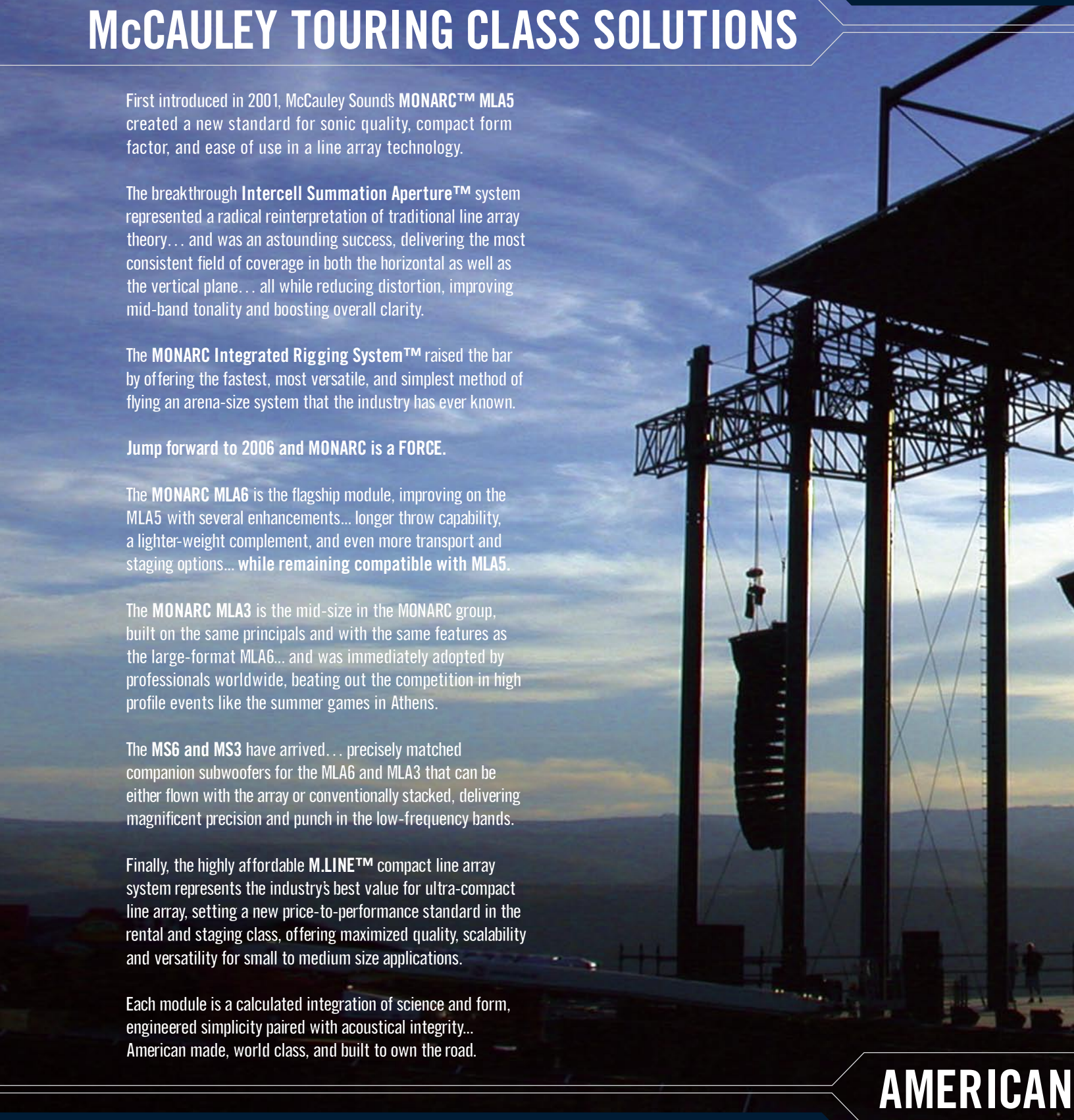
McCAULEY SOUND INC. | TOURING CLASS LINE ARRAY

McCAULEY TOURING CLASS SOLUTIONS



First introduced in 2001, McCauley Sound's **MONARC™ MLA5** created a new standard for sonic quality, compact form factor, and ease of use in a line array technology.

The breakthrough **Intercell Summation Aperture™** system represented a radical reinterpretation of traditional line array theory… and was an astounding success, delivering the most consistent field of coverage in both the horizontal as well as the vertical plane… all while reducing distortion, improving mid-band tonality and boosting overall clarity.

The **MONARC Integrated Rigging System™** raised the bar by offering the fastest, most versatile, and simplest method of flying an arena-size system that the industry has ever known.

Jump forward to 2006 and MONARC is a FORCE.

The **MONARC MLA6** is the flagship module, improving on the MLA5 with several enhancements... longer throw capability, a lighter-weight complement, and even more transport and staging options... **while remaining compatible with MLA5.**

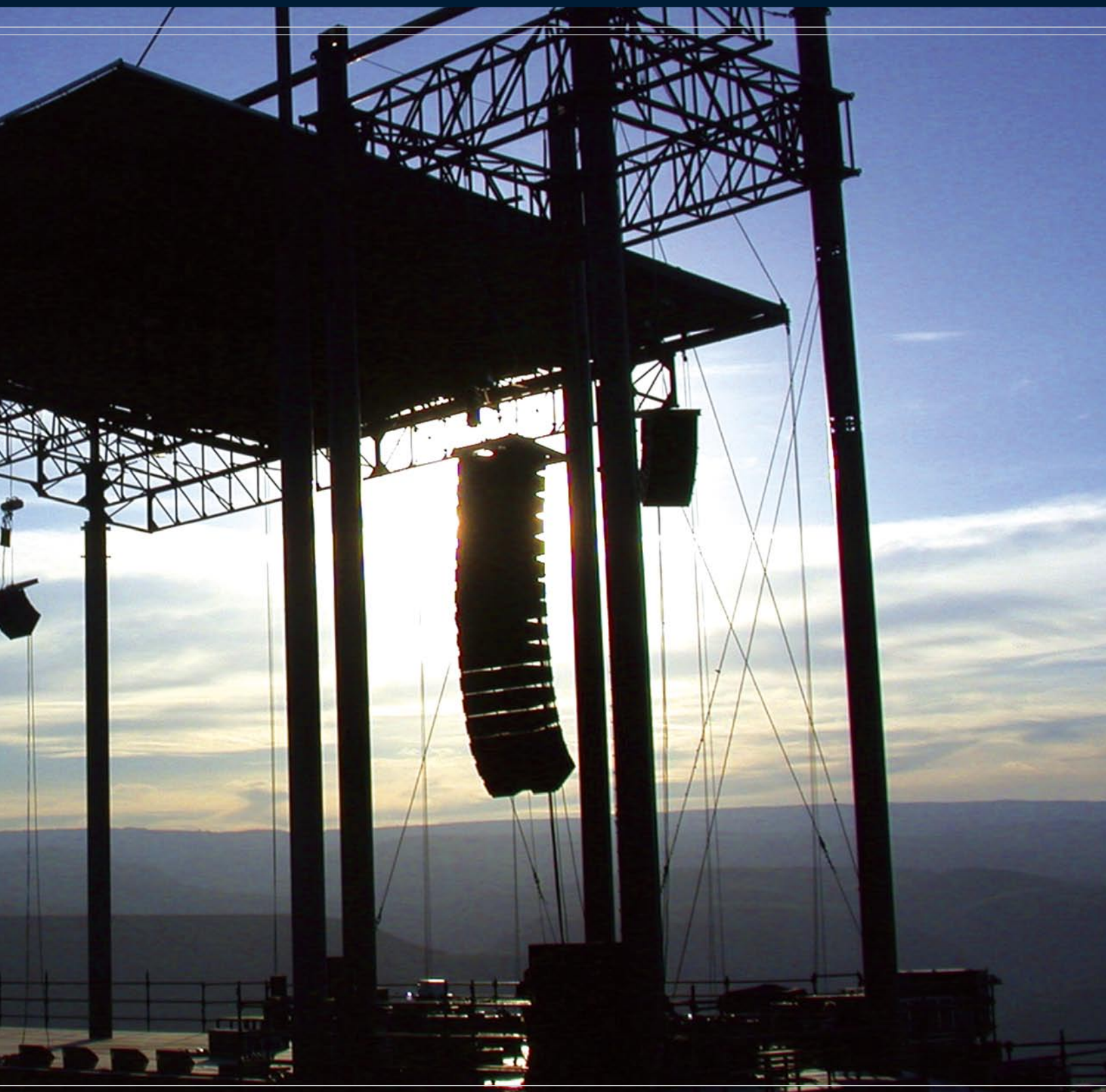
The **MONARC MLA3** is the mid-size in the MONARC group, built on the same principals and with the same features as the large-format MLA6... and was immediately adopted by professionals worldwide, beating out the competition in high profile events like the summer games in Athens.

The **MS6 and MS3** have arrived… precisely matched companion subwoofers for the MLA6 and MLA3 that can be either flown with the array or conventionally stacked, delivering magnificent precision and punch in the low-frequency bands.

Finally, the highly affordable **M.LINE™** compact line array system represents the industry's best value for ultra-compact line array, setting a new price-to-performance standard in the rental and staging class, offering maximized quality, scalability and versatility for small to medium size applications.

Each module is a calculated integration of science and form, engineered simplicity paired with acoustical integrity... American made, world class, and built to own the road.

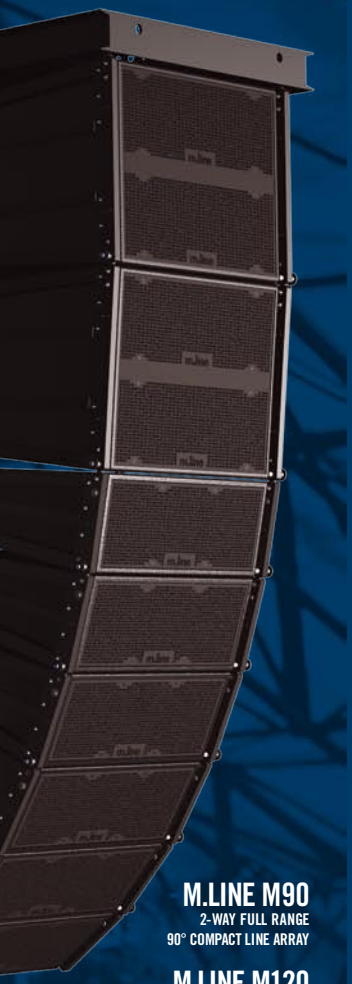
AMERICAN



MADE, WORLD CLASS, AND BUILT TO OWN THE ROAD.

FEATURES AND ADVANCES

MONARC MLA6, MS6, MLA3, MS3 | M.LINE M90, M120, MS1



M.LINE M90
2-WAY FULL RANGE
90° COMPACT LINE ARRAY

M.LINE M120
2-WAY FULL RANGE
120° COMPACT LINE ARRAY

M.LINE MS1
DUAL 15" LF MODULE
COMPANION TO M90, M120

MONARC MLA3
3-WAY FULL RANGE
MIDSIZE LINE ARRAY

MONARC MS3
QUAD 15" SUBWOOFER
COMPANION TO MLA3

MONARC MLA6
3-WAY FULL RANGE
LARGE FORMAT LINE ARRAY

MONARC MS6
DUAL 18" SUBWOOFER
COMPANION TO MLA6

SEAMLESS COVERAGE

Both the MONARC MLA6 and the MONARC MLA3 feature an InterCell Summation Aperture. Recognizable as the "V" shaped recess in the center of the cell, this technology effectively combines the array's mid and high-frequency energy output, creating a distortion-free wavefront. Virtually free of lobing and comb-filtering artifacts, output from a MONARC array will remain vertically uniform and continuous, regardless of splay angle.

EFFORTLESS RIGGING

MONARC and M.LINE's **Integrated Rigging System** is so efficient and easy to use, that once on deck, a complete MONARC or M.LINE array can be interconnected and raised, by a single person, in under ten minutes! This system requires NO TOOLS, has NO LOOSE PARTS and requires NO HAND LIFTING to rig and fly.

HEAVY DUTY TRANSDUCERS

MONARC modules avoid the durability and maintenance issues common to other line array designs by implementing a special class of high power-handling, high-performance McCauley componentry. With features like field-serviceable basket assemblies, multiple-spider suspensions, and extremely heat tolerant Inwound 4" voice coils, MONARC and M.LINE modules define TOUGH.

TIGHT HORIZONTAL PATTERN CONTROL

Planning coverage has never been easier. MONARC MLA6 and MLA3 both offer excellent horizontal pattern control, creating completely uniform wavefront that is measurably coherent across the entire usable bandwidth, and exhibits nearly NO drop off out to 90° of the horizontal plane… yet is over -24dB down at 100°. This highly predictable, near-perfect horizontal coverage makes the MONARC family simple to design coverage with. M.LINE modules feature the same reliable pattern control, but are available in both 90° and 120° versions.

MLA6 COMPATIBLE WITH MONARC MLA5

While the MLA6 is an advancement of the MONARC line array technology, the MLA6 remains 100% compatible with 2001's MONARC MLA5. Existing MLA5 owners and new MLA6 owners can still cross-rent and share inventories... even combine MLA5 and MLA6 within the same array column.

DISTORTION-FREE MIDRANGE

Full range MONARC cells employ proprietary HX32™ Carbon-Honeycomb Nomex Composite cone drivers to substantially improve midrange tonality and clarity. Specifically engineered for the MONARC family of line array, this unique technology practically eliminates harmonic distortion and mid-band phase cancellations… delivering the most natural midrange response of any large format P.A.

LIGHTWEIGHT NEODYMIUM COMPLEMENT

MONARC cells now feature neodymium magnetics, a material which dramatically reduces the weight of each component. The large-format MLA6 now weighs in at 199lbs, while retaining all the power and punch that the MLA5 was famous for.

POWERFUL LOW FREQUENCY DESIGNS

The MLA6, MLA3, and MS1's high-impact volumetrically-loaded LF section increases LF efficiency and reduces dependency on subwoofers. By extending the usable low frequency response to below 45Hz, in certain applications, the need for subwoofers is eliminated altogether.

ULTRA-LOW PROFILE

MONARC technology is designed to be ultra-compact and stay out of sight lines. With more line array modules able to be flown or stacked in less vertical space... inch for inch, module, for module, MONARC series systems will demonstrate measurably superior SPL, clarity and intelligibility.

FLY OR STACK OFF THE SAME HARDWARE

MONARC and M.LINE ultra-lightweight fly bumpers double as the base for groundstacking applications. Also, by attaching a castor accessory, these hanging / stacking frames can be quickly converted into wheel-carts, giving operators the ability to roll in preconfigured groups.

EXTREME WEATHERPROOFING

MONARC and M.LINE cells are completely weatherproofed, using McCauley's exclusive PROCOAT™ elastomeric treatment. This finishing process makes McCauley's line arrays practically invulnerable to rain, snow, extreme temperatures, and high-humidity conditions... while protecting from common road-related damage, scrapes and scuffs.

INSPIRED ENGINEERING, RADICAL DESIGN

Conventional line-array designs rely on physical waveguides in order to create the mid and high band wavefront, at the expense of introducing a significant amount of distortion. Because high-frequency waveforms are very fragile, the same boundary edges that were supposed to guide high frequencies, are also causing the waves to diffract, altering arrival times, translating into measurable loss of intelligibility and irregularities in coverage.

McCauley Sound has taken a radically different approach. The MONARC family of line array modules are engineered so the mid and high-frequency elements would inter-operate as their own virtual waveguide, removing the physical boundaries that diffract and misdirect energy, as a result creating a completely undisrupted, single-source wavefront. At the heart of this propagation phenomenon are two key technologies: the **InterCell Summation Aperture™** and **Adaptive Density Inverse Flat Lens™**.

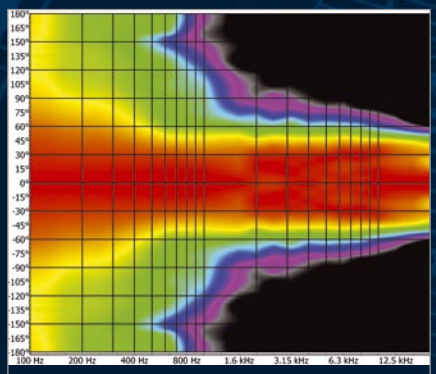
BENEFITS OF TEMPORAL ALIGNMENT

The most overlooked element in large format line array design has been the propagation time of a wave across the emissive surface with respect to creating a unified wavefront. The **Adaptive Density Inverse Flat Lens** is designed to both combine output from multiple HF drivers and remove temporal variations from the HF energy between the time it is generated at the HF diaphragm and when it leaves the lens mouth. This progressive delay matrix corrects for curvature inherent in the HF wavefront, flattening and aligning HF output before its integration with the mid band energy, prior to the cell-to-cell summation phase. Because waveforms are now relatively flat with regards to time, the HF output couples seamlessly with output from adjoining MONARC cells. As a side benefit, beyond grooming HF energy for vertical summation, the Adaptive Density Inverse Flat Lens also acts to focus the HF energy, increasing the overall sensitivity of the array.

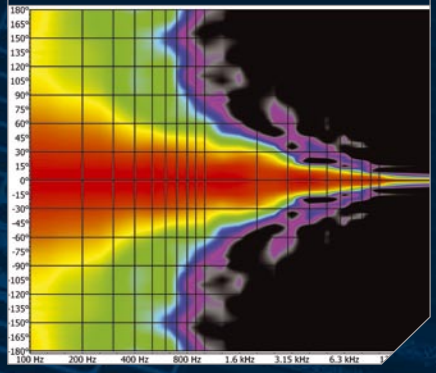
UNDISRUPTED VERTICAL WAVEFRONTS

The primary function of the **InterCell Summation Aperture** is to manage the dispersion of the mid and high-frequency energy once it leaves the Adaptive Density Inverse Flat Lens. Easily recognizable as the "V" shaped section in the center of the cell, the ICS Aperture is able to achieve distortion free mid and high-coupling for two key reasons:

First, MONARC cells will always operate at a fixed frontal spacing, regardless of splay angle. For this reason, McCauley Sound designed the InterCell Summation Aperture to extend vertically from the top to the bottom of each cell, without a physical baffle to interrupt energy from cell to cell. When assembled, this creates an uninterrupted vertical high-frequency energy source which traverses the entire height of the array. Since the multiple diffraction edges of an extended waveguide are not present to cause distortion, and the wavefront is not interrupted by large gaps between enclosures, the high-frequency energy now leaves the array undisrupted, as a continuous line source. By placing intercept points for the already flattened HF waveforms outside of a physical boundary, and without using unnecessary physical devices to guide this energy, the MONARC series creates a measurably superior and highly consistent wavefront. This is the first key to the series' exceptional clarity and intelligibility.



Horizontal directivity (shown above) varies by frequency. The absence of any large variations demonstrate that the frequency response does not shift when listening within the +/- 45° horizontal coverage area. Outside of the +/- 45° cone, response drops away sharply, clearly defining a horizontal pattern. Equally important, while directivity broadens at lower frequencies, there is still significant pattern control evident as low as 100Hz, yet as high as 20kHz, response is still within a few dB overall. (Vertical coverage is shown below)

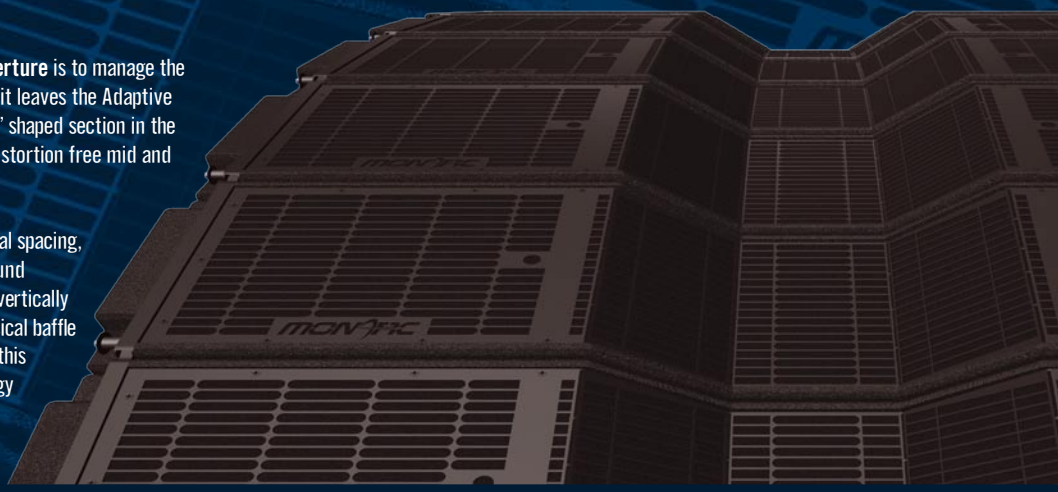


INTEGRATION OF ELEMENTS

The other key to achieving distortion-free propagation lies in the placement and design of the midrange elements. In many competitor's designs, the uneven surface topography of the midrange elements will agitate the passing high-frequency waveforms, causing further distortions. Within the ICS Aperture the quantity and intensity of these destructive perturbations are greatly reduced because the cone structure of the HX32 midrange drivers has been physically contoured to be invisible to the passing HF energy. Again, unnecessary HF diffractions have been minimized, boosting the clarity of the performance.

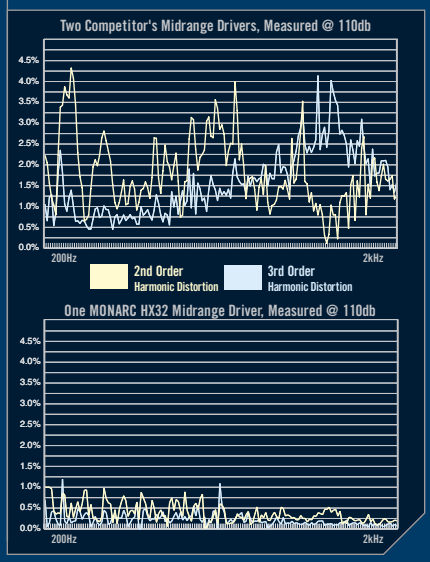
Once two HX32 midrange drivers are symmetrically arranged within the ICS Aperture, they form both a solid and a kinetic boundary plane. This plane will act as a virtual waveguide for HF energy exiting the Adaptive Density Inverse Flat Lens, while establishing the alignment intercept point for coupling with the mid band energy. Therefore, without the interference of a physical waveguide, and no irregular protrusions to disturb the passing waveforms, the ICS Aperture becomes the ideal environment for guiding and coupling the mid and HF-energies into a vertically continuous, single-source, wide-band wavefront.

A uniform arc of integrated mid and high-frequency energy, undisrupted and vertically continuous across the length of the array, is the very definition of MONARC.



A MIDBAND REVOLUTION

Conventional line array theory had a problem. While implementing a clustered array of smaller midrange drivers can produce the desired summation effect in the mid band, the tradeoff is a measurable amount of comb filtering, distortion and lobing artifacts. Worse still, these fragile "hi-fi" grade drivers are also highly susceptible to failure, forcing crews on the road to service components with alarming frequency.



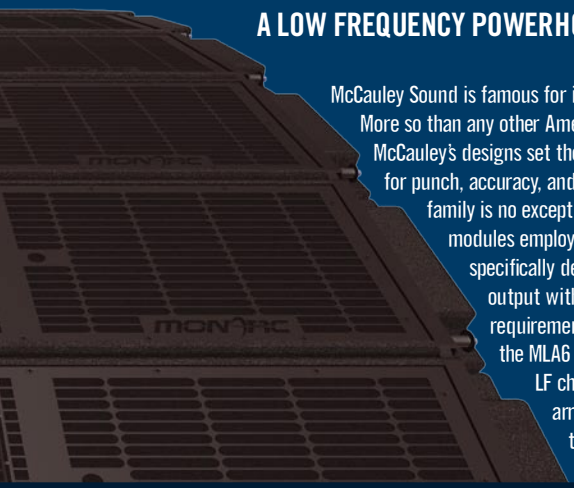
On the other hand, switching to a standard large-format driver instead was not a solution either... they do not exhibit the fidelity and responsiveness needed, even if they were significantly tougher and more durable than their miniature counterparts.

From this research, **HX32** was born. Specifically developed for MONARC systems, the HX32 midrange driver is a unique transducer design that overcomes the limitations of typical large-format drivers by significantly reducing harmonic distortion and increasing responsiveness... while retaining the durability and power handling advantage that a true 4" voice-coil, heavy duty driver provides.

HX32 midrange drivers feature a contoured, concave cone structure, constructed of a proprietary Carbon-Nomex Honeycomb Composite. This material is ten times stronger than paper, half the weight of pure carbon-fiber and is a third the weight of a pure Kevlar cone. This breakthrough structure provides HX32 drivers with the highest strength to weight ratio of any midrange driver in pro audio.

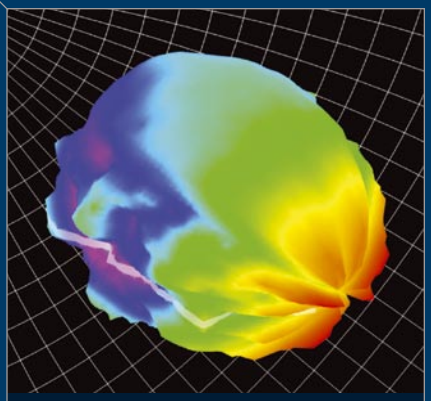
As a result, this lightweight, extremely responsive surface material allows the HX32 to reproduce mid-band energy with incredible clarity and tonal detail at substantially higher SPLs and with much lower distortion than could ever be achieved with any conventional midrange driver. MONARC's HX32 midrange drivers are tough enough to survive heavy touring, yet are responsive and agile enough to also dramatically improve critical mid-band performance. As an ingeniously integrated element of the Intercell Summation Aperture, HX32 drivers are an important contributor to the MLA6 and MLA3's excellent coverage characteristics.

A LOW FREQUENCY POWERHOUSE



McCauley Sound is famous for its legendary drivers. More so than any other American manufacturer, Tom McCauley's designs set the standard in the industry for punch, accuracy, and durability. The MONARC family is no exception, and all four MONARC modules employ low frequency transducers specifically designed to maximize LF output within that cell's performance requirements. Both the MLA3 and the MLA6 feature a volumetric LF chamber symmetrically arranged on either side of the ICS Aperture. This LF chamber is impedance-balanced to boost output, which creates a tonally solid low-frequency performance that demonstrates some directivity down to 100Hz, and is usable below 45Hz.

The MS6 subwoofer employs it's own unique extended LF transducers to create punchy and startlingly accurate sub-bass energy, and performs well in both flown and stacked applications.



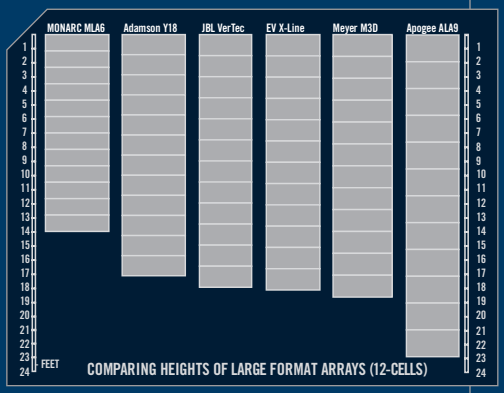
No need to guess. McCauley Sound has developed sophisticated analysis software to help the engineering group capture and visualize fresh performance data when prototyping new systems or researching new ideas. This is one way how McCauley Sound assures that it's line array products perform exactly as engineered, precisely as designed.

NEODYMIUM MAGNETICS

New to the family in 2004 is the introduction of neodymium magnet structures for the internal transducer complement. McCauley Sound's unique magnet design focuses more energy into the gap, providing a more efficient driver complement overall, while also trimming a substantial amount of weight from each cell. Now even the large format MONARC MLA6 weighs less than 200lbs!

ULTRA-LOW PROFILE DESIGN

The MLA6 and the MLA3 both feature a volumetrically-loaded LF section, rather than a direct radiating design, giving each cell an unusually low vertical profile. The obvious benefit of a lower height per cell is that more cells can be "packed" into less vertical space, and will present less visual obstruction, especially important when low trim heights are a concern or when stacking from the stage. This low profile geometry is also one key to MONARC's ability to seamlessly integrate full range energy, as the distance between high and mid-range devices is minimized. As a result, MONARC cells consistently excel in terms of in both clarity and SPL, and also demonstrate far less "blow back" or stage interference behind the array.



When tour operators have total confidence in their systems horizontal and vertical coverage, life gets a lot easier on show day. The MONARC MLA6 and MLA3's highly predictable dispersion characteristics allow operators to design arrays which will consistently deliver world-class quality audio to every seat in the house.

ENGINEERED SIMPLICITY:
THE MONARC INTEGRATED RIGGING SYSTEM

Massive arrays fully moved, assembled and raised into the air in minutes. No Lifting. No Tools. No loose parts. No stress. No strain. No hassle. 2001's MONARC MLA5 changed the way people think about load-in and this trend is continued in the latest generation of MONARC and M.LINE series enclosures.

Completely contained and stored within the array, the MONARC Integrated Rigging System is the only line array suspension technology ever created that allows requires NO tools to assemble, has NO loose pieces to lose, and never requires any LIFTING, JOCKEYING or STRAIN to fly! From unloading and moving, to hoisting the array, no other rigging scheme can match the efficiency and elegance of the this system. Now, rigging is so simple and efficient that, once on deck, two crew people could have a 16 per side rig fully linked together and up in the air in under ten minutes.

M.LINE M90

At the same time, the MONARC Integrated Rigging System is incredibly flexible. Arrays can form fixed flown arrays, straight or j-curved ground stacks, and even wheeled, preconfigured stacks… all off the same hardware. Regardless of the array curvature, a MONARC or M.LINE array never requires any tethering, even when configured for extreme down fill or up fill / balcony coverage.

Because MONARC and M.LINE systems can create radically curved arrays without sacrificing sonic quality, the need for separate down fill or front fill systems is minimized. Flying from its standard bumper, operators can j-curve to angles as radical as straight down at the deck... without tethering. When additional, separate down fill systems are no longer needed to get front-row coverage, FOH engineers benefit from boosted gain before feedback ratios from the mains, with less stage interference, delivering the highest quality listening experience for the audience... while owners enjoy the advantage of a highly streamlined and versatile inventory.

Flying is only half the story. McCauley Sound understands that not every gig is a huge arena or shed… and many times users need to groundstack the system, especially in older theaters, or perhaps they would rather simply roll-in for a corporate event. MONARC and M.LINE systems are built to ground stack natively, right off the fly bumper, with no additional hardware needed. In fact, not only will cells ground stack straight up and down, but users can take advantage of this rigging systems flexibility to create curved or leaning arrays from the ground! This means operators can stack from the stage and still get coverage to the upper balcony! Specially designed castor-wheel attachments are also available, which provides even more convenience… ground stacks can be converted into carts ahead of time and then rolled and parked into position.

Whatever the case, MONARC and M.LINE systems never sit in a warehouse on show-night, they adapt to the requirements of the gig and they EARN.

Sheer speed, unmatched flexibility, total reliability, and the overall engineered simplicity of the MONARC Integrated Rigging Systems makes McCauley's family of line array products the most versatile and effortless system on the market… ideal solutions for modern touring applications of any scale.

SPEED. VERSATILITY. EASE.

HOW TO RAISE 16 CELLS IN UNDER 10 MINUTES... BY YOURSELF

The MONARC Integrated Rigging System is essentially comprised of two different mechanisms... the front-side tongues and the back-side "spine". The front-side of the system consists of two spring-loaded, high-tensile steel tongues, located on either side of the cell. These tongues are conveniently stored within the rigging system itself between uses. After both of the front quick release pins are removed, the tongues spring out from their protective housing and can be quickly and easily inserted and secured into the next cell, using the same quick-release rigging pin that was just removed. Pull the pin, connect the cells and secure again with the same pin. At 5 seconds per enclosure, per side, you are up 2:40 minutes (160 seconds) to interconnect the entire rig... that is, if you are by yourself.

Once each cell has been connected to it's neighbor, all of the cells in the array are now locked together at a fixed front-side spacing of just under 1/4". Note that even though the are locked together at this fixed spacing, the connection between cells is hinged, which allows them to pivot vertically in either direction.

The next step truly illustrates the beauty and simplicity of the MONARC system. Once the front-side of each cell in the array have been interconnected, and the top cell has been secured to the bumper, the hoist operator lifts the array approximately 5-6 feet off the deck, bringing as many as ten cells up in the air, but still within easy reach of the crew. This should take about one minute, maybe two. Let's call it two.

Hoisting the system off the deck causes the back sides of the raised MONARC cells to collapse together. The crew (of one... remember you can do this by yourself) now moves to the backside of the raised cells and removes the quick-release rigging pins from the rear interlink channel, which frees a swinging hinged arm from its home position within the system's spine. The arm is then swung upward and placed into the above cell's interlink channel.

This step is where you set the splay angle for each cell. Each channel has a series of pinning receptacles, each receptacle representing a possible splay angle. The pins are inserted into the receptacle that represents the desired splay angle desired. (a quick reference chart is located on the rigging itself to keep it simple.)

raise the array, collapse the spine:
+ 2.0 MIN

Securing the pin secures the swinging arm and establishes the connection along the spine between the two adjoining cells. Also, castor boards are removed and set aside at this stage.

The array is lifted again, until the next group of cells collapse, and the process is repeated. Pins are removed, arms freed, the pins reinserted, and the castors are pulled. Once all the cells are interconnected and secured, as the array is hoisted, the cells expand until they each reach their specified splay angle. So at 9 seconds per enclosure, per side, you have taken another 4:48 minutes to complete this second step. Add then another two minutes to pull the castor boards, and you are up to 9:20 minutes to set up and fly 16 cells... by yourself. Without tools. Without straining a single muscle. Under ten minutes... **the very definition of engineered simplicity.**

SWEATING THE SMALL STUFF.

The fly bumper system is an important key to MONARC and M.LINE's versatility... this single piece of hardware acts as the base for flown, stacked and rolling configurations. New in 2004, every bumper is crafted from a lightweight aircraft grade aluminum, reducing the weight of every bumper to well under 100lbs... while retaining all the strength of steel.

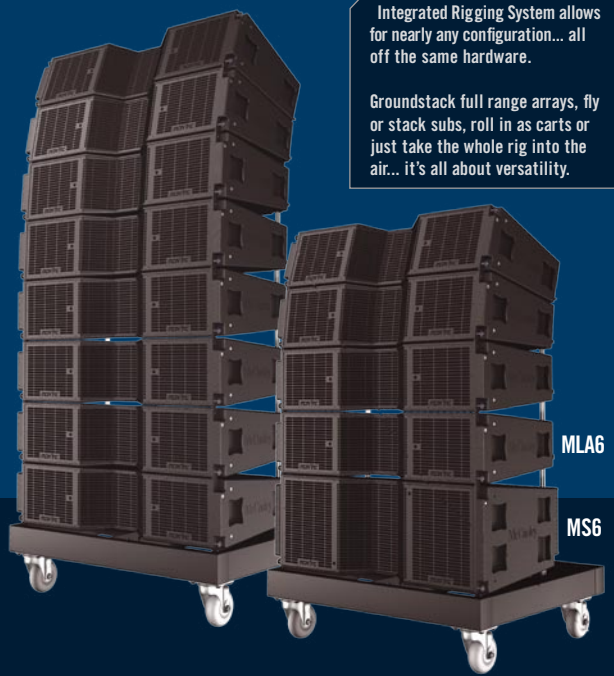
Also new... every system now features a restyled quick-release grill, especially engineered to provide rugged protection while eliminating acoustical interference. These grills use built-in cam-lock attachment points to make accessing componentry easy... and you never have to look around for those missing screws.

Redesigned for 2004, each cell comes with a rugged, zero-effort castor board system which locks and releases easily. Safety is important, so a pin-locking mechanism assures that castor boards never come loose or fall away. Also, once pulled from the array, these boards will interlock and stack, so getting them organized out of everyone's way is simple.

Weather can be a problem... for the other guys. Every MONARC and M.LINE cell is sealed in McCauley's exclusive PROCOAT elastomeric treatment. This finishing process makes cells practically invulnerable to moisture and temperature, while protecting them from common road damage, scrapes and scuffs. Additionally, all exposed hardware is made from high quality stainless steel and aircraft-grade aluminum, powder-coated for extra protection from the bumps and bruises of the road.

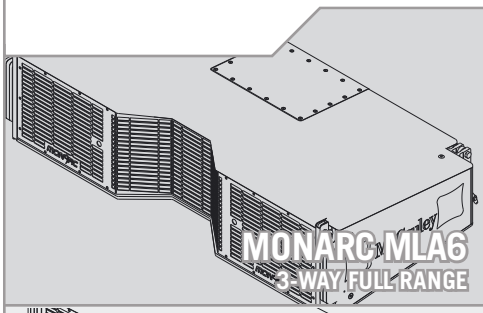
Your choice. The MONARC Integrated Rigging System allows for nearly any configuration... all off the same hardware.

Groundstack full range arrays, fly or stack subs, roll in as carts or just take the whole rig into the air... it's all about versatility.



MLA6

MS6



MONARC MLA6
3-WAY FULL RANGE

Nominal Coverage:
Vertical: Array Dependent
Horizontal: 90 degrees (200 Hz - 17 kHz)

Frequency Response:
45 Hz - 17 kHz (+/- 3 dB)

Frequency Range:
40 Hz - 18 kHz (-10 dB)

Maximum Peak SPL: (calculated)

LF	143.0	dB SPL
MF	139.0	dB SPL
HF	146.1	dB SPL

Sensitivity:

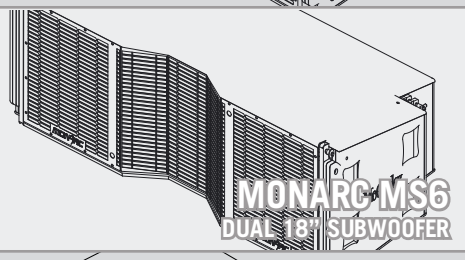
LF	104 dB (2.83 volts 1 meter)
MF	104 dB (2.83 volts 1 meter)
HF	115 dB (2.83 volts 1 meter)

Power Capacity:

LF1	1000 watts AES
LF2	1000 watts AES
MF	800 watts AES
HF	320 watts AES

Impedance:

LF	8 ohms x2
MF	8 ohms
HF	8 ohms



MONARC MS6
DUAL 18" SUBWOOFER

Frequency Response:
54 Hz - 225 Hz (+/3 dB)

Frequency Range:
35 Hz - 225 Hz (-10 dB)

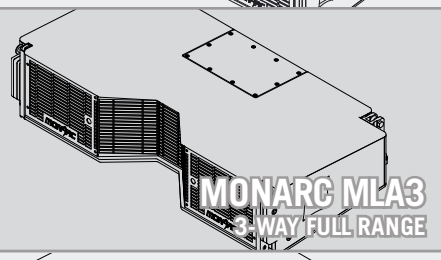
Maximum Peak SPL: (calculated)
LF 143.0 dB SPL

Sensitivity:
102 dB (2.00 volts -1 meter, half space)

Power Capacity:

LF1	1800 watts AES
LF2	1800 watts AES

Impedance:
4 ohms x2



MONARC MLA3
3-WAY FULL RANGE

Nominal Coverage:
Vertical: Array Dependent
Horizontal: 90 degrees (200 Hz - 17 kHz)

Frequency Response:
60 Hz - 17 kHz (+/3 dB)

Frequency Range:
50 Hz - 18 kHz (-10 dB)

Maximum Peak SPL: (calculated)

LF	135.8	dB SPL
MF	136.0	dB SPL
HF	138.0	dB SPL

Sensitivity:

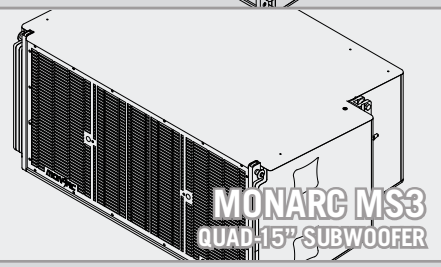
LF	99 dB (2.83 volts 1 meter)
MF	101 dB (2.83 volts 1 meter)
HF	110 dB (2.83 volts 1 meter)

Power Capacity:

LF1	600 watts AES
LF2	600 watts AES
MF	800 watts AES
HF	200 watts AES

Impedance:

LF	8 ohms x2
MF	8 ohms
HF	8 ohms



MONARC MS3
QUAD 15" SUBWOOFER

Frequency Response:
54 Hz - 225 Hz (+/3 dB)

Frequency Range:
35 Hz - 275 Hz (-10 dB)

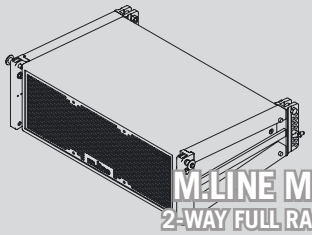
Maximum Peak SPL: (calculated)
LF 143.5 dB SPL

Sensitivity:
102 dB (2.00 volts -1 meter, half space)

Power Capacity:

LF1	900 watts AES
LF2	900 watts AES
LF3	900 watts AES
LF4	900 watts AES

Impedance:
8 ohms x4



M-LINE M90
2-WAY FULL RANGE

Nominal Coverage:
Vertical: Array Dependent
Horizontal: 90 degrees (200 Hz - 17 kHz)

Frequency Response:
60 Hz - 18 kHz (+/3 dB)

Frequency Range:
55 Hz - 19 kHz (-10 dB)

Maximum Peak SPL: (calculated)

LF	132.0	dB SPL
HF	132.8	dB SPL

Sensitivity:

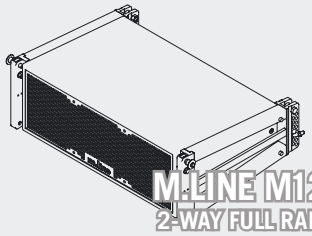
LF	97 dB (2.83 volts 1 meter)
HF	106 dB (2.83 volts 1 meter)

Power Capacity:

LF	800 watts AES
HF	120 watts AES

Impedance:

LF	16 ohms
HF	16 ohms



M-LINE M120
2-WAY FULL RANGE

Nominal Coverage:
Vertical: Array Dependent
Horizontal: 120 degrees (200 Hz - 17 kHz)

Frequency Response:
60 Hz - 18 kHz (+/3 dB)

Frequency Range:
55 Hz - 19 kHz (-10 dB)

Maximum Peak SPL: (calculated)

LF	132.0	dB SPL
HF	131.8	dB SPL

Sensitivity:

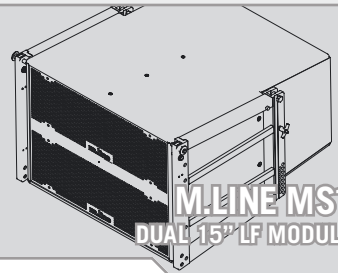
LF	97 dB (2.83 volts 1 meter)
HF	105 dB (2.83 volts 1 meter)

Power Capacity:

LF	800 watts AES
HF	120 watts AES

Impedance:

LF	16 ohms
HF	16 ohms



M-LINE MS1
DUAL 15" LF MODULE

Frequency Response:
35 Hz - 250 Hz (+/3 dB)

Frequency Range:
30 Hz - 350 Hz (-10 dB)

Maximum Peak SPL: (calculated)
LF 139.0 dB SPL

Sensitivity:
99 dB (2.00 volts -1 meter, half space)

Power Capacity:

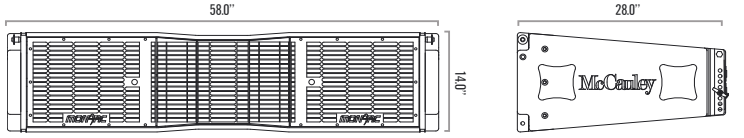
LF1	800 watts AES
LF2	800 watts AES

Impedance:
LF 8 ohms x2

Transducers:

LF	2x 15" NDYM LF	
MF	2x 10" HX32 NDYM Cone Drivers	
HF	2x 3" Diaphragm NYDM Drivers	
Connectors:	Dual NL8 -	
1+/1-	LF1	8 ohms
2+/2-	LF2	8 ohms
3+/3-	MF	8 ohms
4+/4-	HF	8 ohms

Weight	199lbs / 90 kgs
Construction	5/8" 12-ply Void Free Finland Birch
Finish	ProCoat Elastomeric Weatherproof
Design Factor	20 @ 7:1
Vertical Splay	0° - 10° in 1.6° increments
Suspension	MONARC Integrated Rigging System



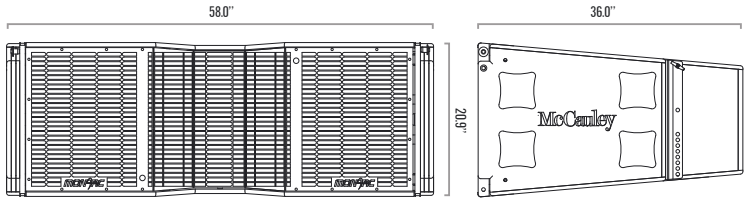
Transducers:

Quad 15" High Performance LF Drivers

Connectors: Dual NL4 -

1+/1-	LF1	4 ohms
2+/2-	LF2	4 ohms

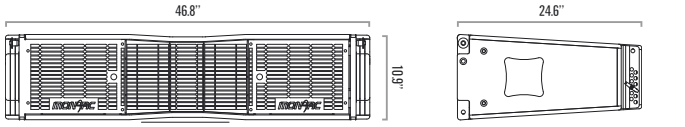
Weight	215lbs / 97 kgs
Construction	5/8" 12-ply Void Free Finland Birch
Finish	ProCoat Elastomeric Weatherproof
Design Factor	16 @ 7:1
Vertical Splay	0° - 10° in 1.6° increments
Suspension	MONARC Integrated Rigging System



Transducers:

LF	2x 12" NDYM LF	
MF	2x 8" HX32 Cone Drivers	
HF	2x 2" Diaphragm Drivers	
Connectors:	Dual NL8 -	
1+/1-	LF1	8 ohms
2+/2-	LF2	8 ohms
3+/3-	MF	8 ohms
4+/4-	HF	8 ohms

Weight	140lbs / 63 kgs
Construction	5/8" 12-ply Void Free Finland Birch
Finish	ProCoat Elastomeric Weatherproof
Design Factor	20 @ 7:1
Vertical Splay	0° - 7° in 1.0° increments
Suspension	MONARC Integrated Rigging System



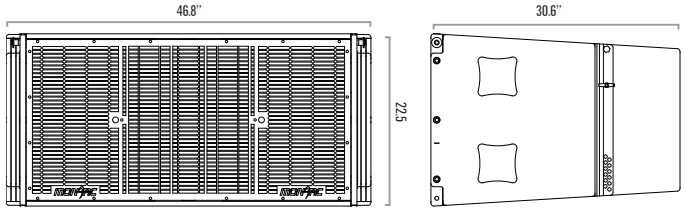
Transducers:

Quad 15" Extended LF Drivers

Connectors: Dual NL 8 -

1+/1-	LF1	8 ohms
2+/2-	LF2	8 ohms
3+/3-	LF3	8 ohms
4+/4-	LF4	8 ohms

Weight	215lbs / 97 kgs
Construction	5/8" 12-ply Void Free Finland Birch
Finish	ProCoat Elastomeric Weatherproof
Design Factor	16 @ 7:1
Vertical Splay	0° - 7° in 1.0° increments
Suspension	MONARC Integrated Rigging System

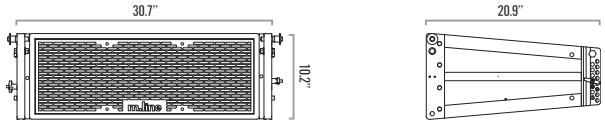


Transducers:

LF	2x 8" LF Cone Drivers	
HF	1x 2" Diaphragm Drivers	
Connectors:	Dual NL4 -	
1+/1-	LF	16 ohms
2+/2-	HF	16 ohms

(3-Way Biamplified via Mechanical Crossover)

Weight	72lbs / 33kgs
Construction	5/8" 12-ply Void Free Finland Birch
Finish	ProCoat Elastomeric Weatherproof
Design Factor	16 @ 7:1
Vertical Splay	0° - 10° in 1.0° increments
Suspension	MONARC Integrated Rigging System

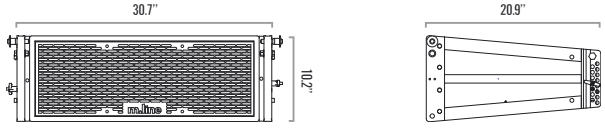


Transducers:

LF	2x 8" LF Cone Drivers	
HF	1x 2" Diaphragm Drivers	
Connectors:	Dual NL4 -	
1+/1-	LF	16 ohms
2+/2-	HF	16 ohms

(3-Way Biamplified via Mechanical Crossover)

Weight	72lbs / 33kgs
Construction	5/8" 12-ply Void Free Finland Birch
Finish	ProCoat Elastomeric Weatherproof
Design Factor	16 @ 7:1
Vertical Splay	0° - 10° in 1.0° increments
Suspension	MONARC Integrated Rigging System



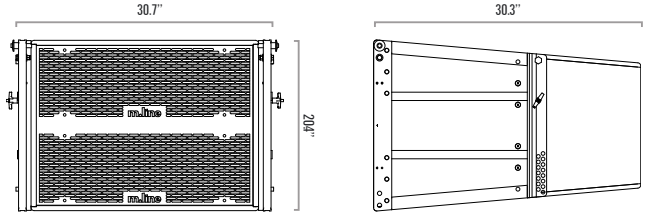
Transducers:

Dual 15" Extended LF Drivers

Connectors: Dual NL4 -

1+/1-	LF1	8 ohms
2+/2-	LF2	8 ohms

Weight	145lbs / 66 kgs
Construction	5/8" 12-ply Void Free Finland Birch
Finish	ProCoat Elastomeric Weatherproof
Design Factor	12 @ 7:1
Vertical Splay	0° - 10° in 1.0° increments
Suspension	MONARC Integrated Rigging System



Download the McCauley LINE ARRAY CALCULATOR software today. Plug-in .DLL files for EASE 4.x are also available now. For all updated information and software, please visit **http://www.linearray.com.**

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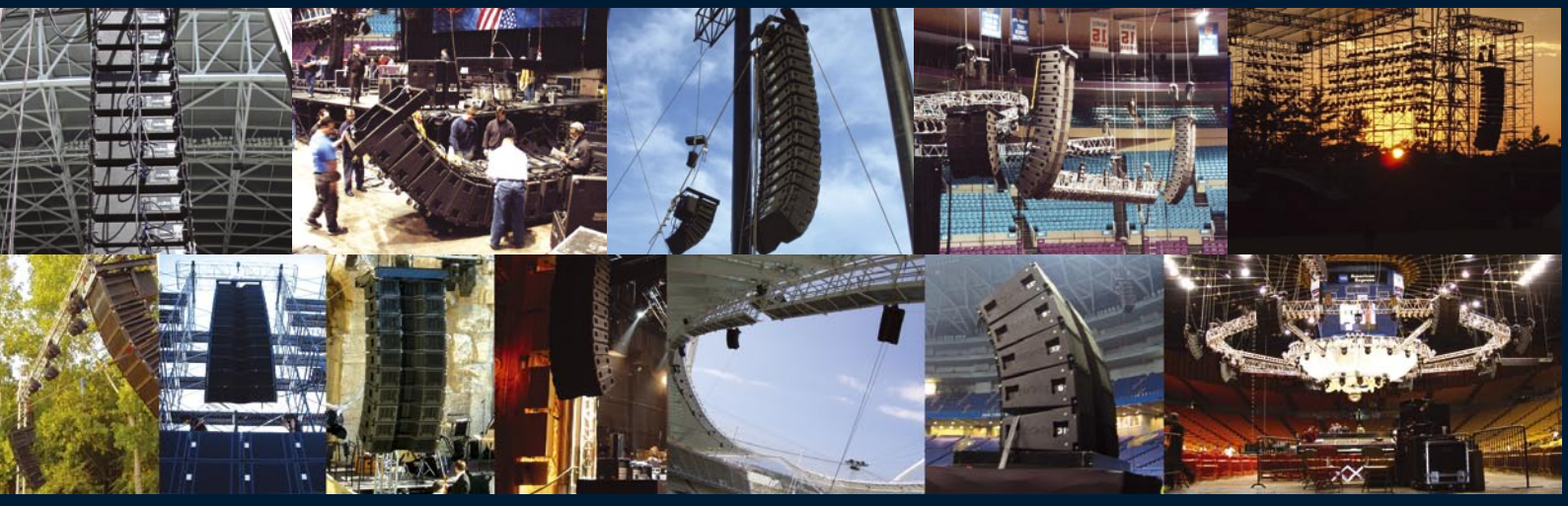

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