

WPC

Optimised Line Array – Three-way, bi-amp line array element



Features

- Compact line array
- Scalable resolution for advanced array control
- External, dedicated, multi-channel Class D amplification
- Industry-leading DISPLAY software interacts with DSP for highly-accurate results
- Fast, integral 3-point flying systems for up to 16 enclosures
- Side and rear handles for ease of handling and setting splay angles
- 100° horizontal constant directivity pattern control



Applications

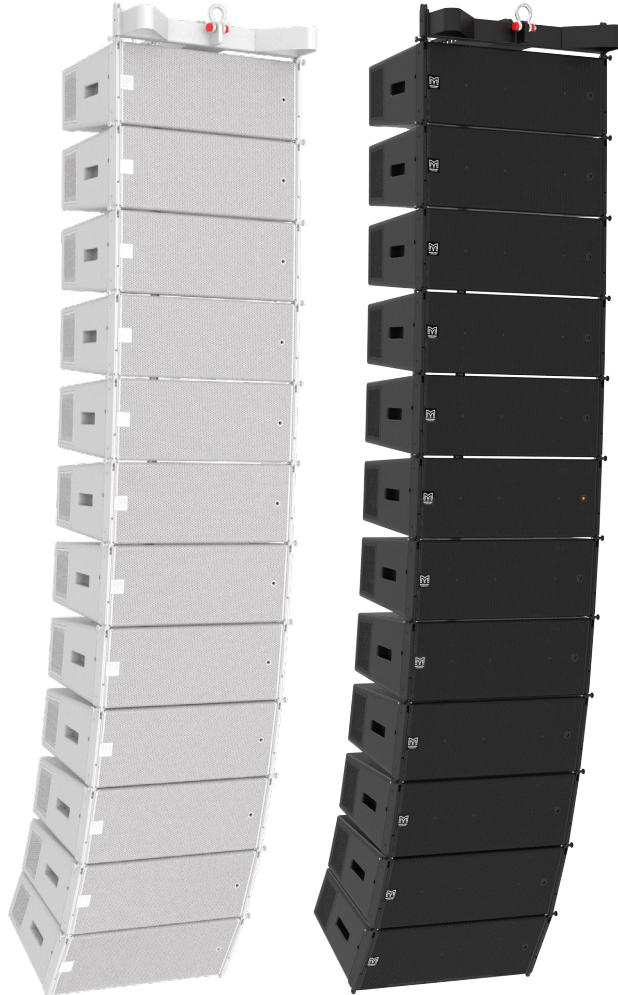
- Touring sound reinforcement for small and medium-size venues
- Fixed installations in concert halls, theatres, ballrooms and HoW
- Sports stadium and arena installations
- Corporate AV events

The scalable resolution of WPC offers greatly improved coverage consistency and control compared to a standard line array and provides a flexible pathway to advanced array optimisation.

WPC is a new breed of medium-format optimised line array which brings innovative acoustic design, ultra-high performance and coverage consistency to a wider range of users, applications and budgets than previously possible. A three-way, bi-amp system, it features horn-loaded low frequency, mid and HF sections to raise efficiency and increase output. With a peak SPL of 135dB its high efficiency acoustic design can equal or outperform larger, direct radiator systems — a 12-box array will throw beyond 60 metres (200ft) and deliver impressive rock levels to a 5000-seat venue, saving on truck space and weight.

WPC's low frequency section consists of 2 x 10" (250mm) neodymium drivers in a Hybrid® configuration which marries the benefits of horn and reflex loading. Each driver is slot-loaded into a short horn to give a high sensitivity, while the rear of the driver is reflex-loaded to extend the LF output. The punch and low-frequency extension produced from such a small enclosure volume are remarkable.

Mid and HF horns are physically separate — a key factor in the WPC's exemplary 100° horizontal constant directivity



Updated Q2 2026

dispersion pattern. The midrange horn design utilises 2 x 5" (125mm) neodymium drivers to produce a high output while the HF section employs 4 x 0.7" (19mm) exit neodymium compression drivers which feed 4 individual horns. Use of multiple small HF drivers instead of a more traditionally-used large format compression driver results in less distortion and a more extended HF response.

From Q2 2026, Wavefront Precision enclosures have an IP54 rating and feature improved construction methods, paint and metalwork to make them more hardwearing. They also feature an LED indicator that can be illuminated via VU-NET software to identify each enclosure location on the circuit.

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Technical Specifications From Q2 2026

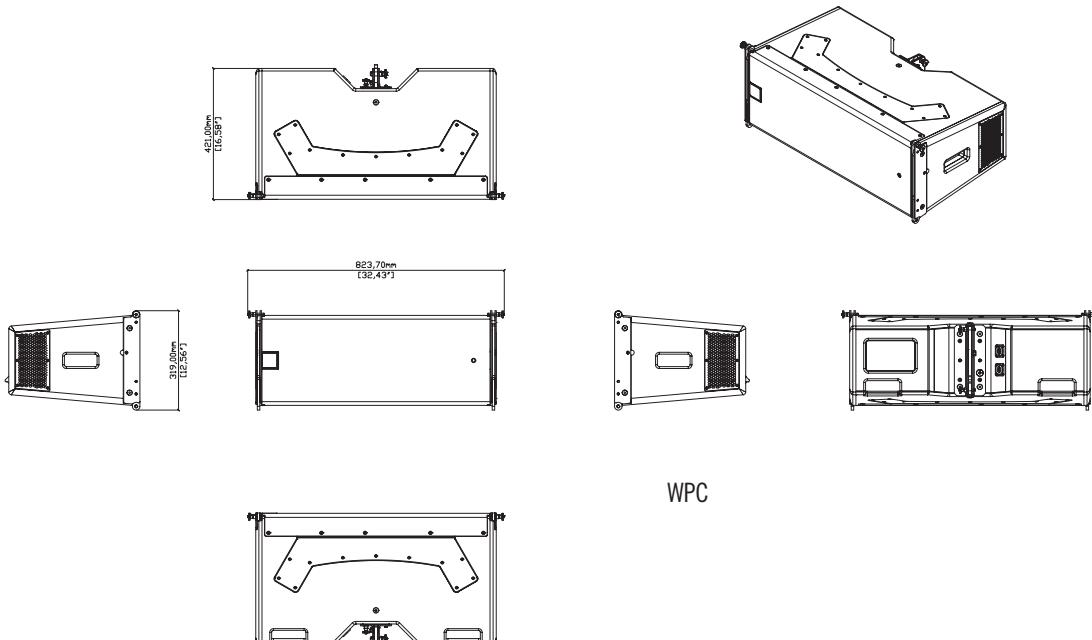
TYPE	Three-way, bi-amp line array element
FREQUENCY RESPONSE (5)	65Hz-18kHz ± 3dB
DRIVERS	LF: 2 x 10" (250mm)/2.5" (63mm) voice coil, long excursion, vented pole, neodymium magnet drivers, Hybrid® slot-horn loaded MF: 2 x 5" (125mm)/1.5" (38mm) coil, neodymium magnet drivers, horn loaded HF: 4 x 0.7" (19mm) exit neodymium magnet compression drivers, horn loaded
SYSTEM AMPLIFIER	iKON iK42
SYSTEM RESOLUTION	1 to 3 enclosures per pair of amplifier channels (Bi-amp)
RATED POWER (2)	LF: 500 W AES, 2000 W peak MF/HF: 180 W AES, 720 W peak
MAXIMUM SPL (9)	135dB peak
NOMINAL IMPEDANCE	LF: 8 ohms, MF + HF: 8 ohms
DISPERSION	100° horizontal (-6dB), 130° horizontal (-10dB) 10° vertical
CROSSOVER	440Hz active, 4.4kHz internal passive
ENCLOSURE	Vertical trapezoid with 5° wall angle, multi-laminate birch and poplar-ply construction
FINISH	Black or white hardwearing paint
PROTECTIVE GRILLE	Black or white HEX perforated steel with network LED
ENVIRONMENTAL TESTING (11)	IP 54 MIL-STD-810H ISO 4892-2 Solar Radiation ISO 12944-6 Category C3 Corrosion resistance
CONNECTORS	2 x NL4 type
PIN CONNECTIONS	LF: 1+1-, MF + HF: 2+2-
FITTINGS	3-point rigging system 2 x side pocket handles 2 x rear grip handles
FLOWN ARRAY MAXIMUM	16 enclosures in single array
DIMENSIONS	(W) 772mm x (H) 319mm x (D) 421mm (W) 30.4in x (H) 12.6in x (D) 16.6in
WEIGHT	35kg (77.1lbs)
ACCESSORIES	Install flying frame Touring flying frame Dolly for 4 enclosures Ground stack outrigger Flying Pin



THE QUEEN'S AWARDS
FOR ENTERPRISE:
INNOVATION
2021

Notes

- (1) Measured on-axis in half (2pi) space at 2 metres, then referred to 1 metre.
- (2) AES Standard ANSI S4.26-1984.
- (3) Measured in half (2pi) space at 2 metres with 1 watt input, using band limited pink noise, then referred to 1 metre.
- (4) Measured in half (2pi) space at 2 metres using band limited pink noise, then referred to 1 metre.
- (5) Measured on-axis in open (4pi) space at 2 metres, then referred to 1 metre.
- (6) Measured in open (4pi) space at 2 metres with 1 watt input, using band limited pink noise, then referred to 1 metre.
- (7) Measured in open (4pi) space at 2 metres using band limited pink noise, then referred to 1 metre.
- (8) Measured in open (4pi) space at 2 metres with 2.83V input, using band limited pink noise, then referred to 1 metre.
- (9) Calculated at 1 metre with 6dB crest factor.
- (10) Measured in half (2pi) space at 2 metres with 2.83V input, using band limited pink noise, then referred to 1 metre.
- (11) Please refer to dedicated Environmental Testing page within datasheet or martin-audio.com/environmentaltesting



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Technical Specifications

iK42 Amplifier

General

TYPE	Four-channel Class D amplifier
POWER OUTPUT	4 x 5000W into 2 ohms, all channels driven
	4 x 3000W into 4 ohms, all channels driven
	4 x 1500W into 8 ohms, all channels driven
DIGITAL SIGNAL PROCESSING	96kHz DSP on all inputs and outputs
COOLING	Dual vari-speed fans, front-to-back airflow
MAXIMUM AMBIENT TEMPERATURE	40°C (104°F)

Audio Inputs/Outputs

ANALOGUE IN/LINK (4 CHANNELS)	4 x female, 4 x male Neutrik™ XLR
ANALOGUE INPUT IMPEDANCE	20kΩ balanced to ground
MAXIMUM ANALOGUE INPUT LEVEL	+20dBu
NOMINAL SYSTEM GAIN	32dB
AES3 IN/LINK (2 CHANNELS)	1 x female, 1 x male Neutrik™ XLR, balanced
DANTE™ (4 CHANNELS)	2 x shielded RJ45, primary and secondary
AMPLIFIER OUTPUTS	4 x Neutrik Speakon™ NL4

Control and Monitoring Network

PROTOCOL	Ethernet
CONTROL APPLICATION	Martin Audio VU-NET™

Power Supply

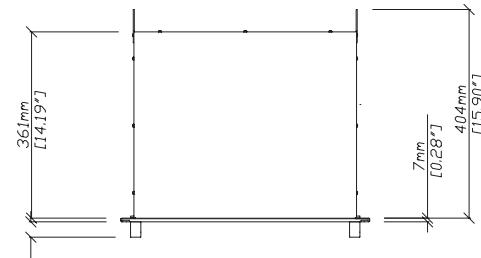
TYPE	High performance Series Resonant
AC INPUT OPERATING RANGE	85 – 240V ~ AC, 47 - 63Hz
MAINS INRUSH CURRENT	6A at 115V, 12A at 230V (max for <10ms)
MAINS CONNECTOR	Neutrik 32A Powercon™

Physical

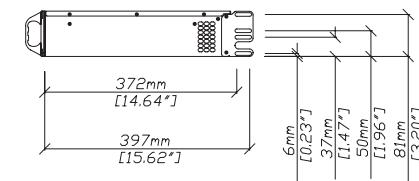
DIMENSIONS	(W) 483 x (H) 2U/89mm x (D) 357mm
	(W) 19in x (H) 2U/3.5in x (D) 14.1in
	incl handles and optional rear support

WEIGHT

12.5kg (27.5lbs)



iK42



iKON°

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.

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SPL Comparisons Vs Competitors

- The core measurement of SPL is measured differently by manufacturers
- Simply put, many competitors now quote figures based upon a crest factor of 4 (12dB peak vs continuous) and often use the highest sensitivity frequency band (typically HF) to derive their figures given that at LF, where the most power is required, even large amplifiers can't swing twice the peak output volts demanded by a doubling in crest factor from 2 to 4.
- Martin Audio quotes the AES industry standard crest factor of 2 (6dB peak vs continuous) and we ensure our partnering amplifiers are capable of delivering the volts and power to achieve our specs.
- If you don't understand how SPL is measured, you might wrongly assume that some competitors' loudspeakers have significantly higher SPL.
- While absolute comparable data is not available, some element of logic can be applied for the following products to bring a more realistic comparison.

Product	Peak at Crest factor 2 (6dB)	Peak at Crest factor 4 (12dB)
Martin Audio WPC broadband	135dB*	141dB**
Martin Audio WPC HF band	135dB*	141dB**
d&B V12	136dB**	142dB*
Adamson S10	135dB	141dB*
JBL VTXV20 (Active)	130 / 133 / 142 dB*	136/139/148 dB**
L-Acoustics Kara	135dB**	141dB*

*Manufacturer quoted

**calculated

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Environmental Testing

IEC 60529 Ingress Protection

This standard defines the IP rating system, which classifies the degree of protection an enclosure provides against the ingress of solid objects (dust) and liquids (water).

Rating Scale

FIRST DIGIT (Solid Object Protection): Scale 0-6

- 0 No protection
- 1 Objects >50mm (hands)
- 2 Objects >12.5mm (fingers)
- 3 Objects >2.5mm (tools, wires)
- 4 Objects >1mm (small wires)
- 5 Dust protected (limited ingress)
- 6 Dust-tight (no ingress)

SECOND DIGIT (Liquid Protection): Scale 0-8

- 0 No protection
- 1 Dripping water (vertical)
- 2 Dripping water (15° tilt)
- 3 Spraying water (60° angle)
- 4 Splashing water (all directions)
- 5 Water jets (low pressure)
- 6 Powerful water jets
- 7 Temporary immersion (1m, 30 min)
- 8 Continuous immersion (depth specified)

MIL-STD-810H

This U.S. Department of Defense standard specifies environmental tests to evaluate the ability of equipment to withstand harsh environmental conditions.

What it Tests

Temperature:

- Low temperature (storage and operation)
- High temperature (storage and operation)
- Temperature shock

Humidity:

- Constant and cyclic humidity testing

Solar Radiation:

- UV exposure testing at high intensity

Salt Fog/Salt Spray:

- Corrosion resistance testing

Rain & Water:

- Rain (blowing and dripping)

Dust & Sand:

- Particle resistance

Vibration & Shock:

- Mechanical stress testing

ISO 4892-2 Solar Radiation

This standard defines laboratory methods for exposing plastics and other materials to xenon arc lamps to simulate the effects of natural sunlight (UV radiation and visible light).

What it Tests

- Colour fading/change
- Gloss loss
- Surface cracking
- Material degradation
- Physical property changes

ISO 12944-6 Corrosion Resistance

This standard outlines laboratory test methods for assessing the performance of protective paint systems against corrosion in various atmospheric environments.

Category	Exterior Environment	Interior Environment
C1 (Very Low)	Not Applicable	Heated buildings with clean atmospheres (e.g. offices, shops, schools, hotels)
C2 (Low)	Atmospheres with low pollution (mostly rural areas)	Unheated buildings where condensation can occur (e.g. depots, sports halls)
C3 (Medium)	Urban/industrial atmospheres with moderate SO ₂ pollution; coastal areas with low salinity	Production rooms with high humidity and some pollution (e.g. food plants, laundries)
C4 (High)	Industrial/coastal areas with moderate salinity	Chemical plants, swimming pools, coastal shipyards