



COLSTON HALL



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As part of a £45million refurbishment of Bristol Trust's Colston Hall, The Lantern - a 350-capacity concert hall - has recently received its upgrade and has been kitted out with a new L-Acoustics system.

Run by Bristol Music Trust, Colston Hall is Bristol's largest concert hall and sits right at the heart of the city's cultural life. It has been providing musical entertainment to the area since 1867 and hosts some of the major names from the rock, pop, jazz, folk and classical worlds, as well as stand up comedy and light entertainment, plus local choirs, orchestras and schools.

From 2007 to 2009, the building underwent extensive refurbishment with the construction of a new foyer alongside the present building. The addition of the new foyer meant that the old bar area, previously known as the Little Theatre or Lesser Colston Hall could once again become a performance space, which is now known as The Lantern. It is here that HD Pro Audio has installed a new L-Acoustics loudspeaker system.

The Lantern is a 350-capacity venue and the in-house system needed to be flexible to deal with all the demands of the space, yet not blow the budget. With the Trust looking at a £45million refurbishment of its historic spaces, including The Lantern - which was carried out as part of the second stage of the upgrade - the system also needed to be practical and inkeeping with the future vision of the venue once the long-term project is completed.

It was Colin Pegum, technician for Bristol Music Trust, who set out on the challenge to find a system that would tick all the required boxes, a process that started in late 2014 and was completed this year. The in-house team also included Jon Fox, Frazer Riches, Andy Collins and Nick Craney.

"The Lantern has become a very busy space with strong, diverse programming and the new PA system had to accommodate this wide range of shows," said Colin. "With exposed stone walls, the emphasis was on directivity and minimising reflections."

The team at HD Pro Audio was called in, along with a number of other suppliers, to suggest a solution. HD Pro Audio's Andy Huffer felt an L-Acoustics ARCS WiFo system was ideal for the venue.

"I first became aware of the need for a new system in The Lantern after chatting to Colin at an event in the main hall where I was providing technical support," said Andy. "They had originally ruled out L-Acoustics as an option because they perceived it to be beyond their budget, but I suggested that ARCS WiFo would not only be on or under budget, but also the best solution for the room."

"The Lantern is a classic shoebox shape, which means that most line array solutions are inappropriate, throwing too much energy at the walls through their wider dispersion. The DOSC waveguide employed in ARCS Wide allowed us to create a detailed, high SPL source with two boxes per side that direct the audio exactly where it is required, optimising clarity and coverage."

The room is less than 25-metres to the back wall from the proscenium arch and is also relatively narrow, so the only option was for the system to be hung near to the sidewalls. Andy discussed the project with L-Acoustics' Application Engineer for UK & Ireland, Dan Orton and a Soundvision model was made

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which confirmed Andy's opinion. "The L-Acoustics ARCS systems work as a virtual point source, similar to a line array element positioned on its side but with a wider dispersion, allowing the ARCS waveguide to disperse the energy within the width of the box, making it a true 'point and shoot' cabinet," said Dan. "The high frequency energy stops in line with the side of the ARCS cabinet, which allows you to keep the energy away from the walls and, when using multiple boxes in a design, to perfectly couple the boxes together, allowing for accurate pattern control depending on the space. The fact that you just need to look down the line of the box means it's very easy to deploy the system and to know exactly where the energy is going."

"I revisited the venue to take measurements and created the Soundvision file," said Andy. "That let us predict the best loudspeaker positions and angles, and confirm the SPL and coverage that would be generated. "We put our demo system into The Lantern for a trial period to prove that our design would work, using temporary ground support, and then replaced it with the new boxes once the order was confirmed and permanent rigging points were installed. Final system tuning took place in conjunction with the L-Acoustics technical team."

The final system comprises a pair of vertically arrayed ARCS Wide each side, a mono pair of SB18i subwoofers positioned on the floor, and three 5XT fills - an extremely compact cabinet that has the same signature sound in the mid high as the main system - along the front of the stage, which integrate seamlessly with the main system, with no obvious difference in quality of sound or tonal balance, ensuring every seat receives perfect audio.

"The ARCS Wide have been flown vertically, giving us 60°x 90° with even coverage front to back," confirmed Colin. "We have three 5XT as front fills to ensure vocal / high frequency clarity in the first few rows and a pair of SB18is (mono) close coupled in the centre. The L-Acoustics system provides a universally recognised high standard of audio and has given us even coverage of the entire venue."

Powering the system is just one L-Acoustics LA8 amplified controller. ARCS WiFo is a passive box, allowing two ARCS WiFo per channel to be run from the single LA8; two channels for the left and right, with the subwoofers and fills run in mono using channels three and four. With individual control over each channel of the amplified controllers, it was possible to tune and time align the system as required.

Pre-existing audio equipment at The Lantern includes four QSC HPR122i loudspeakers and four Nexo LS1200 loudspeakers for monitoring, a Behringer X32 console and outboard being two DC players - one from Denon, one from Tascam. Microphones available include a mixture of Shure, Sennheiser, beyerdynamic, Electro-Voice, AKG and Audix, plus DIs from Behringer and Radial.

The lighting system was also already in place and is comprises: Martin Professional Rush MH2 Wash moving heads and Par 64's on the upstage bar; Selecon Acclaim luminaires and LED Par Cans on the downstage bar; more Selecon Acclaims and ETC Source Four Junior followspots on the FOH truss; and Miltec Par Cans for the upstage floor. Lighting control is via a Chamsys MQ40 console. There is also a fixed projector hung in The Lantern, designed to project onto the screen positioned upstage centre.

FRANÇAIS

Colston Hall, la plus grande salle de concert de Bristol, propose des animations musicales depuis 1867 ainsi que des spectacles d'humoristes et de divertissement. Tout récemment, un nouveau système de haut-parleur L-Acoustics a été installé par HD Pro Audio dans l'ancien bar dénommé The Lantern, qui a été converti en un espace de représentations à la suite de grandes rénovations effectuées au sein du bâtiment de 2007 à 2009. L'espace The Lantern peut désormais accueillir jusqu'à 350 personnes, donc le système utilisé devait être adaptable afin de répondre à toutes les exigences du lieu, sans pour autant casser la tirelire. L'installation L-Acoustics correspondait au budget et a même offert à l'espace The Lantern, un système pouvant faire face à toutes les exigences du lieu, et ceci à un prix que l'équipe interne n'avait pas envisagé avec des produits L-Acoustics. De ce fait, le résultat final a suscité les compliments de la part d'ingénieurs invités et de l'équipe interne, et a offert à l'espace The Lantern la possibilité de se développer à long terme et de diversifier son calendrier de spectacles.

DEUTSCH

Colston Hall, die größte Konzerthalle in Bristol, bietet seit 1867 musikalische Unterhaltung sowie Stand-up-Comedy und leichte Unterhaltung. Kürzlich hat sie ein neues L-Acoustics-Lautsprechersystem erhalten, das von HD Pro Audio in The Lantern - einem ehemaligen Barbereich, der nach der umfangreichen Renovierung des Gebäudes zwischen 2007 und 2009 in einen Performancebereich verwandelt wurde, installiert wurde. The Lantern verfügt über 350 Plätze und die Hausanlage musste flexibel sein, um den verschiedenen Anforderungen des Bereichs gerecht zu werden und gleichzeitig durfte es das Budget nicht allzu sehr strapazieren. Das L-Acoustics-System entsprach dem Budget und verschaffte The Lantern ein System, das allen Anforderungen des Ortes gerecht wird und zu einem Preis, von dem das interne Team zuvor nicht realisiert hatte, das er eine Option der L-Acoustics-Produkte war. Das Ergebnis entlockte im Gegenzug den externen Ingenieuren und dem internen Team zahlreiche Komplimente, verschaffte The Lantern viel mehr Wachstumsmöglichkeiten und fügt dem Kalender abwechslungsreichere Veranstaltungen hinzu.

ITALIANO

Colston Hall, la più grande sala concerti di Bristol che fornisce intrattenimento musicale dal 1867, così come stand up comedy ed intrattenimento leggero, è stata di recente dotata di un nuovo sistema di altoparlanti L-Acoustics installato da HD Pro Audio nella Lanterna (un ex bar che è stato trasformato in un luogo per spettacoli dopo che l'edificio è andato in contro a degli ingenti lavori di ristrutturazione dal 2007 al 2009). La Lanterna è un locale da 350 posti ed il sistema interno doveva essere flessibile, per poter fronteggiare tutte le esigenze del locale, ma senza gravare sul budget. Il sistema L-Acoustics rientrava nel budget e ha dato alla Lanterna un sistema che può far fronte a tutte le esigenze del locale al giusto prezzo, anche se il team interno non si era reso conto fin da subito che i prodotti L-Acoustics potessero rappresentare una buona opzione. Il risultato, in cambio, ha suscitato i complimenti dagli ingegneri esterni e del team interno e ha dato alla Lanterna un motivo in più per crescere ed aggiungere più spettacoli al suo calendario.

ESPAÑOL

HD Pro Audio ha instalado recientemente en el Colston Hall, el salón de conciertos más grande de Bristol, el cual ha brindado entretenimientos musicales desde 1867, así como comedia stand up y espectáculos de entretenimiento, un sistema de altoparlantes de L-Acoustics en The Lantern -un área en la que hubo un antiguo bar- la cual fue convertida en un espacio para espectáculos luego de que el edificio se sometiera a una gran reforma que duró desde 2007 a 2009. The Lantern es un sitio con capacidad para 350 personas y el sistema interno necesitaba ser flexible, que pudiera cumplir con todas las demandas del espacio y sin salirse del presupuesto. El sistema de L-Acoustics entró en el presupuesto y le otorgó a The Lantern un sistema que puede hacerle frente a todas las demandas del lugar y a un precio óptimo en el que el equipo interno no se percató de que fuera una opción con productos de L-Acoustics. El resultado, en retribución, ha sonado cumplidos por parte de los ingenieros visitantes y del equipo interno, y le ha otorgado a The Lantern mucho más campo para crecer y agregar diversos shows a su calendario.



The entire L-Acoustics system came in on budget and has given The Lantern a system that can cope with all the demands of the venue and at a price point the in-house team did not realise was an option with L-Acoustics products. Not only has the team ticked all the boxes, they also have a brand and a system that visiting engineers are more than happy to use without question, which the hall has found is a refreshing change. The result, in return, has elicited compliments from the visiting engineers and the in-house team, and has given The Lantern a lot more scope to grow and add more diverse shows to its calendar.

"The new system greatly improves the sound quality in The Lantern, with all other aspects of the venue also soon to be transformed as part of Colston Hall's £45 million redevelopment campaign, set to commence in 2017," said Andy Boreham, Marketing Manager at Colston Hall. "I would like to thank everyone for their

hard work leading up to and including the installation of our new L-Acoustics PA," added Colin. "It really has proved to be the right system for the room.

"The little space is a huge asset to us and we are all extremely proud of how it has developed. August is our dark(est) month and during that time The Lantern had a lot of cosmetic work done, with new house lights to be added soon.

"L-Acoustics has helped broaden the possibility for our programming team, making next season an exciting and eclectic one. As an example to venues in a similar situation, we now have a superb-sounding premium-quality loudspeaker system optimised for the room that was well within the budget allocated for a far less rider-friendly rig. We're very pleased with the eventual result, as are the team at Colston Hall, and there's been nothing but praise from visiting engineers using the venue." 

TECHNICAL INFORMATION

SOUND

4 x L-Acoustics ARCS Wide loudspeaker; 2 x L-Acoustics SB18i sub-woofer; 3 x L-Acoustics 5XT front fill loudspeaker; 1 x L-Acoustics LA8 amplified controller; 4 x QSC HPR122i loudspeaker; 4 x Nexo LS1200 loudspeaker; 1 x Behringer X32 console; Microphones from Shure, Sennheiser, beyerdynamic, Electro-Voice, AKG and Audix

LIGHTING

Martin Professional Rush MH2 Wash moving heads; Selecon Acclaim luminaires; ETC Source Four Junior followspots; Miltec Par Cans; LED Par Cans; Par 64's; 1 x Chamsys MQ40 console

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