

# W8LM Mini Line Array

Mini, high performance three-way line array enclosure

## features

- ▶ Mini three-way line array element
- ▶ Hybrid® dual 8" (200mm) LF+MF configuration (-3dB@60Hz)
- ▶ LF+MF - 100dB @1W, 1m (single cabinet)
- ▶ Twin 1" (25mm) HF horn - 106dB @1W, 1m (single cabinet)
- ▶ Consistent 100° (-6dB) horizontal mid and HF pattern control
- ▶ Passive or biamp operation
- ▶ 12 ohm system impedance, up to 4 cabinets on one amplifier channel
- ▶ Fast, integral rigging system with variable splay angles
- ▶ ViewPoint™ array optimisation software
- ▶ Factory controller presets for a wide variety of configurations
- ▶ Compatible with W8L Longbow and W8LC line-array elements
- ▶ Compatible with WSXa, WLX, WMX and WS218X subwoofers



## applications

- ▶ Theatre Sound Reinforcement
- ▶ Live Sound Reinforcement
- ▶ Corporate Events
- ▶ Fixed Installations
- ▶ Delay systems for large scale outdoor sound reinforcement

The Martin Audio W8LM is a mini line array enclosure designed to bring line array performance benefits to a variety of small and medium scale applications. It meets the need for a versatile, scalable system that can be flown or ground stacked for corporate events, theatres and indoor venues. It is also suitable as a delay system for large scale outdoor sound reinforcement.

Following the constant directivity horn design philosophy of the W8L Longbow and the W8LC, the W8LM is a three-way system that combines line array principles with innovative horn loading techniques to produce a next generation, small line array with maximum dynamic impact.

Amazingly for its size, the W8LM is a full-bandwidth system (-3dB @ 60Hz) and may be used without subwoofers in many applications. Where additional low frequency extension is required, it is ideally complemented by ground stacked WSXa or WLX/WMX Hybrid® folded horn/reflex loaded subs. Alternatively if flown sub-bass is required then WLX/WMX Hybrid® folded horn/reflex loaded subs may be used.

To achieve the vertical pattern required, practical line arrays are nearly always curved in the vertical plane – invalidating some of the simplistic ideas about wavefront curvature associated with first generation line arrays. The acoustic elements of the W8LM have been developed to have optimal wavefront curvature characteristics for real world situations where higher degrees of array curvature are likely.

Whilst the W8LM is a three-way system, it can be driven two-way active or entirely passively via its internal crossover, (selected by a rear mounted switch). To make system design even more cost effective, the W8LM is a 12 ohm cabinet and up to four cabinets can be driven off one channel of a professional quality amplifier such as the iK81.

The minimum number of W8LM elements in an array is 3, but most applications will require blocks of 4, 8 or 12 elements, depending on the required output capability and vertical coverage angle.

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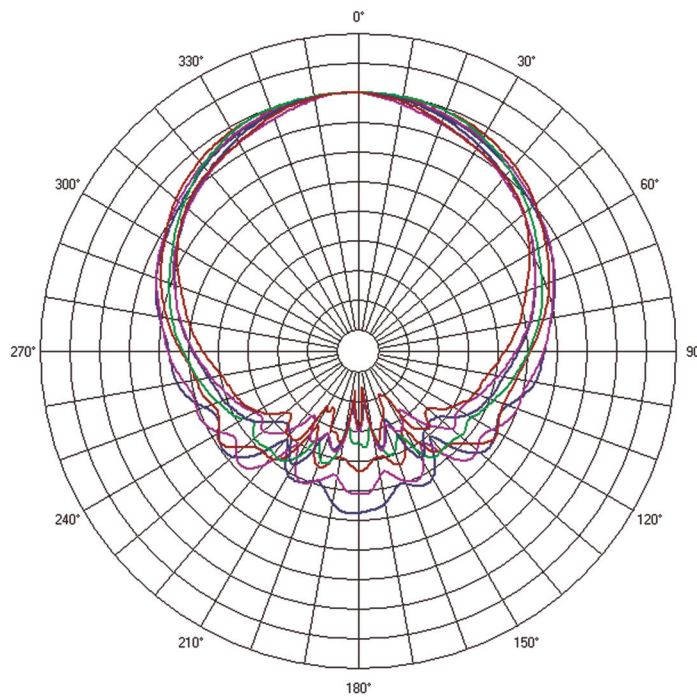


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polar plots



## W8LM HF Horizontal

- 3150Hz & 1/3 oct. smoothing
- 4000Hz & 1/3 oct. smoothing
- 5000Hz & 1/3 oct. smoothing
- 6300Hz & 1/3 oct. smoothing
- 8000Hz & 1/3 oct. smoothing
- 10000Hz & 1/3 oct. smoothing
- 12220Hz & 1/3 oct. smoothing

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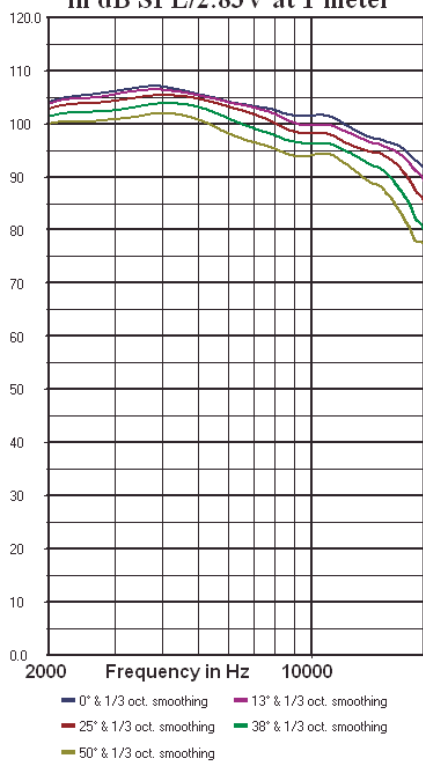
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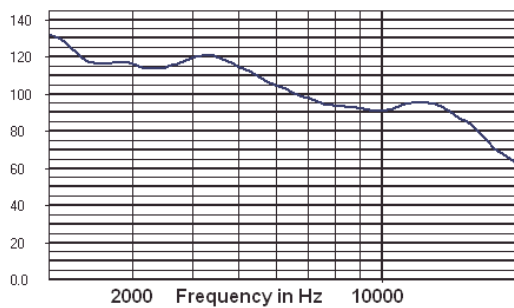
frequency responses

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W8LM HF Horizontal Sensitivity in dB SPL/2.83V at 1 meter



W8LM HF Horizontal Beamwidth



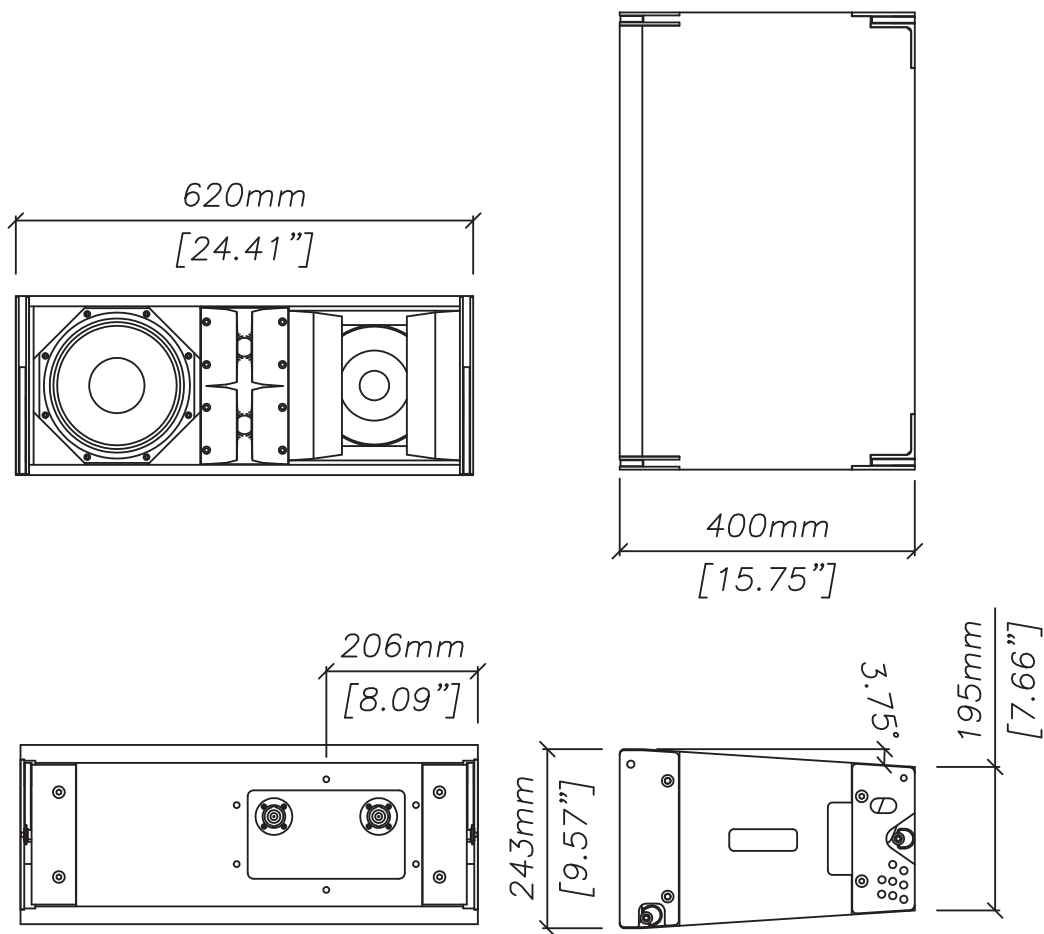
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overall dimensions



W8LM

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## technical specifications (single enclosure)

|                                     |  |
|-------------------------------------|--|
| TYPE                                | Three-way, active/passive, mini line array element   |
| FREQUENCY RESPONSE (5)              | 60Hz-18kHz $\pm$ 3dB   |
| DRIVERS: LF + MF Section            | 8" (200mm)/2" (50mm) voice coil, reflex-loaded direct radiator   |
| DRIVERS: HF Section                 | 8" (200mm)/2" (50mm) voice coil, neodymium driver, front horn loaded, rear reflex loaded<br>2 x 1" (25mm) exit HF compression drivers, horn loaded |
| RATED POWER (2)                     | LF + MF: 400W AES, 1600W peak<br>HF: 75W AES, 300W peak<br>Passive: 400W AES, 1600W peak   |
| RECOMMENDED AMPLIFIER               | iK81   |
| SENSITIVITY (6)                     | LF + MF: 100dB<br>HF: 106dB<br>FR: 99dB rising to 105dB at HF  |
| MAXIMUM SPL (calculated @ 1m)       | LF + MF: 126dB continuous, 132dB peak<br>HF: 125dB continuous, 131dB peak<br>Passive: 125dB continuous, 131dB peak                                 |
| NOMINAL IMPEDANCE                   | LF + MF: 12 ohms<br>HF: 12 ohms<br>FR: 12 ohms   |
| DISPERSION (-6dB)                   | 100° horizontal (down to 800Hz),<br>7.5° vertical<br>120° horizontal (down to 700Hz) @ -10dB   |
| CROSSOVER                           | 300Hz passive, 2.2kHz active or passive  |
| ENCLOSURE                           | Vertical trapezoid with 3.75° wall angle, multi-laminate birch ply construction  |
| FINISH                              | Textured black paint   |
| PROTECTIVE GRILLE                   | Black perforated steel   |
| CONNECTORS                          | 2 x Neutrik NL4  |
| DIMENSIONS                          | (W) 620mm x (H) 243mm x (D) 400mm<br>(W) 24.4ins x (H) 9.6ins x (D) 15.8ins  |
| WEIGHT (including rigging hardware) | 29kg (64lbs)   |

## accessories

|          |                 |
|----------|-----------------|
| ASF20001 | Flying frame    |
| ASF20002 | Lifting bar     |
| HAM09002 | Groundstack bar |
| HTK175   | Flying pin      |

### Notes

- (1) Measured on-axis in half space at 2 metres, then referred to 1 metre.
- (2) AES Standard ANSI S4.26-1984.
- (3) Measured in half space at 2 metres with 1 watt input, using band limited pink noise, then referred to 1 metre.
- (4) Measured in half space at 2 metres using band limited pink noise, then referred to 1 metre.
- (5) Measured on-axis in open (4 $\pi$ ) space at 2 metres, then referred to 1 metre.
- (6) Measured in open (4 $\pi$ ) space at 2 metres with 1 watt input, using band limited pink noise, then referred to 1 metre.
- (7) Measured in open (4 $\pi$ ) space at 2 metres using band limited pink noise, then referred to 1 metre.

### Trade Descriptions Act

Due to Martin Audio's policy of continuing improvement, we reserve the right to alter these specifications without prior notice. Martin Audio is committed to refining state of the art sound reinforcement, combining in-depth product and field applications research with advanced manufacturing techniques. Every Martin Audio product is built to the highest manufacturing standards and rigorously tested to ensure that it meets the performance criteria specified in the design.

## architectural and engineering specifications

The loudspeaker system shall be of the three-way horizontally formatted line array type, switchable passive/bi-amp. The low and mid frequency sections shall consist of two 8" (200mm) cone transducers, one direct radiating and reflex loaded and one front loaded by a constant directivity mid-horn using a toroidal phase plug and reflex loaded, with both sharing the same enclosure. The drivers shall operate in tandem to produce low frequencies up to 300Hz. Above 300Hz, the direct radiator driver shall be rolled off by an internal passive network and the horn loaded driver reproduce mid frequencies up to 2.2kHz. The high frequency section shall consist of two 1" (25mm) horn elements vertically mounted to produce a low-curvature vertical wavefront. The enclosure shall be constructed of heavily braced multi-laminate plywood with all flying hardware integral and captive. Bi-amp or passive operation shall be selected by a switch at the rear of the enclosure. In bi-amp mode the loudspeaker shall be operated with a separate electronic controller providing a 2.2kHz crossover between mid and high frequencies. In passive mode the mid and high frequency sections shall be integrated by an internal 2.2kHz crossover network.

Performance of the loudspeaker system with its electronic controller shall meet or exceed the following criteria:

Frequency response measured 1 metre on axis shall be 60Hz-18kHz  $\pm$  3dB.

High frequency dispersion at -6dB points shall be 100° H x 7.5° V.

Power handling shall be 400W AES, 1600W peak FR/(LF + MF), 75W AES, 300W peak HF.

Rated impedance shall be 12 ohms FR/(LF + MF), 12ohms HF.

Maximum SPL measured at 1 metre on axis shall be 125dB continuous, 131dB peak.

Dimensions (W) 620mm x (H) 243mm x (D) 400mm (24.4ins x 9.6ins x 15.8ins).

Weight 29kg (64lbs).

The loudspeaker system shall be the Martin Audio W8LM.

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