

CASE STUDIES

Festivals and Outdoor Events



Unite Your Audience
The Martin Audio Experience



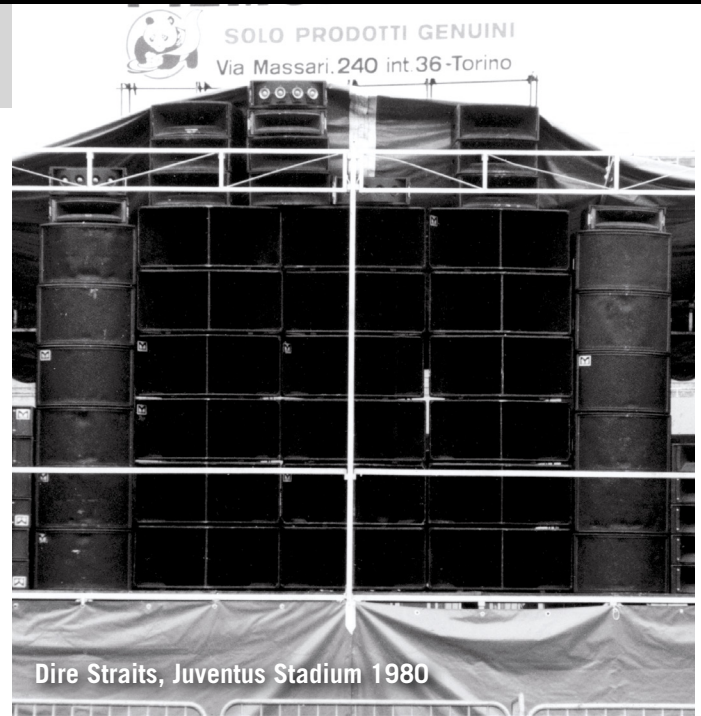


Martin Audio

At Martin Audio we believe that uniting audiences with exciting sound creates shared memories that sear into the consciousness delivering more successful tours, events and repeatedly packed venues.

We achieve this by an obsessive attention to detail on the professional sound system's acoustic performance, frequently challenging convention and involving a sophisticated mix of design, research, mathematical modelling and software engineering, to deliver dynamic, full-frequency sound right across the audience.

With over fifty years of live sound and installation expertise to our name, Martin Audio offers a wide range of premium professional loudspeakers so customers can be assured of selecting the right system for their chosen application, whether it's a small scale installation or a festival for over 150,000 people.



Festivals and Outdoor Live Events

Since the introduction of MLA, and more recently Wavefront Precision, Martin Audio and their partners have taken an increasing market share of festivals and outdoor live events. This has been because across the world, Martin Audio's leading optimisation software, Display, in conjunction with MLA and Wavefront Precision systems have proven to enhance sound levels for the audience and at the same time contain off site noise pollution, thereby dramatically reducing the number of complaints as a result.

The simple reality is that traditional line arrays are difficult to aim only where you want the sound. This can lead to some level of compromise: sound quality, audience coverage,

SPL levels, or noise complaints. Equally, competitor optimised line arrays cannot achieve the level of accuracy, control, coverage and consistency of Martin Audio solutions owing to an exacting yet flexible patented optimisation process. With this comes the confidence for the user to define and accurately deliver the sound pressure levels across the audience plane and beyond.

True to our mantra of Uniting the Audience, our line array technology in combination with Display delivers crystal clear, rich and powerful sound exactly where it needs to be and avoids where it doesn't. This makes for happier FOH engineers, performing artists, promoters, paying audience and local neighbourhood.

Glastonbury, UK

Glastonbury has become the largest green space open air festival in the world. It attracts more than 150,000 festival goers who expect pristine sound and it's where artists can make, break or further their careers. But when weather conditions can be hazardous to sound proliferation and local residents are always quick to complain, the opportunity to make everyone happy appears to be impossible. So when Martin Audio speakers were specified for the iconic Pyramid stage back in 2008, our reputation was put to the ultimate test. Fortunately, our Longbow system proved more than a match, and then in 2014, Martin Audio's groundbreaking Multi-Cellular Loudspeaker Array (MLA) system made Glastonbury history by delivering the highest sound levels to the audience without exceeding noise pollution levels beyond the perimeter.

Making its Glastonbury debut, the system deployed on the Pyramid Stage was impressive in every respect, utilising cabinets from the entire MLA™ range of loudspeakers. This comprised a total of 72 MLA for the main hangs, eight MLA Compact for stereo infill at the pit barrier and four





“GREAT CLARITY,
GREAT POWER, IT’S
BY FAR MY FAVOURITE
GLASTONBURY MIXING
EXPERIENCE SO FAR.”

Glastonbury Festival 2014, UK

delay positions of 14 MLA each. The latest addition to the range, the MLA Mini, also featured, providing stereo infill behind the FOH control structure and onstage coverage of artists’ guest viewing platforms. A massive broadside array of 38 MLX stretched across the entire width of the stage to provide sub-bass support to the entire system.

The company’s unique MLA technology enables very fine control of how each array covers its designated audience area. Acoustic cells housed within each cabinet are independently controlled by their own amplifier and DSP channel, a total of six in each MLA. This control allowed RG Jones system engineer Mark Edwards to specify exactly what SPL and frequency response was required across the audience, with the intelligent software automatically controlling the array to produce that result. This amounted to just a 6dB drop off over the 300m long audience area, with incredibly even frequency response.

“We used our proprietary computer software to figure out how to drive each cell in each array to direct sound just at the audience, and then cut it off sharply just beyond the audience to dramatically reduce noise pollution,” says Martin Audio’s R&D Director Jason Baird. “As a result, headliners including Arcade Fire and Metallica could play at 104-105dBA – this is the first time such high levels have been achieved in the history of Glastonbury as noise limits are really strict.”

More than 150,000 fans listened to headline acts Metallica, Arcade Fire, and Kasabian, as well as The 1975, Elbow, Rudimental, Nitin Sawhney, and Dolly Parton, mixed on the MLA system.

Having persuaded the festival production in 2007 that RG Jones Sound Engineering was the right company to run audio services on the Pyramid Stage, Simon Honywill said, “I have believed that MLA was the right system for the Pyramid since I first heard its extraordinary fidelity and learnt about its unique abilities. Having used it at the past two Glastonbury Abbey shows, it was natural to suggest to Dick Tee and his team that it should take its rightful place on this iconic stage. I think it has more than proved itself here – I spent a considerable amount of time out in the audience and have never heard the field covered so well. And people in the crowd were openly complimentary about the volume and clarity too.”

There was also effervescent praise from the stream of FOH engineers over the weekend.

One of the biggest draws of the weekend was Metallica, engineered by Mick Hughes: “MLA is a new system to me, a new experience. I was surprised how easy it was to get the mix I wanted out of it. When I first used it I thought ‘whoa’ there’s some serious horsepower here. It just sounded really alive; I wouldn’t shy away from using it again.”



FESTIVALS AND OUTDOOR EVENTS

One of the most enigmatic performances was from Lana Del Rey, engineered by Max Bisgrove: "In half a song, I could get out what I needed from the MLA system. Great clarity, great power, it's by far my favourite Glastonbury mixing experience so far."

Dave McEwan, FOH sound engineer for Nitin Sawhney, remarked: "Glastonbury was the first time I've used the big MLA, and I'm really impressed - great imaging, 3D, even 4D sound. You can dive in and enjoy, it's another sort of PA! I'm hoping to use this at the Royal Albert Hall for Nitin in September. I love it; it's a great product, a super sounding system, lush and hi-fi, with lots of depth."

The 1975's engineer, Jamie McLuckie, adds: "At some festivals you have to tweak the bottom end, but MLA was

nice and easy. The system sounded fat, with nice clarity and nice high end too. I couldn't really fault it."

For John Carroll, MD of RG Jones Sound Engineering, Glastonbury has been the affirmation of what he's known for some time: "Martin Audio's MLA is the next generation and there's nothing out there to match it. Our continued support from Martin Audio is second to none."

Summing up, Jason Baird says: "It was my career highlight back in 2008 working on our very first Glastonbury, but with MLA this year, it's been topped. To see the massive audiences in complete unison front to back enjoying the performances, combined with the constant stream of smiling faces at FOH, it's been the showcase for everything that Martin Audio and MLA stand for."



“ MLA IS THE NEXT GENERATION AND THERE'S NOTHING OUT THERE TO MATCH IT.

Glastonbury Festival 2014, UK

“IT’S A GREAT PA AND THE COVERAGE UP THE FIELD IS EXCELLENT.”



Glastonbury Festival 2015, UK

For 2015, a similar deployment led to similarly spectacular results. FOH engineers completing their set left the control position with a smile on their faces and many reported being delighted with the quality and power of the sound. One of the many artists that packed the Pyramid field from front to back was James Bay. His FOH engineer Rob Sadler commented, “I used the system during Rock in Rio and it was great then and it was fantastic today. I barely had to touch anything on the EQ and in very little time I got my show up and running – fantastic. Vocal clarity is so important with James Bay, I can’t really hide the vocals in the mix and with the MLA today it was clarity all the way. I can’t fault the system, no sound check and yet everything I needed on that gig was pretty much there from the off - brilliant.”

FOH engineer for Motorhead Arnie Annables was pleasantly surprised, “I wasn’t looking forward to Glastonbury because of the noise restrictions; as you can imagine we like to play loud! However from the off things went surprisingly well and I was very happy with the outcome. The system sounded good, not what I am used to, but my ears were pleased. The RG Jones guys did a fantastic job looking after me, as did everyone on stage; it’s been a real pleasure.”

Christopher Lee, FOH engineer for Pharrell Williams, had to be his usual meticulous self at Glastonbury and was pleased that the accompaniment of MLX subs was up to

the challenge. Mixing on the DiGiCo SD7 he said, “Pharrell likes the bass and mix to be identical to the record so the subs were a real surprise to me - right up there where I needed them every time. I was really impressed, not just with the configuration but also with the excellent tuning of the system.”

Huw Richards, FOH engineer for Paloma Faith, was delighted: “I’ve used the MLA system many times and I love it. There are some lovely PAs out there but I honestly can’t fault this one. Paloma is a complex sound and it’s hard to thin it out and get some space in the mix but the MLA enabled me to do this. From the get go I didn’t feel in the least bit uncomfortable, I had a great day. So often with festivals you’re transposing a mix from a completely different venue so it can feel a bit shaky at first but not with the MLA, I love it, it’s a great PA and the coverage up the field is excellent.”

Iain Slater, working with surprise act The Libertines, warmed quickly to the system, “This is the first time I’ve used MLA and it sounded impressive, I didn’t have to do any tuning at all everything I needed was there.”

From 2016 to the present day, MLA systems and increasingly Wavefront Precision systems have dominated Glastonbury Festival featuring not only on the Pyramid main stage, but also across other major stages including West Holts, The Park, Genosys, IICON and the Woodsies.

Hyde Park, London, UK

“ HEADLINERS AT HYDE PARK ARE NOW PERFORMING AT LEVELS WELL IN EXCESS OF 100DB WHICH WAS UNTHINKABLE ONLY TWO YEARS AGO.



Hyde Park 2014, UK

Historically, Hyde Park concerts have been dogged by offsite noise pollution leading to neighbourhood complaints and the need to reduce sound levels on site — meaning that the audience couldn't hear the performances. So, in 2013, new Tenants AEG/Loud Sound adopted Martin Audio's award winning Multi-Cellular Loudspeaker Array (MLA) system to help solve the problem.

Knowing that its advance level of control would be the only scientifically proven system capable of maintaining an offsite level beneath the stipulated 75dB(A) threshold, there was the equal confidence of being able to raise the levels up by as much as 6dB from previous years to between 98dB(A) to 100dB(A) within the audience area, ensuring that the entire audience was united in the experience.

These figures were verified by Ian Colville, technical manager of Capital Sound, who designed and supplied the complete audio infrastructure. He had nothing but praise for the MLA system that allows a site to be mapped and areas optimised for audience, non-audience and 'hard avoid' entirely. As a result, neighbourhood complaints were reduced to an absolute minimum.

Loud Sound had already received categorical proof of MLA's wizardry at the 2011-2013 back-to-back Underage, Field Day and Apple Cart Festivals in Hackney's Victoria Park, serviced by Capital Sound. Immersed in a densely populated neighbourhood (as with Hyde Park), according to the event management, complaints about noise escapement suddenly ceased.

This gave Loud Sound, the site managers for AEG, the evidence that MLA would be a perfect tool for the Hyde Park concerts. But given the sensitivities of noise thresholds in the Royal Parks, a site simulation was first set up at Hatfield House in Herts for the promoters and acoustics consultants Vanguardia Ltd — who routinely carry out measurement and analysis at outdoor events such as this.

Ian Colville and Martin Audio R&D Director Jason Baird confirmed that this location was chosen because of its similarities in shape and size to the Hyde Park site, and evaluation took place against other systems.

The Martin Audio system is unique in its ability to place the sound only where it is required — unlike conventional systems, which have largely depended on trial and error. As a result the sound coverage pattern can be programmed into Martin Audio's breakthrough MLA software to guarantee sound containment.

Vanguardia recorded near- and far-field measurements and asked Martin Audio to load in two different presets, which set coverage at 100m and then 50m. The measured SPL data over the site was then fed into their own environmental model before giving the system the thumbs up.. Vanguardia's experience with MLA also caused them to believe that a better offsite sound could be achieved than with a conventional system.

The other key factor in the sound threshold increase was the reorientation of the Hyde Park stage by around 30° — from

north facing to north-west (directing it away from Park Lane). “The result is that fans positioned out at the perimeter have been able to enjoy an identical sound experience to those at the front of the stage,” said Capital Sound general manager, Paul Timmins. “But walk five yards outside the soundfield and it will vanish.”

With its rapid loudness drop-off, the MLA system was created for environments such as Hyde Park. According to one sound engineer, who had earlier worked with the system, the ability to ‘taper off’ the sound at the perimeter “is as if an invisible ring has been drawn around the site.” It was this that will have impressed those monitoring the offsite sound at typical nearby locations such as the Grosvenor House Hotel on Park Lane.

Assessed Ian Colville, “The ability to gain an extra 6dB of volume on-site, whilst keeping within the off-site maximum level of 75dB(A), provides a significant advantage. MLA is such a different system, with all of its acoustic cells individually controlled, to produce phase-coherent summation in the audience areas.”

So how was the Hyde Park system conceived? Sculpted into the oak shrubbery of the concept stage’s proscenium — the inspiration of set designers MDM working with Star Rigging — were left and right hangs of 16 x MLA elements (with a single MLD Downfill box at the base). Outfills were provided by 12 MLA (and a single MLD each side) with eight pairs of the small footprint Martin Audio W8LM Mini Line Arrays for front fills.

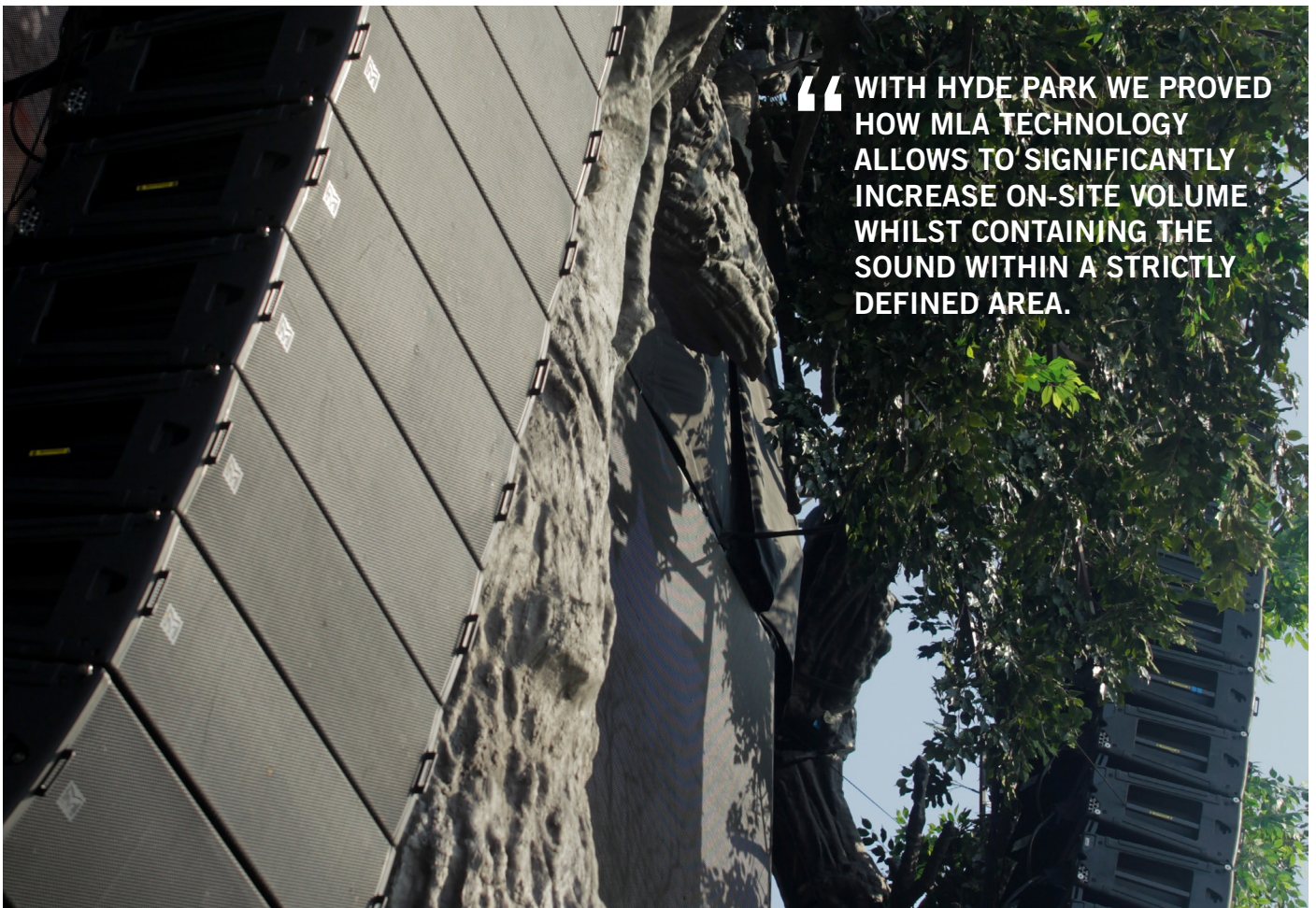
The subwoofer cardioid broadside array — made up of 32 MLX subs — is now a tried and trusted ‘electronic arc’ concept, with one back facing enclosure for every two forward-facing ones providing cancellation at the rear. “The beauty of this design,” says Colville, “is that you can adjust the horizontal dispersion and rear rejection electronically without needing to physically move anything.”

In addition there were ten delay masts. The front two arcs of four MLA masts each contained seven elements and a single MLD. For the larger shows, two further delay towers at the back were enabled, made up of eight MLA Compacts. Critical distances were 50 metres (from FOH to stage), while the delays were set at 90m (from the stage), 160m and the 210 metres (for the MLA Compacts).

In summary, Ian Colville said, “At Hyde Park we proved how MLA Technology allows to significantly increase on-site volume whilst containing the sound within a strictly defined area. It’s a great result for everyone involved in the project.”

In 2014, it was a similar set up, but Martin Audio’s R&D Director, Jason Baird, was determined that new optimisations would enable them to eke out as much as an additional 3dB at front-of-house without increasing offsite pollution. As a result, they 102dB(A) was achieved for McBusted, with 73dB(A) recorded offsite, comfortably within the maximum allowable of 75dB(A), while both Tom Jones (during his more strident numbers) and Black Sabbath nudged 103dB(A).

Baird explained that the journey to accomplish this had begun



“ WITH HYDE PARK WE PROVED HOW MLA TECHNOLOGY ALLOWS TO SIGNIFICANTLY INCREASE ON-SITE VOLUME WHILST CONTAINING THE SOUND WITHIN A STRICTLY DEFINED AREA. ”

three months earlier, with the concept tested and proven on the Glastonbury Festival delay rig, the week before. “We conducted the propagation tests based on what we learnt last time around, which was that in certain measurement zones only LF and low mid was contributing to the A-weight measurements. We realised that if we could reduce that frequency band we could have a better differential.”

So his R&D team set to work on the optimisation routines across the full frequency range to improve the differential between on- and off-site levels without extending latency. While Baird maintains that testing will remain ongoing he says the success at Glastonbury gave him the confidence to deploy it on additional arrays in Hyde Park including house left side hang and the two delays nearest to Park Lane.

He describes these early tests and the additional increase of around 2-3dB in max FOH levels over the previous year as “encouraging and significant”. Capital Sound’s Technical Manager and Systems Designer, Ian Colville, confirmed, “It all worked well and there were no issues with the three arrays we used the new optimisation algorithm on.”

With more headroom available, FOH engineers could really focus on their mix.

One visiting sound engineer Chris Madden (working with Little Mix), had nothing but positive comments. “I used the Martin MLA system about two years ago with Jessie J and I enjoyed it then,” he said. “But I think it was even better this time. It’s a very interesting and remarkable piece of equipment ... I didn’t EQ it at all at BST and it sounded great.”

Matteo Cifelli, FOH engineer for Tom Jones, who performed

on the final Sunday, was equally effusive. “I was very happy with the results we achieved, the mix immediately sounded just as it was conceived,” he says. “This is the sign of a good cabinet, and also of a well-tuned system.”

“I was very pleased with the purity and musicality of the cabinet. I also appreciated the consistency in frequency response at different levels. The sound image was amongst the best I have ever heard on a large system. Even mixing off centre, I could hear all the reverbs and details of my mix clearly and the presence and sweetness on the vocals was great, in your face and never harsh.”

Jason Baird added, “What FOH engineers want at festivals is plenty of headroom and not to worry about offsite restrictions. Having reduced the low mid and LF spectrum this year, we’ve been able to further ensure this, and that means the power, depth and definition of the system can also really shine too.”

And summing up the Festival’s success, AEG Live event director, Jim King, confirmed, “We have been able to achieve further increases in sound levels over and above the significant improvements we already made last year.

“Headliners at Hyde Park are now performing at levels well in excess of 100dB which was unthinkable only two years ago. This has been achieved whilst maintaining even better control at offsite monitoring location and with consistently lower number of complaints from the community.

“Capital and Martin have done an excellent job and the system data and know-how about the site is there for visiting FOH engineers to get the very best levels and sound coverage for their artists.”

“ THE SOUND IMAGE WAS AMONGST THE BEST I HAVE EVER HEARD ON A LARGE SYSTEM.



Hyde Park 2013, UK

“ WE ARE PLEASED THAT EVEN IN CHALLENGING WIND CONDITIONS WE WERE STILL ABLE TO OPERATE AT LEVELS UNIMAGINABLE THREE YEARS AGO.



Hyde Park 2015, UK

In 2015, it proved to be the best year for BST. Despite resounding successes since 2013, there remained a lingering perception in mainstream media that Hyde Park was still a sound challenge.

So what better way than to dispel the myth once and for all than for Blur to return this year with a blistering headline set, in addition to other headliners The Strokes, The Who, Kylie Minogue and Taylor Swift, all of whom received stellar reviews from the music and general press, regularly citing ‘loud and clear’ sound levels for the audience. So what about those offsite noise complaints?

Vanguardia principal consultant, Olly Creedy confirmed that complaints on site had been “significantly reduced” again, believed to be their lowest ever levels. He reported that, “The sound has been consistently over 100dB for

the headline acts and [for The Who headline show] there was 30dB of attenuation in view of the wind, which we’ve never seen before at Hyde Park. This would enable sound levels of up to 105dB to be achieved at the desk while still restricting to 75dB offsite limits.”

And promoter Jim King, Senior Vice President, Live Events, at AEG added his own endorsement to Barclaycard presents British Summer Time Hyde Park, stating, “We are pleased that even in challenging wind conditions we were still able to operate at levels unimaginable three years ago. To achieve this and reduce local resident complaints for the third year running is a huge success for the event. The work undertaken by Capital and Martin Audio has again strengthened Hyde Park’s position as the best outdoor venue in the world.”



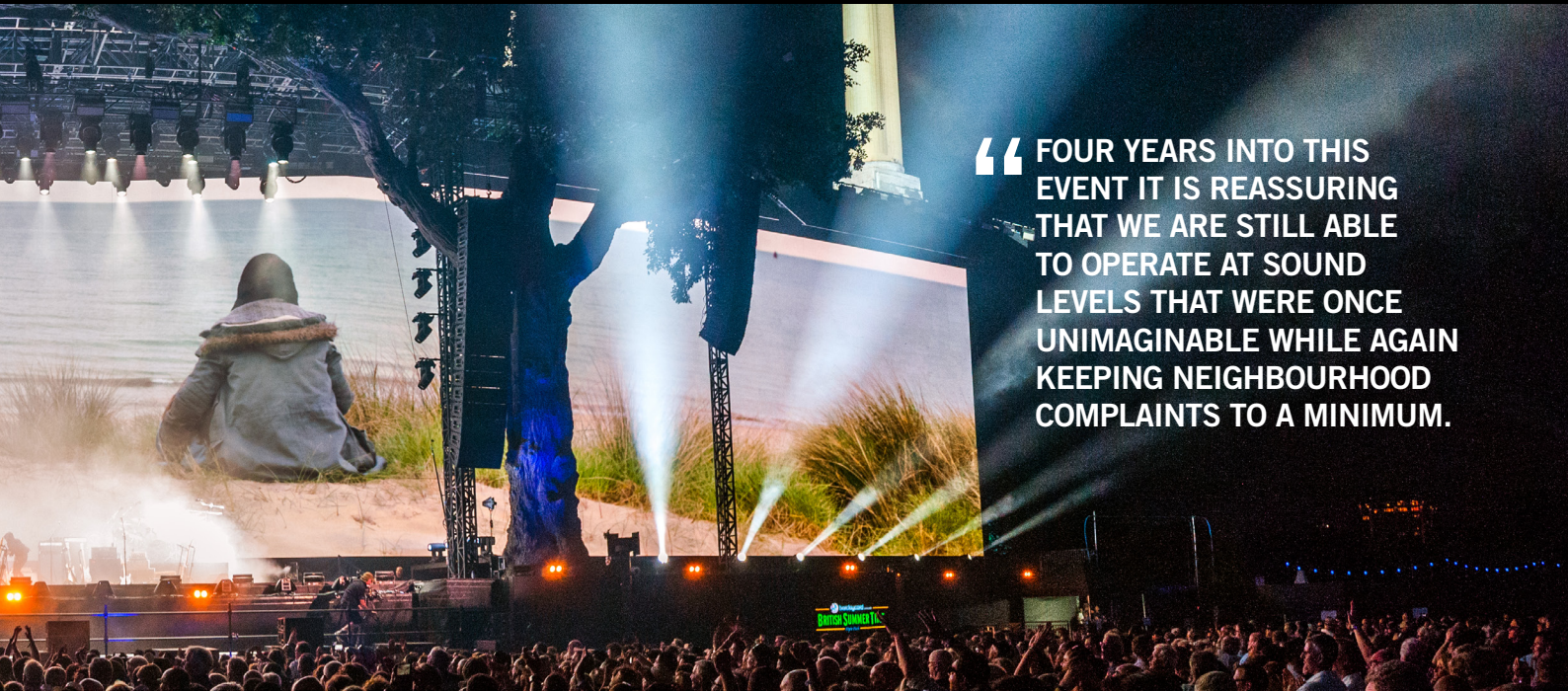


In 2016 the system design remained largely the same –with just some enhancements to Display optimisation - but the plaudits kept rolling in with visiting FOH engineers enjoying the ride. After mixing Jeff Lynne’s ELO at Glastonbury two weeks earlier, veteran sound engineer Gary Bradshaw said he was delighted to have been able to turn up at Hyde Park - this time with Take That - patch into the PA and with very little adjustment produce the show. “I have used Martin Audio MLA several times recently and that has certainly been the case with this system - my output EQ on the main left and right and sub-low were all flat and the result was a very warm, powerful array.”

He observed many similarities between both the musical make up of his two charges as well as production crew and mixing consoles at the events. “But most importantly, the PA system was the same. Once again no EQ was necessary on MLA over the main outputs; the sound was clear, powerful and very even across a huge area.”

Take That spent half the show performing in front of the PA, with guest appearances from Lulu and an opera singer (also in front of the PA). “This can be problematic, but in this instance it was easy to place the vocals in the mix without any adjustments.’





“ FOUR YEARS INTO THIS EVENT IT IS REASSURING THAT WE ARE STILL ABLE TO OPERATE AT SOUND LEVELS THAT WERE ONCE UNIMAGINABLE WHILE AGAIN KEEPING NEIGHBOURHOOD COMPLAINTS TO A MINIMUM.

Reviewing the system performance, he described the vocal sound as ‘warm without being muddy, with crisp highs and great detail. The sub-lows were smooth all the way down and the transition from bass to sub-low was very even. Also I was able to run the show at normal level. The sound design was such that leakage into nearby sensitive areas, like Park Lane had been kept to a minimum without compromising SPL for the audience areas.”

And Jim King, Senior Vice President, Live Events, at AEG, added his endorsement. “Four years into this event it is reassuring that we are still able to operate at sound levels that were once unimaginable while again keeping neighbourhoood complaints to a minimum, despite the windy conditions.

“Capital and Martin Audio continue to refine the sound system year on year, with increasingly sophisticated software, and the improvement was immediately noticeable when I walked the site before the festival began. It is this that continues to keep us ahead of the game.”

Since 2017 to the present day, Martin Audio and Capital Sound (now a Solotech company) have strived to make iterative improvements through the site and all 3 stages. Martin Audio's XE500 floor monitors, alongside Wavefront Precision systems and TORUS constant curvature systems have all been introduced to acclaim.



MLA Rocks in Rio with Gabisom

“ I HAVE TO SAY MLA DELIVERED A REALLY EXCITING MUSCULAR SOUND WITH ABSOLUTE CLARITY FOR THE DAILY CROWDS THAT WERE IN EXCESS OF 100,000.



The historical ties between Martin Audio’s MLA and Rock in Rio began with a system test at the US event in Las Vegas in May 2015, where it appeared on the second stage, the Mercedes-Benz Evolution.

Founded in 1985, Rock in Rio has been held in the city of origin as well as Lisbon and Madrid over the years, but the US festival marked an important expansion for the company and its founder Roberto Medina.

An eclectic lineup on the Mercedes Evolution stage for both the Rock and Pop weekends featured Foster the People, Gary Clark Jr., Sepultura featuring Steve Vai, Deftones, Coheed and Cambria, Jessi J., Charli XCX, Joss Stone, Magic!, Tove Lo, James Bay, Mikky Ekko and others.

The MLA system consisted of 16 MLA enclosures with one MLD per side along with 32 MLX subwoofers ground-stacked in front of the stage and 12 MLA Compact on top of the subs for additional front and ground fill. It handled the diverse lineup with ease, providing consistent coverage, clarity and smooth low-end response from front to back of the 426-foot deep audience area without any delays.

At the event every FOH engineer had been very complimentary about the system saying it was one of the easiest shows they’d done. Dwayne Baker, FOH engineer for Theophilus London exclaimed, “It’s an amazing sounding rig and it was such a

pleasure to mix on!” while James Bay’s FOH engineer Rob Sadler commented, “I didn’t have to touch the graphic at all, it’s a very well set up system, and it sounded great.”

The success of the system at Las Vegas saw production company Gabisom Audio Equipment immediately purchase the MLA system and debut it immediately at the sixth Brazilian edition and the 30th anniversary of the original Rock in Rio. This time on the Palco Sunset stage which featured artists such as Korn, John Legend, Magic, Deftones, Steve Vai and AI Jarreau across the mix of rock and pop line ups, the equipment list was similar to the Las Vegas event. 16 MLA enclosures with one MLD per side along with 32 MLX subwoofers ground-stacked provided the clarity and control without the need for delays to entertain up to 10,000 people.

Once again the FOH set-up was overseen by Pedro Cluny from Gabisom Portugal, who also doubled as system tech. Bearing in mind that the FOH position was set 86m from the PA, he commented that “it sounded like MLA was only about 30m away.”

Gabisom chief engineer, Peter Racy, was another who confirmed the impact created by MLA. He stated that the purchase of MLA had confirmed what they already knew about the system’s reputation. “For me personally it was a pleasure to hear the pristine sound quality of MLA, and in my opinion that is what made the difference.”

This affirmation led Gabisom to further invest in MLA led to the system being brought to the main World Stage of Rock in Rio Festival in Lisbon. In doing so, with 112 MLA, eight MLD, 60 MLX subs and 24 MLA Compact, this became the largest deployment of MLA systems on a single stage, eclipsing both Glastonbury and Hyde Park main stages.

Unusual for MLA - but a trademark sound and visual design of Rock in Rio - is the doubling of hangs either side of the stage with both flanking an array of subs. Typically the design calls for one array to do vocals and the other to do instrumentation from the band. Coincidentally, and great for those that love their audio history, a similar idea was espoused by Dave Martin in the 70's. What the design did deliver for the festival was a very muscular sound but one that had absolute clarity for the daily crowds that were in excess of 70,000.

The main World Stage, was a who's who of rock and pop celebrities, featuring Bruce Springsteen and the E Street Band, Stereophonics, Queen and Adam Lambert, Mika, Fergie, Hollywood Vampires, Maroon 5, Avicii, and Charlie Puth. But MLA was equal to this challenge, displaying power, clarity and versatility.

Finally, it was not only MLA that rocked the stage, but also many acts used a full set of LE1500 and LE2100 Martin Audio monitors which were fed by the company's own MA5.2KDSP amplifiers.

The success of this event meant that for the 2017 Rock in Rio Festival held in Olympic Park in Rio de Janeiro, meant that Gabisom once again deployed Martin Audio's premier MLA rig on the main stage, this time called Palco Mundo.

The seven-day event - held across two long weekends - showcased the five star talents of Guns N' Roses, Red Hot Chilli Peppers, The Who, Bon Jovi, Aerosmith, Maroon 5 and Justin Timberlake to name but a few.

Ever since Queen played to over a million people there in 1985, Rock in Rio has become the stuff of legend, and this year, as fans burst through the gates in a stampede of excitement, many kissed the ground by way of paying homage.

The main PA was again the trademark sound and visual design of Rock in Rio comprising of 4 arrays, each with triple columns (called 'Side-by-Side'), and consisted of a total of 112 MLA enclosures with eight MLD downfills and 30 MLX subwoofers. A further 24 MLA Compacts were utilised across left and right front fills while another 32 MLX were ground-stacked.

The system is designed to be used with a split mix, where two pairs of stereo mixes are output from the mixing desk. One stereo mix (called 'Band') contained most of the band elements (drums, bass guitars, and keys for example). The other stereo mix (called 'Vocal') contains vocals and any other elements that are prominent in the overall mix. This can easily be achieved by removing the vocals and their processing from the main mix, and assigning these to a separate stereo output.

By splitting the mix, increased headroom is gained throughout the entire signal path, starting in the console's summing amps and output busses, through the system processors, the power amplifiers, and the speaker components themselves.

As Peter Racy describes, "This system design translates into clarity and power. In the recommended configuration, each of the four arrays uses the inner column for a Full Band mix, the middle column for Band Sub, and the outer column for Vocals.

"I have to say MLA delivered a really exciting muscular sound with absolute clarity for the daily crowds that were in excess of 100,000. There's nothing that will make the hairs stand up on the back of your neck as much as seeing an audience rocking as far as the eye can see."



MLA Takes on Sziget



HEY WERE BLOWN AWAY WITH THE SOUND.

Sziget Island Festival, Hungary

Since its birth in 1993 Sziget Festival has become one of the most popular multicultural events in Europe, attracting fans from over 70 countries. The festival is hosted on an island in the heart of the Hungarian capital that has become known as the Island of Freedom and the whole festival is marked by joyous celebration. In 2015, Martin Audio joined the party with MLA making an auspicious debut, its fifth new festival of the season, courtesy of Capital Sound.

Held on a 108-hectare (266-acre) island on the Danube in north Budapest, Sziget Festival broke all attendance records on an expanded site, designed to hold a paying audience of 90,000, and at one point numbered 100,000, including production crew, artists and guests.

For production company Capital Sound, now in their tenth year at the week-long event, the challenges were immense. Tasked with providing world class sound reinforcement for world famous headliners such as Robbie Williams, Kings of Leon, Florence & The Machine and many more, they were working in fierce heat and dusty conditions.

But Capital was eager to showcase MLA, having already successfully fielded it for the Sziget Organisation's other front line festivals, Balaton Sound in Zamárdi and Volt in Sopron. Capital's Paul Timmins explains: "The event itself has grown from humble beginnings 22 years ago. By the time we got involved in 2006 it was already a good sized festival, and the

biggest change since has been in the quality of the production.

"We wanted to demonstrate the uniqueness of MLA, in terms of control, but really showcase its performance and so this year we made sure the system was designed to give sufficient headroom. We had existing data and graphs but adjusted this to take account of the fact that the stage positioning had moved slightly.

"Although many of the sound engineers had experienced MLA some had not used a system of that size, or where there were no offsite restrictions. Here they could run at full throttle, setting the level where they wanted."

Of the high calibre sound engineers and system techs who accompanied their artists, two who relished the opportunity to be mixing through MLA once again were Paul Ramsay (Kasabian) and Nigel Pepper (The Foals).

In terms of durability MLA met the challenging weather conditions but also running full tilt as Timmins explains, "with sound checks, the system was running hard from 8am-11pm for each of the seven nights."

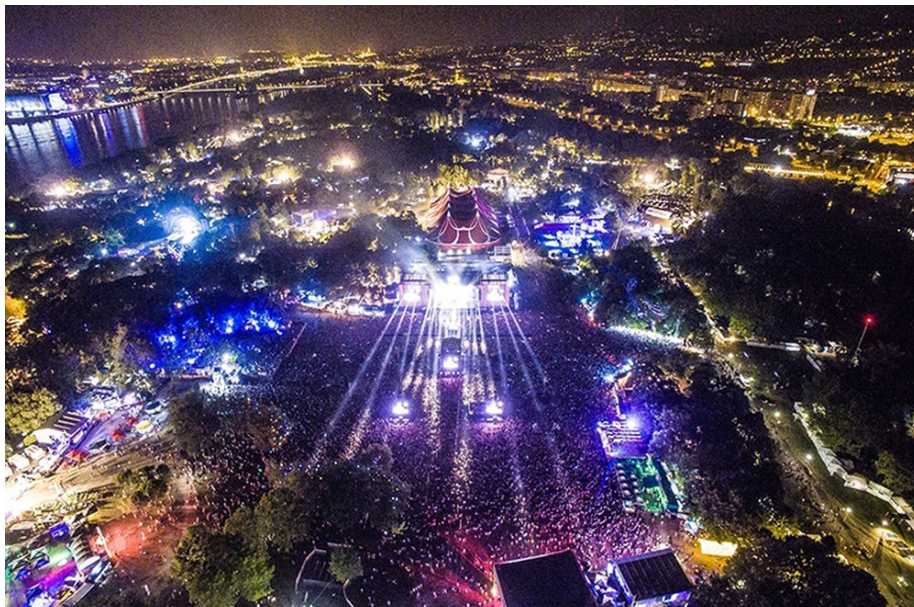
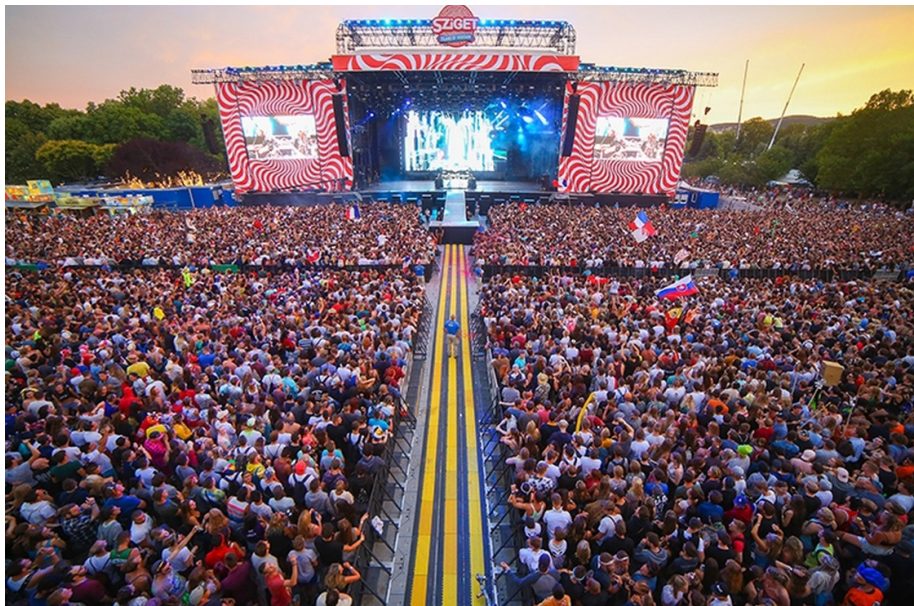
The performance and durability of the main MLA hangs was only matched by the role played by the delay towers.

Why were the four delay masts, set 80m back from the stage, so crucial? Capital's Paul Timmins explains that in the heat

of the day, many of the audience sought protection back in the woodland of this nature park, where all the lower branches had been removed to increase capacity, while still offering protection from the heat. "Therefore, it was critical that we extended coverage into the woodland," he said. "People said the delay sound was amazing, although it was weird looking at an empty area in front of the stage [during the daytime acts], with so many sitting way back in the shaded woods."

Supervised by PA tech Joseph Pearce at FOH and Hungarian MLA tech, Marci Mezi, the main PA - comprising two 17-element drops and an MLD Downfill at the base - was supported by two side hangs of nine MLA and an MLD Downfill.

Six stacks of three MLX subs per side and four in the centre were designed in a 'partial cardioid' arrangement, according to Paul



Timmins. "We didn't need quite as much controllability because there was no sound limit threshold, and this enabled us to create more impact upfront."

As for the four MLA delays which performed such a critical role, the centre two comprised nine MLA (plus a Downfill), the outer two used six MLA (plus a Downfill) - and a fifth, comprising four MLA Compact accompanied the relay screen immediately behind the mix position, 50m from the stage. LF extension was provided by four WS218X on each delay position in a cardioid fashion.

Other Martin Audio components included 18 W8LM Mini Line Arrays nearfills across the front of the stage and there were a number of stage fills reinforced by Martin Audio WS218X subs.

Summing up, Paul Timmins admits that this year's Sziget had been the most demanding festival he had been involved with, but he could scarcely have been happier with the result; more importantly he reports that the final day debrief with the local production team revealed the same level of satisfaction. "Having made some great improvements to the stage position, they were blown away with the sound, and going forward we are already talking about a longer-term relationship as a result." Indeed, the inaugural success has meant MLA has featured on the main stage in every subsequent year.

MLA Rocks in Japan



Rock in Japan

MLA debuted at The Rock in Japan festival as early as 2011 and a succession of successful events meant that promoters have currently insisted upon MLA for every subsequent year.

Traditional held over two weekends in August, over 240,000 people are in attendance across the four days watching over 200 of Japan's leading rock bands and artists.

But the question remains as to why the promoters insist so strongly upon the use of MLA? Ultimately, it's around MLA's ability to do the seemingly impossible: unite vast audiences with powerful sound, but then have the facility to cut that sound dramatically at the perimeter.

Dave Sugawara from MSI Japan explains, "There should be excited fans at the front row all the way to the back, but in the rest area, just behind, where the people pitch a tent, we need to be quiet.

"We need to care about the people who take a rest, and at the same time, we need to excite the audience just in front of them as much as the fans in the front row."

Indeed, for the main Grass Stage there are three types of audience area. The Standing Zone was for watching the bands from closer to the stage, a 'Sheet Zone', where those watching can spread the sheet and at the furthest point a Tent Zone where crowds can sit directly on the grass and pitch parasols.

Thanks to the MLA's high degree of noise controllability, the

“ WE WENT IN WITHOUT ANY REHEARSAL ONSTAGE BUT THE MONITORS CAUSED GREAT EXCITEMENT. IN FACT AFTER THE SHOW, THE BAND MUSICIANS DESCRIBED THE EXPERIENCE AS ‘REALLY SUPERB!’ ”

PA company, MSI JAPAN could offer the different sound levels required for each zone from a single MLA system. Only 20 elements of MLA were required for each stage wing as main PA, with a further 16 each side for the sidefills, While they provided clear and powerful sound for the Standing Zone, at the same time those on the outside areas could enjoy conversation under the parasols, while still enjoying the festival mood. This demonstrated why MLA works so effectively in the open air fields, and why it was chosen for this festival.

Dave continues, "For the far zone we separate the area using the optimisation process, which is a unique feature of MLA, into coverage area and non-coverage area. We use MLA because it's the only system that can answer this demanding scenario and it will achieve the goal of the show producers that everybody who comes to the festival enjoys it."

For 2017, while the MLA series featured again on the main stage, all attention was focused on the new XE500 floor monitors along the front edge of the stage, seen for the first



time in Japan and Asia Pacific. Powered by an equally new Martin Audio iK42 amplifier it made an outstanding debut on the main stage.

As monitor engineer, Tomo Nishigawa who mixed rock band, Dragon Ash on the opening day, commented, "When I tried it before the show, I felt it was really suitable for a female singer with a whispered voice. We went in without any rehearsal onstage but the monitors caused great excitement. In fact after the show, the band musicians described the experience

as 'really superb!' The XE500 monitor could reference the sound so clearly that each of the musicians could define whether the sound was coming from the monitor or the DJ set during the show. We have never experienced such a faithful reproduction before," he added.

Since 2017 to the present day, Martin Audio has dominated the majority of the stages at Rock in Japan with the addition of Wavefront Precision and TORUS systems also being showcased.



Martin Audio WPL Keeps Pace with Fast-Moving Carfest South



CarFest, organised by UK radio celebrity, Chris Evans, shows no signs of running out of gas, as some 50,000 people each year take to Laverstoke Park Farm near Overton, Hampshire—owned by 1979 Formula One World Champion, Jody Scheckter. Inaugurated by Evans back in 2011, the event raises funds for Children in Need.

The event is a regular client of Martin Audio partner SWG Events, the south-west-based production company, who provided a full sound and light package. Since 2022, this included their market leading Martin Audio WPL line array, which provided sound reinforcement for a broad range of artists. These included Kaiser Chiefs, Rag ‘n’ Bone Man, Tom Odell, Sophie Ellis Bextor, Faithless Soundsystem, James Blunt, Judge Jules, Bob Marley Revival and Rick Parfitt Jnr, Paloma Faith and Steps.

The fast-moving performance area is built around three differently configured stages—flanking a DJ stage occupied by Chris Evans himself—all set in a line.

SWG Events have traditionally deployed their W8LC but this year that older Martin Audio system was redeployed to delay duties—in two hangs of eight—as their new Wavefront Precision (WPL) took pride of place. The two main hangs of 12 WPL were driven in 2-box resolution from iKON iK42 process controlled amplifiers, as were a stage right out hang of 12 WPL. An additional six-per-side WPC provided infills between the stages, while across the front, 20 Martin Audio

SXH218 subwoofers were set in a broadside array to provide LF extension.

Further to that, four stacks of two W8LC were deployed for front fill on the larger of the stages with an additional 16 W8LM for front fill across the lip of the smaller two. Finally, 32 XE500 Martin Audio stage wedges were placed across the two main performance stages.

THIS SYSTEM DEPLOYMENT CONTINUES TO DELIVER BENEFITS IN OFFSITE NOISE CONTROL, MEASURED AGAINST COMPARABLE EVENTS

With two stages constantly flip-flopping this was a high energy show—as SWG’s Simon Purse, who had overall responsibility for the audio, explained. And with many of the acts bringing their own sound engineers and control the FOH position was well populated with mixing desks.

SWG put out an experienced crew, with Ryan Bass and Adam Andrews at FOH, providing mixing duties where necessary, while Matt Pope and Olly Hayward patrolled the stage. Overall project manager was Ian Williams.

Although the two-day festival was prone to sudden weather changes, the PA coped admirably and the sound crew were able to achieve levels up to 98dBa at FOH, while observing the



offsite threshold of 65dB. These were set by noise consultant Simon Joynes of Joynes Nash Acoustic Consulting.

Stated Simon Purse, “We do a lot of work with Joynes Nash; they are familiar with MLA [the precursor of Wavefront Precision] and realise it’s a useful tool for councils when it comes to environmental noise on sensitive sites.”

He added that since SWG Events acquired WPL at the beginning of the summer the system has never been in the warehouse. “It’s absolutely proved its worth and has been out nearly every weekend since we purchased it. We are now able to appease local councils as well as satisfying guest sound engineers.”

Summarising CarFest, he said, “The site is challenging because it is so large, and having all stages running more or less simultaneously and sharing the same PA, certainly keeps everyone engaged. But we pulled it off ... WPL worked really well, and we will certainly use it again here.”

Simon Joynes agreed. “This system deployment continues to deliver benefits in offsite noise control, measured against comparable events,” noted the consultant.



Other Festivals and Outdoor Events



Martin Audio Spreads The Word At All Points East



Capital Sound's MLA Scores Another Proms In The Park Triumph



MLA Compact Provides Punch For Shambala Festival's Eclectic Mix



Founders Fest Steps Up To Martin Audio MLA



Technotrix Covers Taste Of Chicago Festival With Martin Audio MLA



VMEe's Mla Compact Makes The Sun Shine Through The Cotton Clouds



MLA Takes Main Billing At Ramblin Man 'Classic Rock' Festival



Martin Audio MLA In Control At Volt And Balaton



and many more...

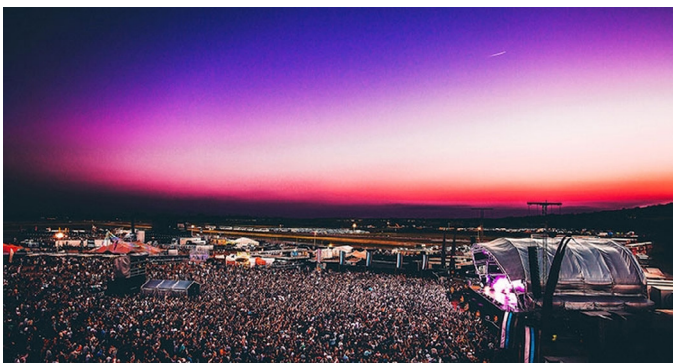
martin-audio.com/case-studies/festivals



New MLA Floating Design A Big Success At Henley Festival



MLA Deployed For Colombia's Corona Sunsets Festival



MLA Dominates Wild Life For Third Year Running



Delicate Supports Bottlerock 2017 With Martin Audio



Vme Conjures Up MLA Magic On The Fly At Hopetoun House



Martin Audio MLA Deployed At Dusk Music Festival



VME Watch MLA Fly At Edinburgh's First Open Air Fest



Capital And MLA Raise The Temperature At SW4



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TORUS

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ARRAYS



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FlexPoint

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LOUDSPEAKERS



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SX Series

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PERFORMANCE SUBWOOFERS



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XE Series

HIGH PERFORMANCE
STAGE MONITORS



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This is just a small selection from a wealth of examples from around the world that you can find out more about by visiting www.martin-audio.com

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