

W8L Longbow

Large Scale, Three-Way Line Array Enclosure

features

- ▶ Large scale, three-way line array element
- ▶ Horn loaded 15" (380mm) LF – 106dB @1W, 1m (single cabinet)
- ▶ Twin 8" (200mm) mid-horn - 109dB @1W, 1m (single cabinet)
- ▶ Quad 1" (25mm) HF horn - 119dB @1W, 1m (single cabinet)
- ▶ Consistent 90° horizontal mid and HF pattern control
- ▶ Fast, integral rigging system with variable splay angles
- ▶ ViewPoint™ array optimisation software
- ▶ Factory controller presets for a wide variety of configurations
- ▶ Compatible with flown or ground stacked W8LS
- ▶ Compatible with ground stacked WLX, WSXa, WS218X



applications

- ▶ Live Sound Reinforcement:
Outdoor concerts, stadiums and indoor arenas
- ▶ Fixed Installations

The Martin Audio W8L Longbow is an evolution of the successful W8L line array system. It brings a new level of performance to the most demanding sound reinforcement applications such as outdoor festivals, sports stadiums and the largest arenas.

In the low frequency section, the 15" (380mm) Hybrid® bass horn design is responsible for the tight, punchy and extended low frequency performance of the W8L Longbow. Development of a completely new ultra-long excursion driver gives the W8L Longbow the ability to displace almost twice the volume of air as the W8L when driven with the same input signal. This advance lifts the already formidable low-end performance to a new level and extends the low frequency -3dB point down to 35Hz.

The mid-horn of the W8L Longbow utilises 2 x 8" (200mm)/2" (50mm) coil drivers to produce 109dB at 1 metre for a 1 watt input. The twin 8" (200mm) mid-horn geometry and short, toroidal 'donut' phase plug work together to maintain a low curvature Wavefront and wide 90° horizontal coverage pattern of the mid frequencies right up the 2.5kHz crossover point.

Since the launch of the W8L, Martin Audio has developed a patent pending technology, which provides an exceptional degree of control over the curvature of the high frequency vertical wavefront. Our research has shown that even very long throw systems benefit from a small but specific amount of wavefront curvature. By coupling this technology with significant advances in high frequency device design we have created a quad-driver, high frequency system with the very high efficiency of 119dB (1W/1m). This allows the W8L Longbow to cope with the most adverse atmospheric conditions which can severely attenuate high frequencies over long distances. The new high frequency system also results in improved HF summation of cabinets in the array and a corresponding reduction of side lobes.

The proprietary rigging system of the W8L Longbow is quick to deploy and allows a wide range of array curvatures to be achieved as called up by the Display™ or Viewpoint™ array optimization software. W8L Longbow columns are hinged at the front for gapfree HF coverage. Inter-cabinet angles from 0° to 7.5° are set by a rotating splay bar at the rear of the enclosure.

W8L Longbow systems are designed to be powered by Martin Audio MA12K amplifiers.

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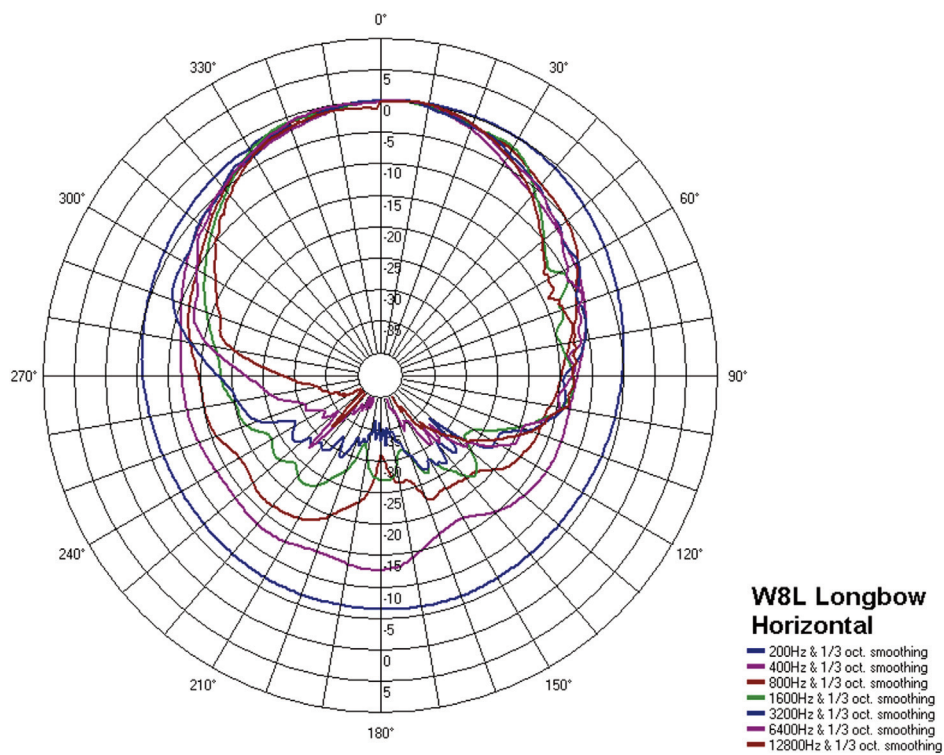
touring and theatre

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polar plots

touring and theatre



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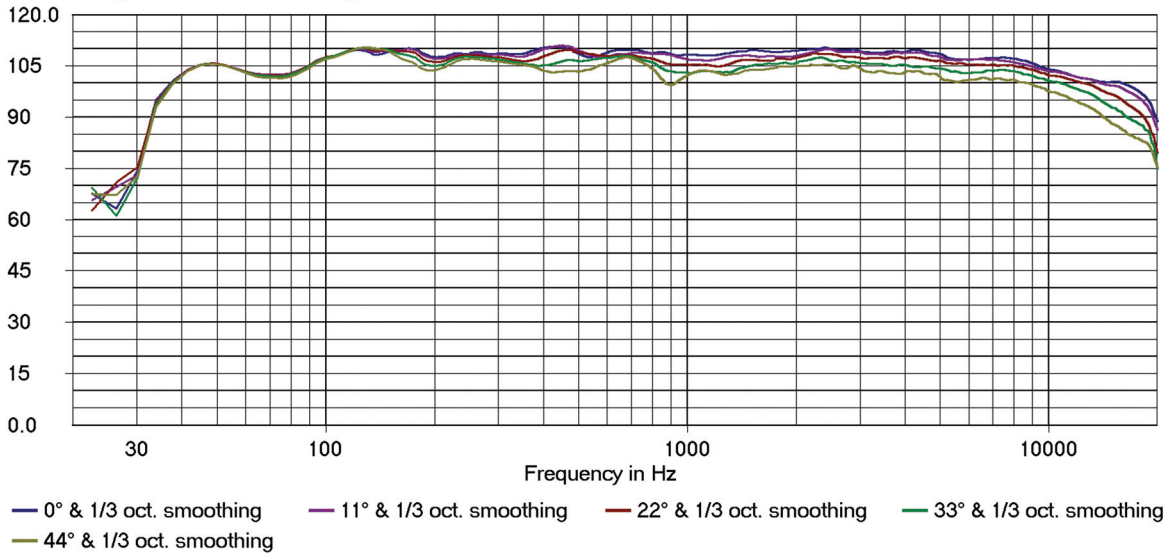
W8L Longbow

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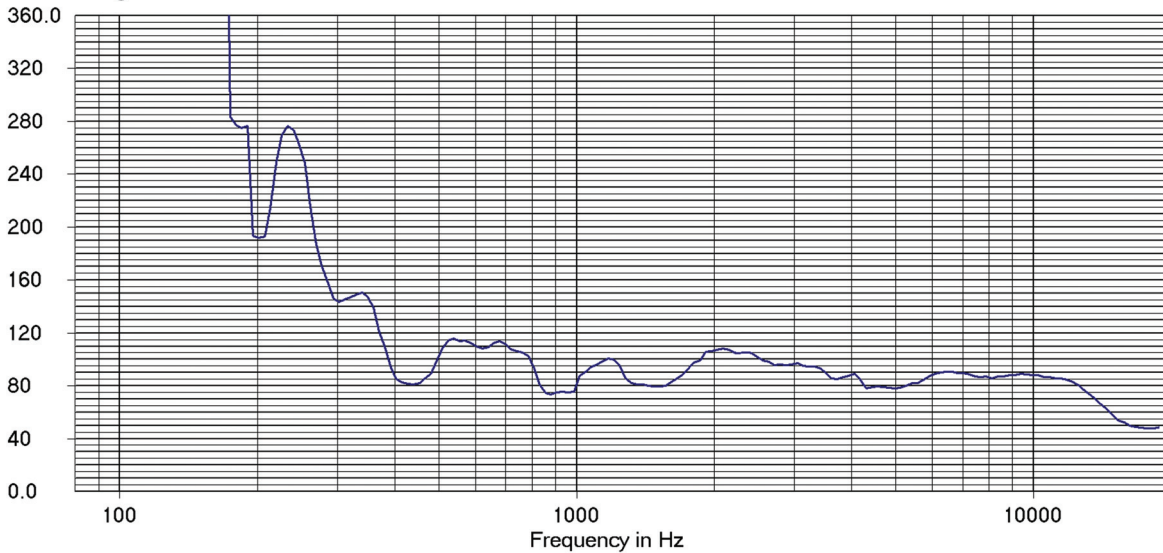
frequency responses

touring and theatre

W8L Longbow Horizontal Magnitude



W8L Longbow Horizontal Beamwidth



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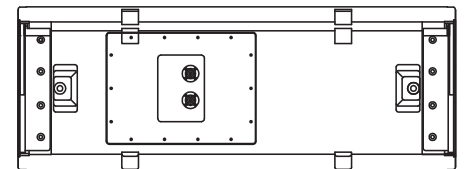
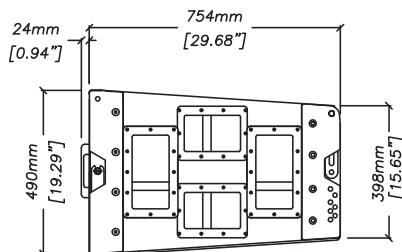
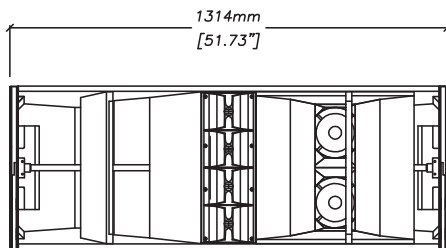
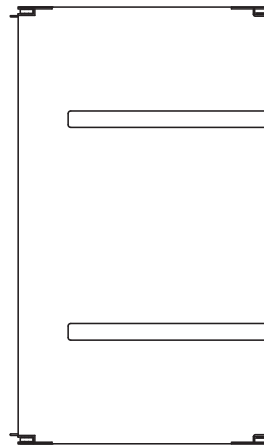
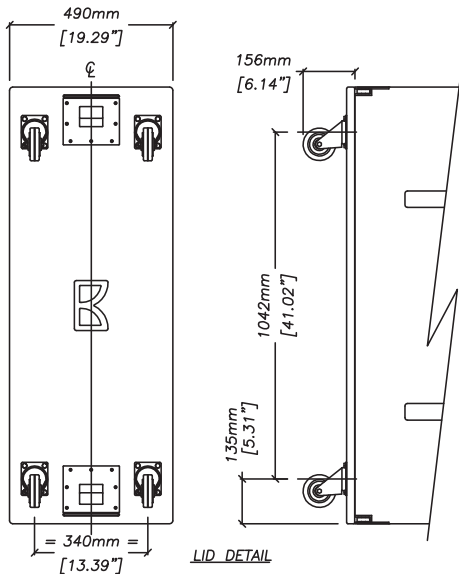


W8L Longbow

Large Scale, Three-Way Line Array Enclosure

overall dimensions

touring and theatre



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technical specifications

TYPE	Large scale, three-way line array element
FREQUENCY RESPONSE (5)	35Hz-18kHz \pm 3dB
DRIVERS	15" (380mm)/4" (100mm) voice coil, ultra-long excursion, neodymium magnet driver, Hybrid® bass horn loaded 2 x 8" (200mm)/2" (50mm) coil drivers, horn loaded 4 x 1" (25mm) exit neodymium magnet compression drivers, horn loaded
RATED POWER (2)	LF: 1000W AES, 4000W peak MF: 400W AES, 1600W peak HF: 200W AES, 800W peak
RECOMMENDED AMPLIFIER	MA12K
SENSITIVITY (6)	LF: 106dB MF: 109dB HF: 119dB
MAXIMUM SPL (calculated @ 1m)	LF: 136dB continuous, 142dB peak MF: 135dB continuous, 141dB peak HF: 142dB continuous, 148dB peak
NOMINAL IMPEDANCE	LF: 8 ohms MF: 8 ohms HF: 8 ohms
DISPERSION (-6dB)	90° horizontal, down to 350Hz 7.5° vertical
CROSSOVER	220Hz, 2.5kHz active via DX1.5 or DX2 controller
ENCLOSURE	Vertical trapezoid with 3.75° wall angle, multi-laminate birch ply construction
FINISH	Textured black or grey paint
PROTECTIVE GRILLE	Black or grey perforated steel
CONNECTORS	2 x Neutrik NL8
FITTINGS	Proprietary rigging system 4 x Bar handles on each side Skids on base
DIMENSIONS (inc. wheelboard)	(W) 1314mm x (H) 490mm x (D) 755mm (910mm) (W) 51.7ins x (H) 19.3ins x (D) 29.7ins (35.8ins)
WEIGHT (ex. wheelboard)	123kg (271lbs)

accessories

W8LGRIDASSEMBLY	Flying grid
HAM09001	Ground stack bar

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 (4π) space at 2 metres, then referred to 1 metre.
- (6) Measured in open (4π) space at 2 metres with 1 watt input, using band limited pink noise, then referred to 1 metre.
- (7) Measured in open (4π) space at 2 metres using band limited pink noise, then referred to 1 metre.
- (8) Measured in open (4π) space at 2 metres with 2.83V input, 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. The low frequency section shall consist of one 15" (380mm)/4" (100mm) ultra-long excursion cone transducer, with neodymium magnet driver, horn and reflex loaded in a Hybrid® bass system. The mid frequency section shall consist of two 8" (200mm) cone drivers coupled to a constant directivity horn using toroidal phase devices. The high frequency section shall consist of four 1" (25mm) exit HF compression drivers, with neodymium magnets, mounted on vertically coupled waveguides with a constant directivity horn. The enclosure shall be constructed of heavily braced multi-laminate plywood with all flying hardware integral and captive. The loudspeaker system shall be supplied with a wheelboard that shall attach to the front of the enclosure with slam latches to facilitate ease of deployment. The loudspeaker shall be operated with a separate dedicated electronic controller.

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 35Hz-18kHz \pm 3dB.

High frequency dispersion at -6dB points shall be 90°H x 7.5°V.

Power handling shall be 1000W AES, 4000W peak LF, 400W AES, 1600W peak MF, 200W AES, 800W peak HF.

Rated impedance shall be 8 ohms LF/MF/HF.

Maximum SPL measured at 1 metre on axis shall be 136dB continuous, 142dB peak LF, 135dB continuous, 141dB peak MF, 142dB continuous, 148dB peak HF.

Dimensions (W) 1314mm x (H) 490mm x (D) 755mm

(51.7ins x 19.3ins x 29.7ins).

Weight 123kg (271lbs).

The loudspeaker system shall be the Martin Audio W8L Longbow.

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