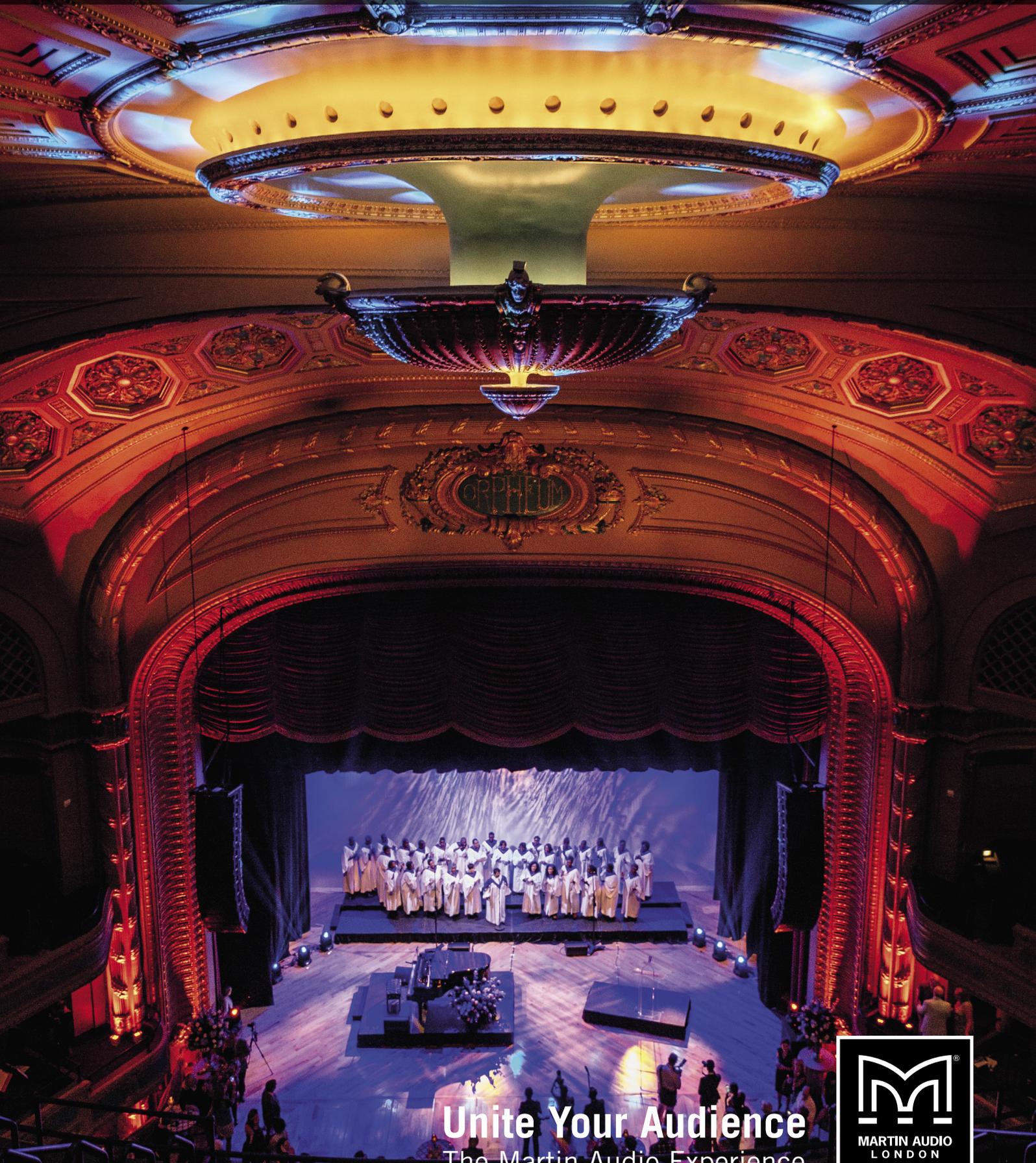


CASE STUDIES

Theatre and Live Productions



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.

Theatre and Live Productions

Theatre, musicals and live production is in our blood having provided sound systems for worldwide productions including Joseph, Return to Forbidden Planet, Chitty Chitty Bang Ban, Grease, Lord of the Dance, Dirty Dancing as well permanent installs. At Martin Audio we recognise

the importance of intelligible speech, vocals and music that envelops the audience, front to back, regardless of the acoustic challenges set by the production or venue itself and have a range of product solutions tailored to meet these needs.

Autograph Sound Debut MLA Compact on Regent's Park Open Air Production of Jesus Christ Superstar

Nick Lidster's acclaimed sound design recaptures early '70s classic rock idiom.

With one of the largest single-level auditoria in London, and the oldest permanent outdoor theatre in the UK, Regent's Park Open Air Theatre (OAT) has played host to Martin Audio's W8LM Mini Line Array over the last five years.

Autograph Sound designer Nick Lidster has specified it there as the OAT amplify all their shows, and the summer season finale is always a full scale musical. When it came to the 2016 six-week run of the new production of Jesus Christ Superstar, under the direction of Timothy Sheader, he knew that with sell-out audiences of 1250 expected every night in the fan-shaped auditorium, he needed something that would emulate the classic rock sound that had characterised the

original album, featuring Deep Purple's Ian Gillan in the lead role, 46 years ago.

"I was concerned that while the traditional musicals we do at Regent's Park sound great using W8LM, with Jesus Christ Superstar I felt we would need to run the show at a much higher volume, and therefore we might have noise issues from local residents and park users.

For this version of JCS, Tim Sheader wanted to go back and explore the sentiment and fresh feel of the original progressive rock concept album. I grew up with early '70s prog rock of Genesis and Yes, and my love of prog and understanding of why those amazing bands sounded so good live seemed the most authentic approach to adopt, to rediscover this very original and classic show," stated Lidster. "I felt that the MLA array was the right sounding loudspeaker system for the job and it offered me the most control and consistency of sound for the auditorium."

He had received favourable reports about Martin Audio's award-winning platform, and many of the Autograph sound team had been impressed after attending a system demo.

With the contouring of the theatre seating bowl area, set in deep parkland, he was eager to use the DISPLAY onboard control software. "I felt that if we were going to deliver a big sounding show we would need to control the spill. We did not want 'killer' volume levels, but I did want dynamic, clear, hi-fi sound, delivered with high intensity in every seat."

“ I FELT THAT THE MLA ARRAY WAS THE RIGHT SOUNDING LOUDSPEAKER SYSTEM FOR THE JOB AND IT OFFERED ME THE MOST CONTROL AND CONSISTENCY OF SOUND FOR THE AUDITORIUM.

He specified the MLA Compact, knowing its high degree of controllability would be ideal for this unique theatre, where the distance between stage and auditorium perimeter was no more than 35 metres. He rigged ten MLA Compact per side and six MLX subs in a reverse cardioid design, two



stacks of three per side. “This meant we could get lots of energy firing into the audience, especially at the low end, to give us that typical early 70s rock gig sound.”

To improve things further, he said, the 11-piece band comprised many top-level session musicians — such as bass player Oroh Angiama and Pete Lewinson on drums — helping to keep the sound both fresh and exciting. Martin Audio’s Jason Baird and Nigel Meddemmen provided technical support. “Having discussed the overall EQ I wanted, we went for the rock preset, but softened to give a more suitable, clearer sound,” Nick Lidster continued. “We used the Hard Avoid setting to be just above the mix position, dropping off sharply just above the operators’ head. There was no bleed above the top of the seating bowl, and thanks to the cardioid subs there was no need to prevent bleed at the back of the stage either, as the level was extremely low.

“We programmed just a 3dB variation from front to back of the auditorium so that I had a massive and consistent sound everywhere; the show ran at around 95dB average.” His overall verdict? “This was a big progression in terms of sound design at Regent’s Park — it was another level up. You could hear that the sound was consistent everywhere. You felt confident that any level or EQ changes, made by my engineer, would be heard everywhere and that unwanted spill was kept to a minimum. It was a triumph all round.”

Among those giving an unqualified thumbs-up to the quality of the sound was the original lyricist, Tim Rice — along with the team at Regent’s Park.

Stated William Village, Executive Director of Regent’s Park Open Air Theatre, “In creating the gig-like vibe for Jesus Christ Superstar, it was important to us to use a sound system which would support that production vision. Martin Audio took up this challenge and delivered a sound system of excellence, showcasing our performers, rock musicians, and the iconic lyrics and music of Tim Rice and Andrew Lloyd Webber.”

The success of the show was underlined with an Oliver Award nomination as well as winning the BBC Radio 2 Audience Award For Best Musical as part of The Evening Standard Theatre Awards.

When it came to the 2017 run, Lidster wanted to see if further improvements could be made. For the centre stage, the previous year, he had used a different manufacturer’s sound source. It was while auditioning MLA Mini at a Leo Sayer concert for another production that he instinctively realised that this would offer a better option for JCS when he came to refresh the production at the start of the 2017 season.

‘After last season finished I looked at what I needed to do by way of streamlining, and after hearing MLA Mini I knew

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it would be perfect for the centre cluster,’ he confirmed. In addition to being discreet, it was also a third of the weight of the previous hang, which made it a much safer solution.

Supported again by Martin Audio’s Nigel Meddemmen, six elements of the MLA Mini were centrally deployed and at the same time Nick Lidster chose to fly the main line array higher than previously. “I wanted to focus the sound down - to ensure we got all the energy into the bowl shaped auditorium, and at the same time minimise the spill over the back and into the Park. That’s what I felt was needed, and the lower bowl area sounded so much better as a result.”

He stated that with the centre cluster he had used previously there was too much energy spilling into the park. “I needed to be able to steer it towards the front of the auditorium ... to around half way back where the main PA takes over.’ He could also see from the Leo Sayer experience the wisdom of having all components from within one family, particularly with MLA’s unique controllability.

“In fact some of the story-telling became clearer,” he said. “It was dynamic without being loud, and in Gethsemane, for instance, [with the sound imaging] Jesus is brought right into the lap of the audience.”

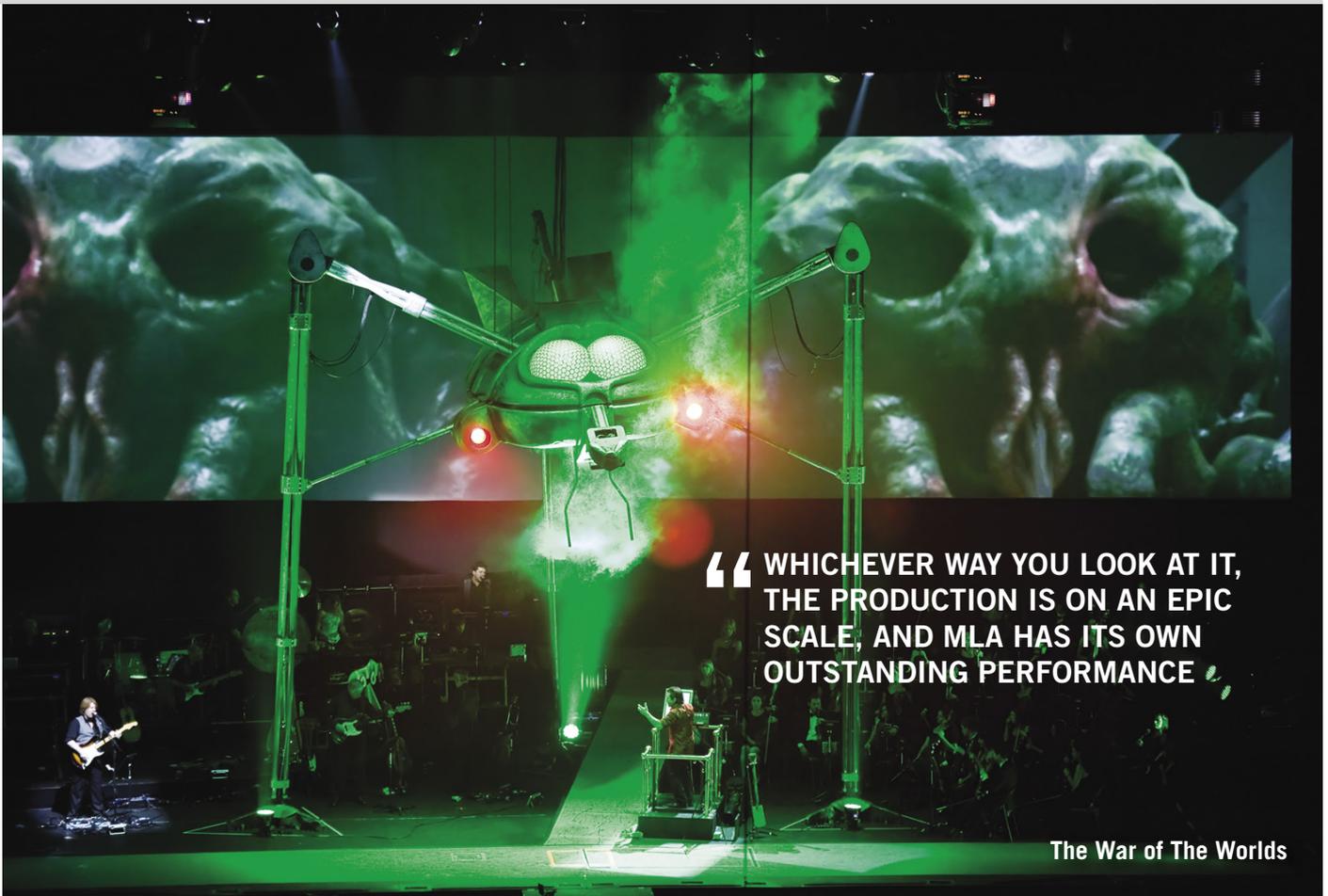
There were other benefits of MLA Mini, as experienced by this year’s sound operator James Hassett, foremost being its ease of tuning. “MLA Mini provided a major improvement not least because I could use it without needing to EQ it,’ Nick Lidster explained. ‘The vocal image felt right above you and as a result I could run the front fills so much hotter this year.”

William Village, Executive Director of Regent’s Park Open Air Theatre, had stated last year that “in creating the gig-like vibe for Jesus Christ Superstar, it was important to us to use a sound system which would support that production vision. Martin Audio delivered a sound system of excellence, showcasing our performers and rock musicians.”

Photography © David Jensen - Jesus Christ Superstar at Regent’s Park Open Air Theatre.



The War of the Worlds



“WHICHEVER WAY YOU LOOK AT IT, THE PRODUCTION IS ON AN EPIC SCALE, AND MLA HAS ITS OWN OUTSTANDING PERFORMANCE”

The War of The Worlds

Fuelled by a significant upgrade to the original 1978 concept, Jeff Wayne’s Musical Version of The War of The Worlds, The New Generation as it is now known, played to packed arenas throughout the UK and Northern Europe with Martin Audio’s MLA system creating a superior soundscape.

“Whichever way you look at it, the production is on an epic scale,” said Simon Honywill, FOH engineer, “and MLA has its own outstanding performance”.

London’s O2 Arena had been a case in point. “I remember being very impressed with the clarity of the system at the back of the arena ... around 100m from the array and 30m above the arena floor. The house delays were unable to add anything, not even any sparkle to the top end of the system — and in the end I only used them at very low levels to add a little low mid warmth. For 16 boxes a side I think that is very impressive!”

At Cardiff Motorpoint Arena, the unique abilities of the MLA system created the ability for a new optimisation to reduce the reflections caused by the angled corporate boxes. Switching between the optimisations provided the ability to listen to the re-configured PA, all without physically altering the PA hang. “This dramatically reduced the reflections on the second night,” remembers Simon Honywill.

Mark Edwards, system technician agrees, “The robustness of the new version of VU-NET means I can zone the PA accurately if needs be to influence or correct the tonal balance across the audience area. The evenness of the horizontal coverage pattern continues to amaze me, particularly the way speech intelligibility is maintained as you move further off axis ... way beyond what I have experienced with other systems.”

Finally, he says, the system is quick to deploy “and the even tonality means I can tune it very quickly.”

Simon Honywill also noted, “Because the Left/Right system is pushed wide and upstage we have used some standard W8LM arrays as fills to boost the intensity and energy of the imaging in the expensive seats. We’ve also used W8LC’s as side hangs and four W8LMD built into the set across the front, for nearfield coverage.”

“The result is that musically it has sounded a bit harder and more aggressive — which is exactly what production wanted,” he said. Even with a 3-tonne, 35-foot tall Martian Fighting Machine firing real flame heat rays at the audience and scanning them with its bug-like eyes, it is the Martin Audio’s MLA system, the most intelligent touring system ever, that has been responsible for the dramatically increased level of performance and coverage consistency — even if this is something the audience now takes for granted!”

Hakataza Theatre Upgrades with MLA Family

Situated in Hakata city, the Hakataza Theatre in the Fukuoka Prefecture — one of the most famous musical theatres in Japan — has been renovated after 16 years in order to meet complex acoustical demands for events such as Kabuki, Musicals and Theatrical shows.

Several premium systems were trialled over a nearly five-year period before Martin Audio's MLA family was given approval. As a result, 11 elements of MLA Compact are hung both left and right of the proscenium along with four DSX subs (two for each side), and eight MLA Mini have been deployed as an L/C/R centre cluster.

To cover the remaining areas (including under-balcony) a further 73 Martin Audio DD6 have been specified.

The sound engineer, Mr Noguchi from Music Reserve inc, stated, "Our top priority is delivering perfect sound to the entire audience. In Hakataza Theatre we have to cater for many kinds of programme and in the past we have experienced shortcomings in the sound with some productions and presentations. The MLA family has overcome that and given me an innovative way to deliver consistent sound throughout the auditorium."

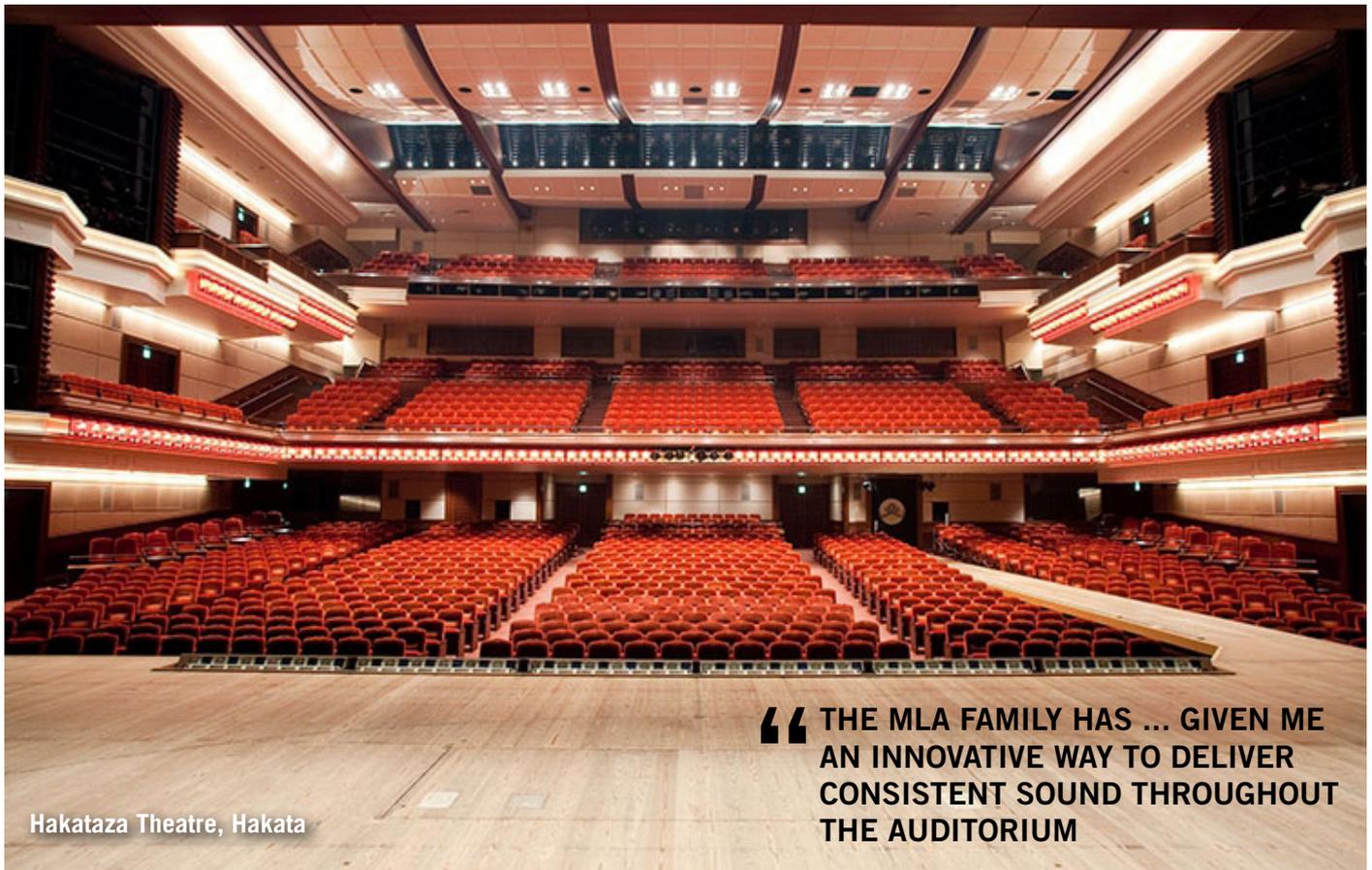
MLA Compact has been designed to fire sound evenly into the three tiers of the theatre, using special optimisations. With the elements optimised in groups — to cover top to bottom tiers — Mr. Noguchi stated that the Preset function was very useful when changing the optimisations

depending on the production. "The distributed DD6s then help not only to cover the audience area but also maintain the character of sound. The Differential Dispersion horn on the DD6 delivers high clarity from the front to back seats, and therefore this is no compromise whatsoever in this new system."

Another sound engineer, Yoshihiro Tsubone, also added his endorsement to the MLA system. "It is essential that every audience, no matter what the performance, receives consistency and clarity from the stage performers. This was our key priority when choosing the system. MLA achieves this perfectly — even when the voice is whispering through micro-microphones, it not only delivers consistent frequency response but also has a capability to control the non-audience area. This is helpful for the engineer operating microphones to ensure the important dialogue is delivered audibly to the audience during the show.

"MLA is unique in this respect — in my opinion no other brand can do this."

Summing up, he said, "The choice of this system was extremely important for us — it means we now have the ability to control the sound pressure level for whole audience area, suited to every type of programme. No matter where each member of the audience is seated, consistent sound will be delivered. I have never experienced anything like this degree of functionality ever before — It is overwhelming."



Hakataza Theatre, Hakata

“ THE MLA FAMILY HAS ... GIVEN ME AN INNOVATIVE WAY TO DELIVER CONSISTENT SOUND THROUGHOUT THE AUDITORIUM

Orpheum Theatre Upgrades with MLA

New Orleans, LA—Originally built in 1918 and opened for vaudeville in 1921, the 1500-seat RKO Orpheum was converted for use as a movie house soon after. Over the years, the Beaux Arts style theater has gone through several iterations before being shuttered by floodwaters from Hurricane Katrina in 2005.

The historic venue was purchased in February 2014 and underwent a \$13 million, 18-month renovation to both restore and redevelop the theater into a multi-use facility. In September 2015, the theater reopened with a performance of Mahler's "Resurrection" symphony by the Louisiana Philharmonic Orchestra, a homecoming for the ensemble, which was once based in the theater and had been on a 10-year odyssey around different venues in New Orleans since Katrina.

Significant improvements included an expanded marble-paved lobby, larger seats, eight new bathrooms, six permanent bars and an auditorium floor that can be raised when seating is removed for standing room concerts, parties, weddings, corporate group functions and catered affairs. In addition, the hall was equipped with a modern lighting array, large movie screen and a Martin Audio MLA loudspeaker system designed to reinforce live sound without adversely impacting the theater's celebrated natural acoustics.

Asked about the main impetus behind the renovation, General Manager Kristin Shannon confirms, "When the owners bought the theater, the Orpheum had been vacant since prior to Katrina, and the intent was to make it into a multi-purpose facility that wouldn't have to rely solely on concert performances, but also generate revenue streams in between those shows to sustain the theater going forward.

"To that end, we added a kitchen in the basement, which gives us the capability to cater a seated dinner of up to 275 guests on the theater floor," Kristin continues. "We've also created additional space in the basement for entertaining, a smaller dining room space and skyboxes and suites in the top of the gallery to accommodate special groups and events."

"We have a lot of beautiful spaces throughout the site because one of the inspirations was the architecture of the theater itself. The ornate plaster work, the beautiful lobby spaces and the mezzanine bar, to name a few. So we wanted to make those attractive in their own right.

"The auditorium floor works great, it takes about eleven minutes to raise and lower but a bit longer to take out the seats, which are large and comfortable. The owners also refabricated the existing shell frames to create a new acoustic shell, which worked out wonderfully looks beautiful and sounds amazing. That's why the Louisiana Philharmonic Orchestra is returning to what once was their hall, it's the final piece of the process."

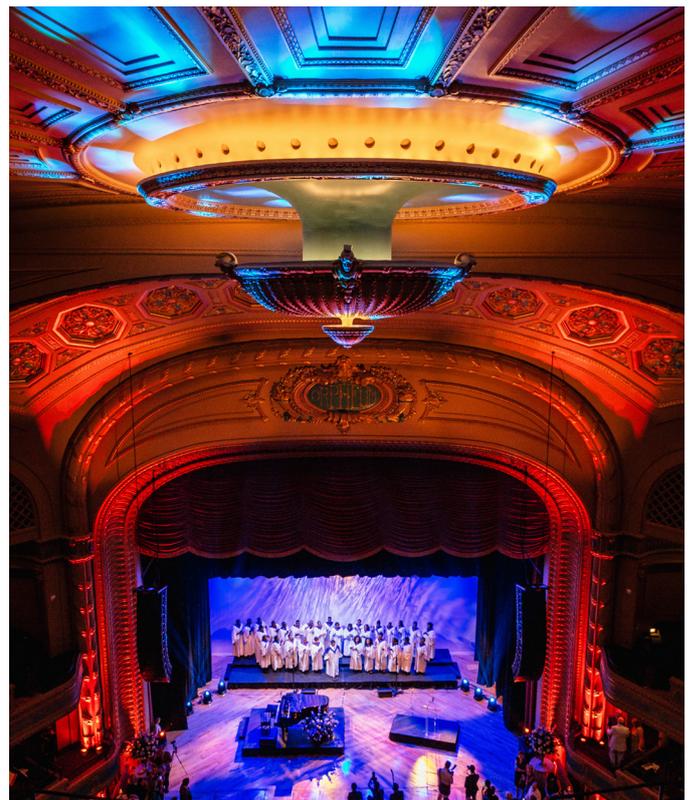
In addition to pure acoustics that have been compared to New York's Carnegie Hall, the Orpheum is a prime example of vertical hall construction with steel beams that support

the balcony and gallery levels without typical columns that block sightlines. The theater is very narrow and steep to accommodate what was originally a vaudeville theater with no audio system so audience members in the topmost seats could hear what was being said onstage.

According to Kristin, deciding what audio system to install was done in close collaboration with installer Don Drucker of Pyramid Audio Productions. "Don helped us make those decisions with the understanding that in an acoustically sound structure, installing an amplified audio system needed to be done with care and an understanding of all the types of events being held at the Orpheum."

Detailing Pyramid's role during the renovation, Don recounts, "we were very involved since the beginning of this project. This theater is a total gem that had been lost for many years, and to see it develop and come back to life has been amazing. It was known for having such great acoustics and that was the first subject that popped up when discussing the design and renovation.

"We looked at several manufacturers who submitted designs for the site, rated those designs, made necessary adjustments and then presented the better proposals to the client. Of all the submissions, Martin Audio required the fewest adjustments and that's how we came to the decision. We also knew the system had to be of the highest sound quality, very controllable, aesthetically friendly and compatible to the space while the response and articulation had to cover every seat in the house. We didn't want to upset the hall's acoustics and felt Martin Audio MLA would have the best fit into the acoustic atmosphere of the theater."





“ THE MARTIN AUDIO SYSTEM HAS BEEN SHOWCASED IN MANY DIFFERENT SCENARIOS AND HAS BEEN AMAZINGLY STRONG

Orpheum Theatre, New Orleans

The sound system starts with 12 MLA Compact hangs per side with 4 DSX subwoofers ground-stacked near the stage which are used for certain rock bands. 30 DD6 dual differential dispersion speakers are deployed under the two sets of balconies and used as front fills at the front edge of the stage that are removed for dance events. Martin Audio C6.8T and C8.1T Ceiling Series speakers are mounted in the lobby areas and bathrooms to achieve a consistent sound throughout. Martin Audio is also used for stage monitoring and power.

Other system components include a Midas Pro 6 console for FOH and a Pro 2 for Monitors, Shure wireless microphones, Telefunken, Shure and Audio-Technica hand-held mics, Radial direct boxes, a Merlin processor, Lenntech for remote control of power and a BSS Blu system for additional midrange control in different areas of the house.

Asked to evaluate the MLA system's performance, Kristin comments: "The Martin Audio system has been showcased in many different scenarios and has been amazingly strong. So from the opening party to Allen Toussaint's funeral and concerts by Dwight Yoakam, Wilco and Billy Gibbons who

performed with a Cuban percussion section, the system has sounded great. We believe we have the premier facility in the state of Louisiana and an important piece of that is how this building sounds for all of the performances. We've been continuously impressed and pleased with the Martin Audio system.

Echoing Kristin's sentiments, Don adds, "We feel the MLA system has performed to the ultimate spec of what was originally presented to us. It's fulfilled all of the particular needs of different types of acts in various events and the marketing of attendants in the theater. Obviously, you get different audiences for the Philharmonic, the rock bands, dance troupes and special presentations from a foreign country, and Martin Audio has shone in all of those areas.

"The theater has been set up to show major motion pictures in Surround Sound with different rear speakers installed by another company, and we can easily reconfigure the existing system for those films. In terms of the concerts, FOH Engineers for visiting bands have all used the Martin Audio MLA system and they love it. We haven't had any issues whatsoever."

MLA Mini Hits Germany's Largest Outdoor Theatre

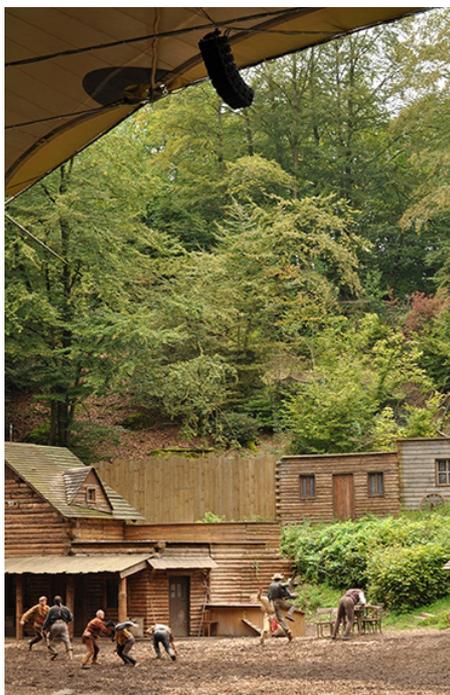
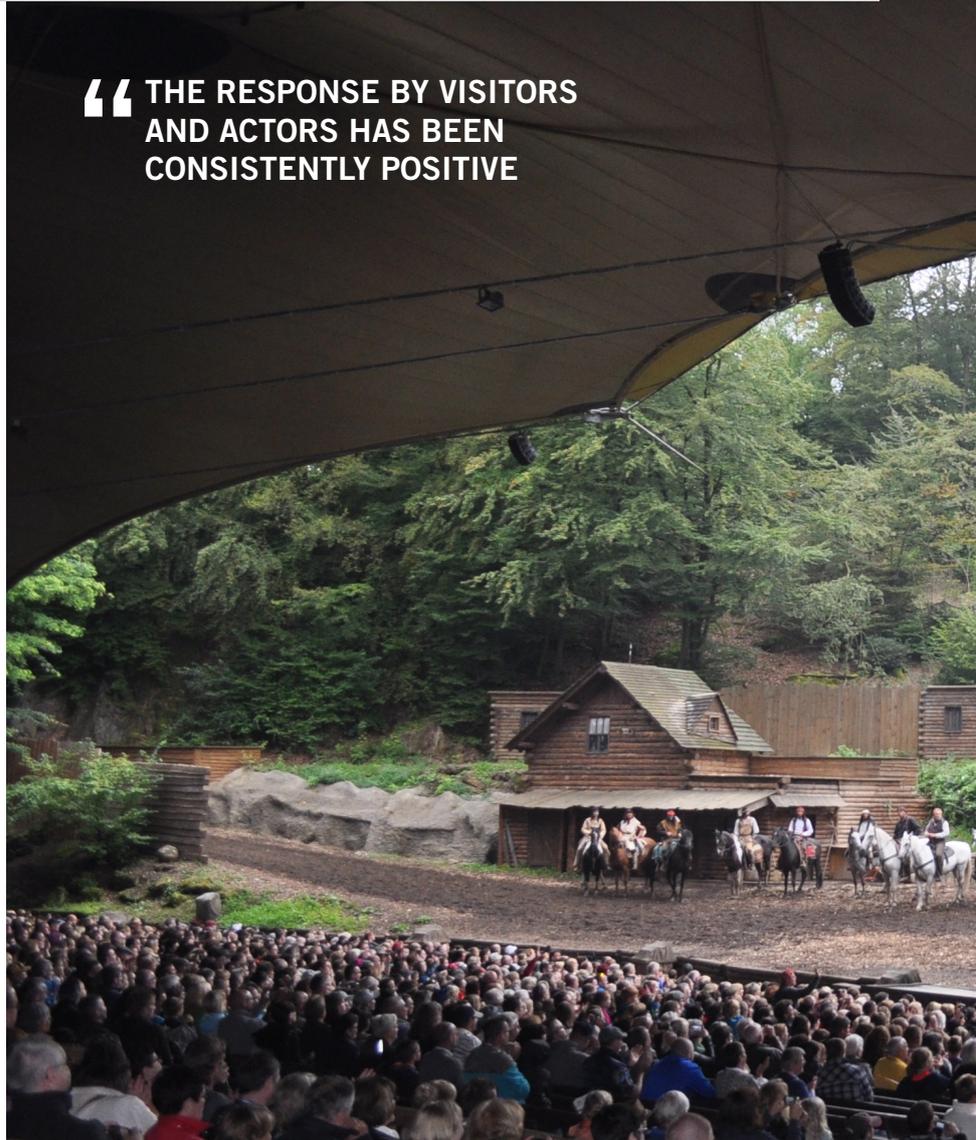
A Martin Audio MLA Mini, featuring the company's award-winning Multi-cellular Loudspeaker Array technology, is playing a central role in the technical upgrade of the Elspe Festival in Germany. One of the largest and most visited show and festival parks in Europe, the 120,000 square metre site is located in the Sauerland Elspe, in Olpe, South Westphalia.

Each year Elspe Festival invests heavily in conservation and upgrading of the infrastructure to preserve its Wild West theme, and welcome the Karl May Festival. This is when Winnetou and Old Shatterhand, fictional characters in the Western novels by the German writer, take their place in Germany's largest outdoor theatre.

Last year, renewal of the audio system was high on the agenda and sound consultant Ulrich Schmitz knew it had to cast its spell on the 200,000 people who congregate each year.

In addition to being responsible for the audio systems in Elspe, Schmitz works at the company EP:Nöker, who are entrusted with the planning and installation. Explaining how he arrived at a Martin Audio solution, he explained, "Elspe Festival's claim is to invest in stable, long-lasting and future-proofed products. We searched for a solution,

“ THE RESPONSE BY VISITORS AND ACTORS HAS BEEN CONSISTENTLY POSITIVE





which was technologically state of the art and which fit our requirement 100%.”

Some of the criteria had to do with speech intelligibility as well as provide smooth coverage of the whole auditorium and a better monitor situation on stage. In addition it had to be able to withstand the hard weather conditions.

Several leading suppliers were considered for the work but the choice went in favour of United Brands: “We knew United Brands could deliver the complete audio hardware package required in view of their extensive portfolio,” said Schmitz.

For the outdoor Nature area 16 MLA Mini elements were used (four each for the left and right hangs, with a cluster of eight in the centre) as well as six S15+ subwoofers and six DD6 speakers as nearfills. Monitoring was realised by eight weatherproof AM10 and two AM12, which were non-visible.

But not only the 4,000-seater Nature stage had to be modernised but also the all-season Festivalhalle stage.

This was equipped with a front PA comprising three stacks each of W8LM Mini Line Array elements (with a single W8LM and two W8LMD in L/C/R configuration) and three S218+ subs. Stage monitoring is formed from a centre stack with a single W8LM and two W8LMD Downfills (plus a W8VDQ on each flank for side monitors).

Both installations were controlled by XTA devices, and powered by amplifiers from MC2 Audio, while the mixing console in the Festivalhalle was upgraded to a DiGiCo SD9 system.

Of the installation, Jochen Bludau (managing director of Elspe Festival) has delivered a resounding thumbs-up: “From the first day of planning, the staff from EP:Nöker and United Brands worked hand in hand to create an excellent result. The response by visitors and actors has been consistently positive.”

Thus when Elspe’s Wild West festival opens again on 20 June 2015, it will do so with a consolidated sound reinforcement system — supplied by United Brands.

Martin Audio Goes Legally Blonde



dBS Solutions specifies XD15/WS218X for Broadway/West End musical on tour.

When dBS Solutions MD, Chris Bogg, purchased a Martin Audio theatre system to tour the long-running West End success Avenue Q back in 2014, it started a relationship that persists to this day.

The company's XD12 and DD6's, bought specifically for that tour, redefined the audience experience and this combination has subsequently been out on a number of theatre projects and end of year pantos.

Presently the Martin Audio XD/WS218X model has been adopted on two further productions - Spamalot being one while the other is the newly opened Legally Blonde The Musical (for which dBS Solutions has deployed the larger Martin Audio XD15). This high specification unit with 15' LF drive unit and 1.4' neodymium HF compression driver, ticks many boxes - from its reduced weight, which enables several pairs to be mounted easily up the vertical proscenium truss, to the rotatable horns offering flexibility.

The smash hit Broadway and West End musical, based on the major box office movie, has been produced by musical theatre and panto specialists, UK Productions. They contacted dBS Solutions based on the audio company's past success with their flagship Christmas pantomime in Sunderland.

But sound designer Chris Bogg recognised that this latest challenge would not be an easy one. 'The show's American girl-heavy production numbers have a tendency to sound 'squeaky' to me so the main aim was to make the sound less shrill and much warmer,' he said. Careful choice of microphones and deployment of the XD15 and WS218X subs were key so that the dBS MD is able to declare with confidence: 'We have achieved exactly what we set out to, and produced a great sound for the show.'

The cast are on 28 radio mics, with seven musicians in the orchestra pit on personal monitors. And with further tracks





dedicated subs. They will handle all the frequencies we need and consequently this has massive time implications when setting up, allowing us to concentrate on the rest of the system.'

By 'the rest of the system' he is referring to the central pair of XD12 downfills, clustered above the proscenium, which draw the vocal image down and shift it to the centre. Once again, with the rotatable horns he has been able to set these at 100° horizontal x 80° vertical. Finally, four DD6s mounted on the front of the stage provide front fill, while a further eight of these hugely popular utility speakers are used as delays at balcony level to ensure there is no risk of the sound dropping away at the furthest reaches.

and sound FX from 30 channels of Qlab there was plenty to occupy the mind when Chris first set out to design the system.

His solution has been to mount eight XD15's in four pairs on the vertical truss, focused into the different balcony tiers, each with independent control. 'With the XD's we have multiple options thanks to the rotatable horn; in traditional format it is 80° wide but with the horn rotated the width of dispersion is 130° using two boxes - and if we want something in between we can format the horizontal coverage for 100°,' he notes.

Extending the low frequencies are a pair of Martin Audio WS218X subwoofers, one either side of the stage for stalls coverage. 'But in the upper tiers, the 15' drivers in the XD15 will go sufficiently low that we find we don't need further

Helping Chris Bogg ensure a smooth ride for the production are Associate Sound Designer, Matt Chisholm, Production Engineer Richard Pomeroy, and the show's team of Kieron McGuire and Luke Capay.

“ WE HAVE BEEN GETTING GREAT RESULTS FROM THE MARTIN AUDIO SYSTEM. IT'S SOUNDING EXACTLY AS IT SHOULD AND EVERYONE IS DELIGHTED WITH IT ”

Summing up the overall sound dynamic, the dBS Solutions MD says, 'We have been getting great results from the Martin Audio system. It's sounding exactly as it should and everyone is delighted with it.'



Autograph Sound Deploys CDD-Live! on Major Theatre Shows



Following the successful deployment of Martin Audio's MLA system at Regents Park Open Theatre this summer, Autograph Sound has been using the manufacturer's CDD-LIVE 15 15' powered, point source solution in some of its recent theatre productions.

First, sound designer Nick Lidster - the man responsible for designing the Jesus Christ Superstar sound in Regents Park - had four CDD-LIVE 15 out on duty at the Jason Robert Brown musical Last Five Years, repurposed for London's St. James Theatre. Then his colleague Avgoustos Psillas fielded a complete proscenium system, with surround and fills, at Hackney Empire for Sleeping Beauty, the seasonal pantomime.

In this challenging environment, a three-way L/C/R CDD-LIVE 15 system, with three enclosures each side of a clustered centre fill/downfill, was mounted overhead on the motorized horizontal truss.

'We were curious to hear it after having had such a good experience with MLA,' said Lidster. 'Although our existing 15' point source solution is still reliable it is 30-year-old technology so we had been looking for a replacement to handle this kind of show.'

The Autograph team listened to the CDD-LIVE 8', 12' and 15'. 'While the first two were both nice and clean, producing good horizontal coverage with a flat response, it was the 15' that really stood out,' noted Psillas.

'It didn't colour the sound, it had a flat response, and it delivered the fullness of sound that you would normally expect from a large PA. We spun it round so it was facing outside and walked away from it 30 metres to check HF coverage at a distance, and all these findings convinced me I would like to test drive it on this panto.'

Awash with gilt and velvet, the historic Hackney Empire is one of the new surviving Frank Matcham fin de siècle theatres, and Avgoustos Psillas' first challenge was to counteract an acoustically 'bright' room - featuring a lot of hard surfaces - and a loud show exacerbated by a full house of screaming children. 'Because the band is basically positioned in the stalls, and the audience takes an active part in the show, the system has to be loud. But due to highly reflective surfaces in this venue, the coverage and focusing also have to be very precise in order to minimise unwanted reflections.'

The show, mixed by Gareth Tucker on a DiGiCo SD10T, driven at 96kHz, also involves multi-layered sound FX triggered from QLab, with a keyboard heavy band and drums. 'We throw a lot of material at CDD - and what makes me know a system is good is when I play the sound FX ahead and I can run it almost completely flat,' the sound designer continued. 'I usually use filters for system cross-over and I rely on my subs to carry the depth of the mix. That gives me better control over how the venue responds to low frequencies. In areas where subs don't reach, I can rely on the low end from the 15in CDD-LIVE.'

Four CSX-LIVE 218 (2 x 18) subwoofers were deployed - two in the stalls and two on the truss. 'These sounded great,' he says. 'Again, we used little processing and besides, I have used WSX many times before in this venue so I was sure the new double 18' subs would be just fine.'

Working in a Grade II-listed building brings its own challenges, since there are no rigging points. A pair of CDD-LIVE 8 on each of the two balcony levels (Circle and Upper Circle), suspended or stand-mounted, provided the surround.

The six proscenium CDD-LIVE 15 took the bulk of the show as they carried all elements of the mix. 'As the prosc system works so well I used the CDD-LIVE 12 as a down-fill and the CCD-LIVE 15 as a centre-fill for the circle and upper circle,' he explains.

Avgoustos also emphasized the appeal of the CDD-LIVE 15 out wide. 'Because of the way I focus the system in a venue like this, where clarity is everything, sidefills are vital. The CDD's 100° horizontal dispersion is perfect as when I used a box with 110° it caused so many issues with reflections and too much cross coverage.'

The result, declares the Autograph designer, has been a great sounding show. 'I really liked CDD-LIVE to begin with but the beauty of trying a new product in a challenging show such as a panto over a few weeks, is that you get to know a lot more about it and how it performs.'

His sentiments were echoed by Nick Lidster, who explained that Last Five Years' artistic director had been impressed with the Jesus Christ Superstar production at Regents Park, and suggested a return to Martin Audio. But this was a far cry from the outdoor performance. 'Victorian theatres haven't changed in 150 years and this requires a workhorse 10, 12 and 15in speakers,' he says.

“ CDD-LIVE IS AN EXTREMELY IMPORTANT LOUDSPEAKER AND SOUNDED REALLY GREAT, PRODUCING EXCELLENT, HIGH VALUE HI-FI



Describing this show as an 'old school musical theatre design without over-amplification' the four CDD-LIVE 15 have been used variously in arrayed left and right pairs on the pros. opening, for long throw and front fill. 'The show requires a nice wide coverage. I wondered whether CDD-LIVE would be able to handle this but it sounded beautiful at the level I was running it at.'

EQ'd and delayed from the DiGiCo desk he described the sound as 'super-clear, analogue and chocolaty.' He added, 'CDD-LIVE is an extremely important loudspeaker and sounded really great, producing excellent, high value hi-fi.'

In summary, he said, 'I was very pleased with the performance of CDD-LIVE - it sounded beautiful. This was really a high-brow theatre musical rather than a rock show and hi-fi was required, and that's the whole reason I wanted to use it in the first place.'



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