MI Series loudspeakers are available in 10", 12" and 15" models. Their efficiency and power capacity are greater than many extended range speakers in their size ranges...giving you outstanding dynamic range and extremely high accuracy. Use the MI Series speakers for your guitar, keyboard, or P.A. system. They directly replace conventional speakers used in guitar amplifiers, organs, electric pianos, or other applications.

Combine the new MI Series loudspeakers with all new cabinet designs and JBL expertise in system design and you have the all new MI Series Component Systems.



MI-15A



MI-12



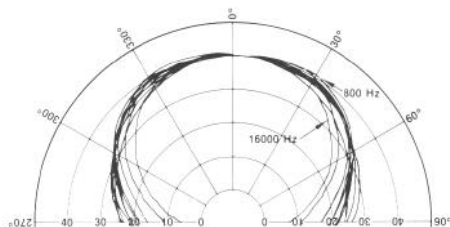
MI-10

MI Series Loudspeakers and Systems

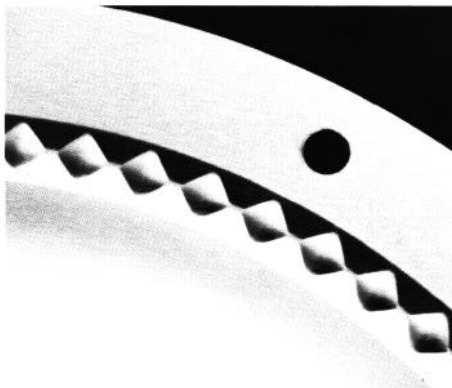
JBL MI Series Features

Flat-Front Bi-Radial Horn/Titanium Diaphragm Compression Driver

Specifically designed for the MI Series Compact Sound Reinforcement System to provide excellent on- and off-axis frequency response in the horizontal plane. It has 90° horizontal x 40° vertical nominal coverage, with uniform on- and off-axis frequency response in the horizontal plane from 630 Hz to beyond 16 kHz. The high frequency driver features a titanium diaphragm with JBL's patented diamond-pattern surround. The exceptionally high stress limit of titanium together with the stronger surround allows this design to achieve the performance of more expensive and fragile exotic materials. The driver uses a high energy strontium ferrite magnet for maximum efficiency and extended response



Composite 1/3-octave polar responses of a flat front Bi-Radial horn from 800 Hz-16 kHz in the horizontal plane.



JBL's titanium-diamond diaphragm combines performance with reliability.

Frequency Dividing Network

The frequency dividing network used in the MI Series Compact Sound Reinforcement System uses the highest quality electronic components—non-inductive, non-polarized mylar capacitors and air-core inductors and are tailored to optimize the crossover response.

MI Series Component Systems

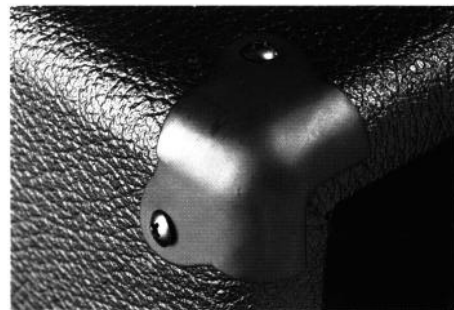
The MI Series Component Systems are the easy, professional way to give your audience the sound they deserve.

Newly engineered for music reproduction and general sound rein-

forcement in small to moderate sized rooms. The systems feature JBL's specially designed flat-front Bi-Radial horn and compression driver mounted flush in the cabinet to eliminate the problems of midrange narrowing and high frequency beaming associated with conventional horn designs. The directional baffle enclosure increases directivity for greater mid-range punch, and low-frequency venting extends bass response and lowers distortion.

The cabinets are optimally tuned enclosures engineered specifically for each intended application.

And, they're built to take the rigors of the road. The cabinets are constructed with a new wrap-and-fold technology, using a high density wood-resin compound for maximum strength and are covered with durable industrial-grade, reinforced pebble grained material. Corners are protected with heavy



MI-631



MI-632A



gauge metal... professional, recessed road handles lock in place to prevent unwanted vibration and noise during a performance... input and output jacks are recessed for protection. Naturally, the drivers are protected by a heavy mesh screen.

Audition the JBL MI Series Systems at your JBL dealer... their flexibility makes them ideal for most of your sound reinforcement applications.

MI-630 Vocal Reinforcement System

Newly designed for vocal reinforcement and general music reproduction in small to moderate sized rooms. The

MI-630 features the patented JBL flat-front Bi-Radial™ horn and compression driver mounted flush in the cabinet to eliminate the problems of midrange narrowing and high frequency beaming associated with conventional horn designs.

MI-631 Stage Monitor

Smooth, wide frequency response (60 Hz-15 kHz), uncolored reproduction, and high directivity make this an ideal stage monitor, acoustic instrument system or even a small general purpose vocal reinforcement system. The system uses the MI Series 12 inch loudspeaker and flat front Bi-Radial™ horn and compression driver.

MI-632A Horn-Loaded Sound System

The MI-632A is a newly re-designed system and features the new MI-15A 380 mm (15") woofer with its copper ribbon voice coil, giving the MI-632A balanced bass with a smooth and controlled sound. A three-position HF level control switch allows precise tailoring of the tonal balance between horn and woofer.

Model MI-634 Direct-Radiator Sound System

The MI-634 Direct-Radiator Sound System is a newly designed vented enclosure system using the JBL Flat-Front Bi-Radial™ horn and compression driver and the new MI-15A 380 mm (15") low frequency driver to provide smooth, uncolored response and wide bandwidth with bass response down to 50 Hz and high-frequency response to 20 kHz. The smooth, natural sound of the MI-634 makes it ideal for vocal and acoustical instrument reinforcement and general sound amplification in small to moderate sized rooms.

MI-291 High Frequency Power Pack

The MI-291 System offers the JBL Flat-Front Bi-Radial™ horn and compression driver as a separate add-on system which allows simple installation to existing systems.



MI-291

Model MI-630 and MI-634 include integral mounting hardware for use with the tubular aluminum tripod stand, Model MT-4612.



MI-630



MI-634

MI Series Specifications

MI Series Loudspeaker Specifications

| Specifications | MI-10 | MI-12 | MI-15A |
|---|------------------------------|------------------------------|------------------------------|
| Nominal Diameter | 250mm 10 in | 300mm 12 in | 380mm 15 in |
| Nominal Impedance | 8 Ω | 8 Ω | 8 Ω |
| Power Capacity AES or EIA Shaped Noise | 150 W | 150 W | 150 W |
| Sensitivity * 1 W @ 1m (3.3 ft) | 98 dB SPL | 100 dB SPL | 102 dB SPL |
| Frequency Range | 70-8000 Hz | 60-7000 Hz | 40-6000 Hz |
| Voice Coil Diameter | 51mm 2 in | 51mm 2 in | 51mm 2 in |
| Voice Coil Material | Aluminum Ribbon | | Copper Ribbon |
| Magnetic Assembly Weight | 2.5 kg 5½ lbs. | 2.5 kg 5½ lbs. | 2.5 kg 5½ lbs. |
| Flux Density | 1.05 tesla (10,500 gauss) | 1.05 tesla (10,500 gauss) | 1.05 tesla (10,500 gauss) |
| Frame Material | Diecast Aluminum | | |
| Baffle Cutout Diameter Front or Rear Mount | 228mm 9 in | 281mm 11-1/6 in | 351mm 13-13/16 in |
| Depth | 116mm 4½ in | 137mm 5¾ in | 162mm 6¾ in |
| Net Weight | 2.7 kg 6 lbs. | 3 kg 6½ lbs. | 3.2 kg 7 lbs. |

*Sensitivity measured with an input averaged from 500 Hz to 2.5 kHz

| Thiele-Small Parameters | MI-10 | MI-12 | MI-15A |
|--|--------------|--------------|-------------|
| f_s (Hz) | 75 | 65 | 40 |
| R_e (ohms) | 5.6 | 5.6 | 5.6 |
| Q_{ts} | .33 | .46 | 0.42 |
| Q_{ms} | 1.8 | 2.2 | 2.8 |
| Q_{es} | 0.41 | 0.58 | 0.49 |
| V_{as} (L) (cu ft) | 35 1.25 | 75 2.7 | 270 9.6 |
| S_D (m ²) (in ²) | .034 52.5 | .055 85.5 | .089 138 |
| X_{max} (mm) (in) | 3 .12 | 3 .12 | 4 0.16 |
| V_D (cm ³) (in ³) | 100 6.0 | 165 10.1 | 356 21.8 |
| L_e (mH) | 0.6 | 0.6 | 0.8 |
| η_0 (Half space) (%) | 3.5 | 3.5 | 3.5 |

MI Series Component System Specifications

| Model | Frequency Range (-10 dB) | Power Capacity | | Nominal Impedance | Sensitivity* 1 W, 1m (3.3 ft) | Nominal Dispersion | Crossover Frequency | Exterior Dimensions (Height x Width x Depth) | Net Weight |
|---------|-----------------------------|-------------------------|----------------------|-------------------|-------------------------------------|--------------------|---------------------|---|--------------------|
| | | (Continuous Pink Noise) | (Continuous Program) | | | | | | |
| MI-291 | 1.5-15 kHz | 150 W | 300 W | 8 ohms | 105 dB | 90h x 40v | 1.5 kHz | 127mm x 387mm x 248 mm 5 in x 15¼ in x 9¾ in | 4.5 kg 10 lbs |
| MI-630 | 60 Hz-15 kHz | 150 W | 300 W | 8 ohms | 100 dB | 90h x 40v | 2.0 kHz | 533mm x 454mm x 287mm 21 in x 17⅞ in x 11⅞ in | 22 kg 48 lbs |
| MI-631 | 60 Hz-15 kHz | 150 W | 300 W | 8 ohms | 100 dB | 90h x 40v | 2 kHz | 349mm x 434mm x 530mm 13⅞ in x 17⅞ in x 20⅞ in | 21 kg 46 lbs |
| MI-632A | 45 Hz-15 kHz | 150 W | 300 W | 8 ohms | 104 dB | 90h x 40v | 1.5 kHz | 826mm x 610mm x 445mm 32½ in x 24 in x 17½ in | 45.5 kg 100 lbs |
| MI-634 | 40 Hz-15 kHz | 150 W | 300 W | 8 ohms | 102 dB | 90h x 40v | 1.5 kHz | 686mm x 559mm x 292mm 27 in x 22 in x 11½ in | 34 kg 75 lbs |

*Sensitivity measured with an input averaged from 500 Hz to 2.5 kHz