

MLA Compact

Multi-Cellular Loudspeaker Array



Features

- Numerically optimised, fully-integrated, compact touring sound system
- Cellular array format with built-in amplification, DSP and digital networking
- 5 dedicated Class D amplifier channels per enclosure for individual powering and DSP control of individual cells
- Industry leading DISPLAY2.1 intelligent software interacts with onboard DSP for highly accurate array optimisation Eliminates trial-and-error array preset library approximations
- “Fly-by-wire” software adjusts vertical coverage electronically to cope with changing environmental conditions and last minute changes in rigging height. “Hard-avoid” areas, such as on-stage, ceilings and site perimeter, can be programmed in
- Switched mode power supplies with PFC (Power Factor Correction) and global mains voltage operation
- Three-way design delivers LF/MF/HF peak SPL's of 135/135/135dB @ 1m from a single, compact enclosure
- Fast, integral flying system for suspension of up to 24 enclosures
- True 100° (-6dB) horizontal constant directivity, mid and high frequency pattern control. Consistent and usable out to 130° (-10dB)
- 65Hz–18kHz $\pm$ 3dB full bandwidth frequency response

Benefits

- Desired house-curve achieved right from power-up
- Automatic, intelligent configuration and optimisation eliminates trial and error in system set-up
- Improved venue-to-venue, gig-to-gig consistency and repeatability
- Artistic changes to balance at the mix position (or elsewhere) translate directly and accurately throughout the audience
- Exceptionally high powerdensity means tighter truck-pack for higher SPL compared to other systems
- “Greener” audio power via PFC (Power Factor Correction)
- Programmable leakage parameter to meet environmental noise constraints

Applications

- Premium touring sound reinforcement for medium-size venues
- Fixed installations in concert halls, theatres, ballrooms and HoW
- Side hang for MLA festival and arena systems



Martin Audio's revolutionary award-winning Multi-cellular Loudspeaker Array [MLA] technology is reinventing the way loudspeaker arrays are configured and controlled delivering unsurpassed audience coverage and consistency without compromise to fidelity.

MLA Compact brings this revolutionary technology to medium-scale touring and premium fixed installations ranging from musical theatres and concert halls to Houses of Worship and auditoriums.

The versatile and scalable MLA Compact has received multiple awards for innovation and delivers performance, control and coverage consistency that brings the sound engineer and audience together in a more powerful, involving experience.

In its simplest terms each MLA Compact array has up to 120 individual acoustic elements [cells], each with its own onboard amplifier and DSP, which can be optimised by software to deliver the sound across the audience to meet the sonic goals required for any space.

MLA technology is the only technology on the market to allow multiple sonic goals to be prioritised and optimised accordingly. For example, not only can MLA Compact generate an even sound field over the audience, it can contain it as well — significantly reducing the influence of the room.

‘Hard avoid’ areas - such as behind and below the array, ceilings, balcony edges and beyond the venue perimeter - can also be programmed in. Vertical coverage can even be fine-tuned electronically in-situ to cope with changing environmental conditions and last-minute changes in rigging height, without having to re-rig.

With incredibly easy-to-use and highly accurate predictive software [DISPLAY] doing all the grunt work with the system, the engineer retains full artistic control and can enjoy mixing the show in the full knowledge that the sound created at the mix position will be heard everywhere throughout the audience.

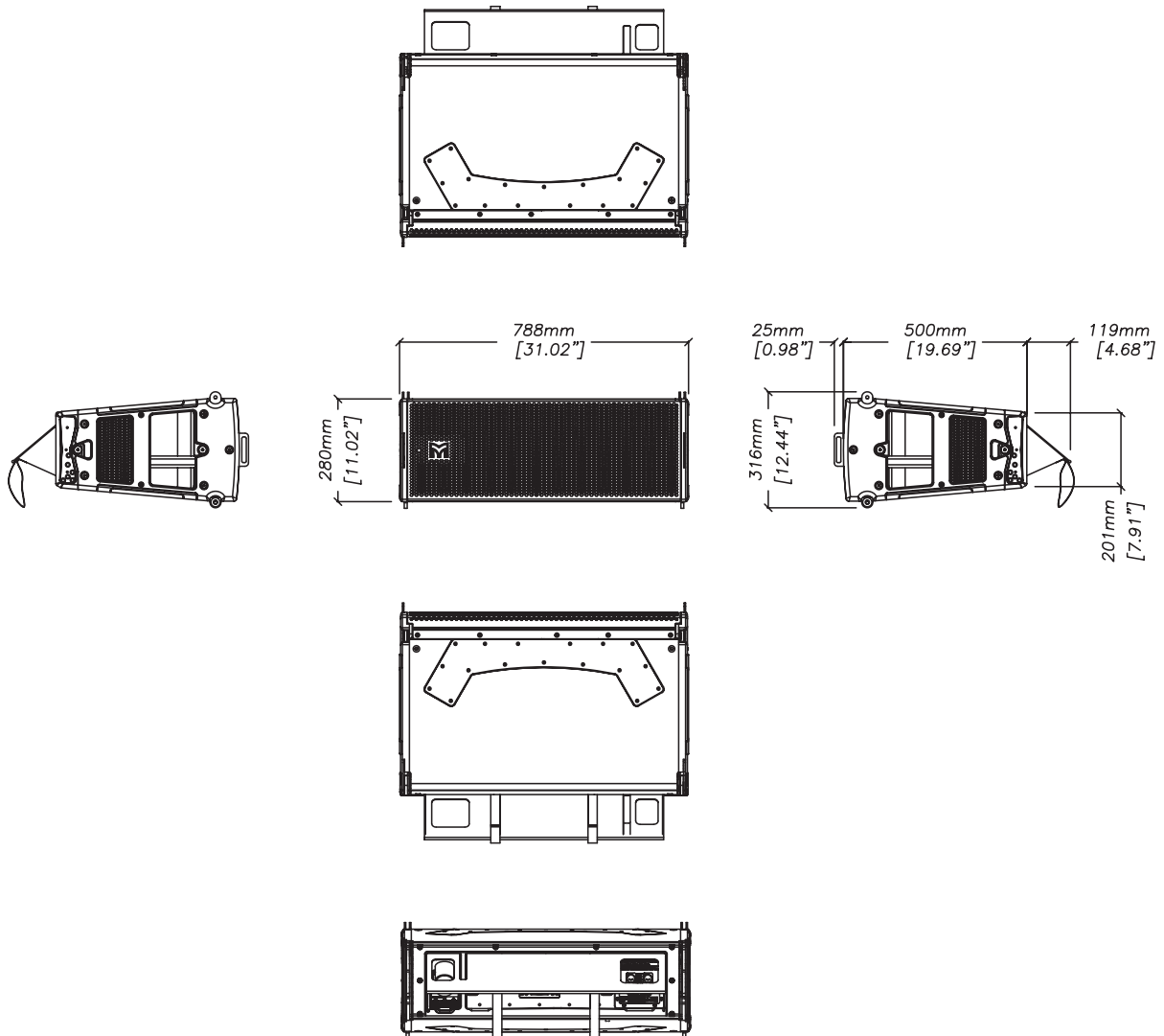
Such is the confidence that MLA Compact can bring, that significantly less time is spent setting up the system and less time is spent walking the room to verify results.

MLA Compact

Multi-Cellular Loudspeaker Array



Technical Drawing



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Technical Specifications

Acoustical

TYPE	Three-way cellular drive, active array element
RESPONSE (1)	FREQUENCY 65Hz-18kHz $\pm$ 3dB
MAXIMUM SPL @ 1m	LF: 129dB continuous, 135dB peak (3) MF: 129dB continuous, 135dB peak (4) HF: 129dB continuous, 135dB peak (4)

Drivers

LF: 2 x 10" (250mm)/2.5" (63mm) voice coil, long excursion, vented pole, neodymium magnet drivers, Hybrid® slot-horn loaded
MF: 2 x 5" (125mm)/1.5" (38mm) coil, neodymium magnet drivers, horn loaded
HF: 4 x 0.7" (19mm) exit neodymium magnet compression drivers, horn loaded

Rated Power (2)

LF: 500W AES, 2000W peak
MF: 180W AES, 720W peak
HF: 40W AES, 160W peak

Dispersion

(-6dB)	100° horizontal
(-10dB)	130° horizontal
10° vertical	

Crossover Frequencies

400Hz: 8th-order Linkwitz-Riley
4.25kHz: Vanishing Point™ FIR filters

Audio input

CONNECTORS	Female XLR input, male XLR link output
ANALOGUE INPUT IMPEDANCE	20k Ω balanced to ground
MAXIMUM ANALOGUE INPUT LEVEL	6.15Vrms (+18dBu), over voltage protected
NOMINAL SYSTEM GAIN	22dB
AES/EBU IMPEDANCE	110ohms balanced, Receive and transmit termination

Network

CONNECTORS	2x IP68 rated 8-way, quick-release type
PROTOCOL	U-NET

Amplifier Module

TYPE	Five channel Class D, fixed frequency
PEAK OUTPUT POWER	4200W
AVERAGE EFFICIENCY	78%
COOLING	2 x temperature controlled internal fans 1 x temperature controlled external fan
MAXIMUM AMBIENT TEMPERATURE	45°C (113°F) for full output

Power Supply

TYPE	Switch mode, fixed frequency with PFC
AC INPUT OPERATING RANGE	100 – 240V ~ AC, 50 - 60Hz
POWER FACTOR	> 0.95
NOMINAL POWER CONSUMPTION	600W

MAINS CONNECTOR	16A IEC309 (Ceeform) – IP44 rated (IP67 when mated with mains distribution equipment supplied with system)
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General

ENCLOSURE	Vertical trapezoid with 5° wall angle, multi-laminate birch and poplar-ply construction
FINISH	Textured black PU coating
PROTECTIVE GRILLE	Black HEX perforated steel
FITTINGS	Proprietary rigging system Bar handles on each side Protective rubber side-cheeks incorporating skids Weather protection cowl
IP RATING	IP 25
DIMENSIONS	(W) 788mm x (H) 280mm x (D) 500mm (W) 31in x (H) 11in x (D) 19.7in
WEIGHT	49.5kg (109lbs)

Accessories

- Flightcase for two enclosures Flying frame (including clinometer) Ground stacking bar
- Flying Pin
- Mains distribution system
- Tour-grade network interconnects U-Hub/DX4.0 Controller/U-NET Hub

Notes

- (1) Measured on-axis in open (4p) space at 4 metres, then referred to 1 metre.
- (2) AES Standard ANSI S4.26-1984.
- (3) Measured in half-space at 1 metre with a tone burst signal, then referred back to open (4p) space.
- (4) Calculated from 4m 2.83v sensitivity, referred to 1m.

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.

