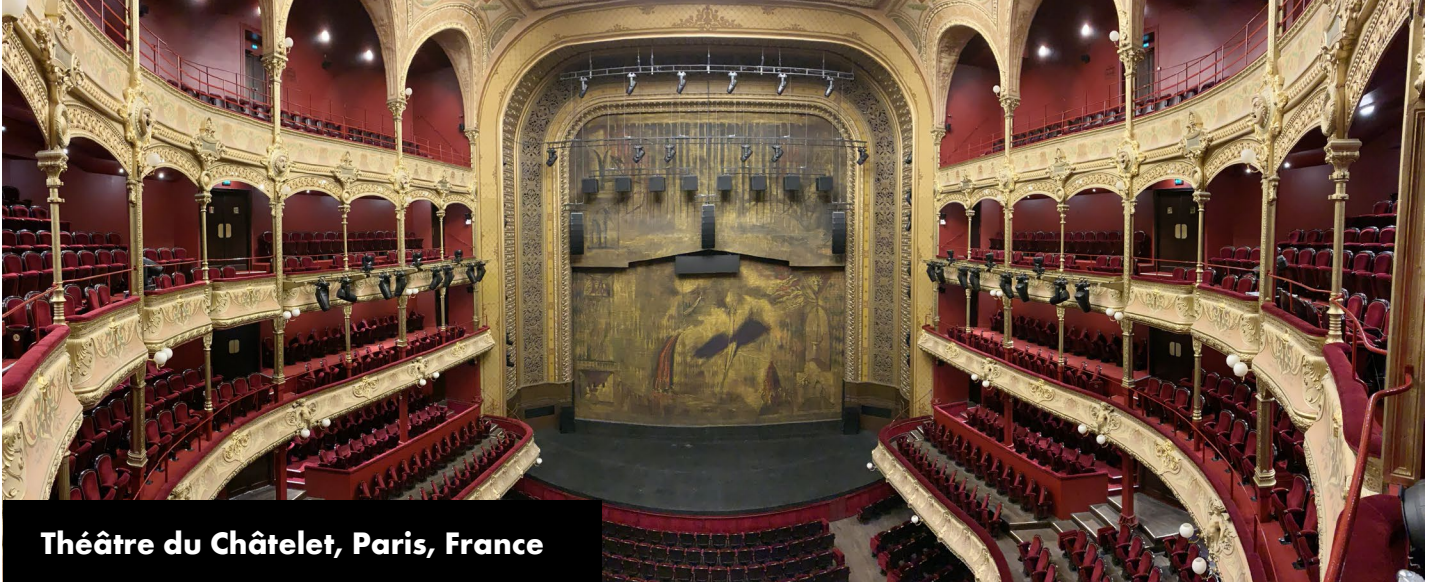


Historic Parisian theatre reopens with d&b.



Théâtre du Châtelet, Paris, France

“It was a natural choice to gravitate towards d&b. We’ve been a d&b house for many years and have always been happy with the products and the service, even though the old system was very outdated.”

Cyril Auclair
Sound Engineer & Deputy Head of Sound, Châtelet theatre

Setting the scene

The Théâtre du Châtelet in the 1st arrondissement of Paris is one of the city’s most significant cultural landmarks. The beautiful ‘Italian style’ theatre has recently reopened after two-and-a-half years of intensive renovation, costing the capital close to 30M Euros. A complete facelift has seen ancient paintwork and murals uncovered and restored while all of the technical infrastructure including sound and lighting, has been completely renewed. The historic theatre is now the proud owner of a Y-Series L/C/R system supplemented with E- and xS-Series delay and surround speakers, optimised by ArrayProcessing.

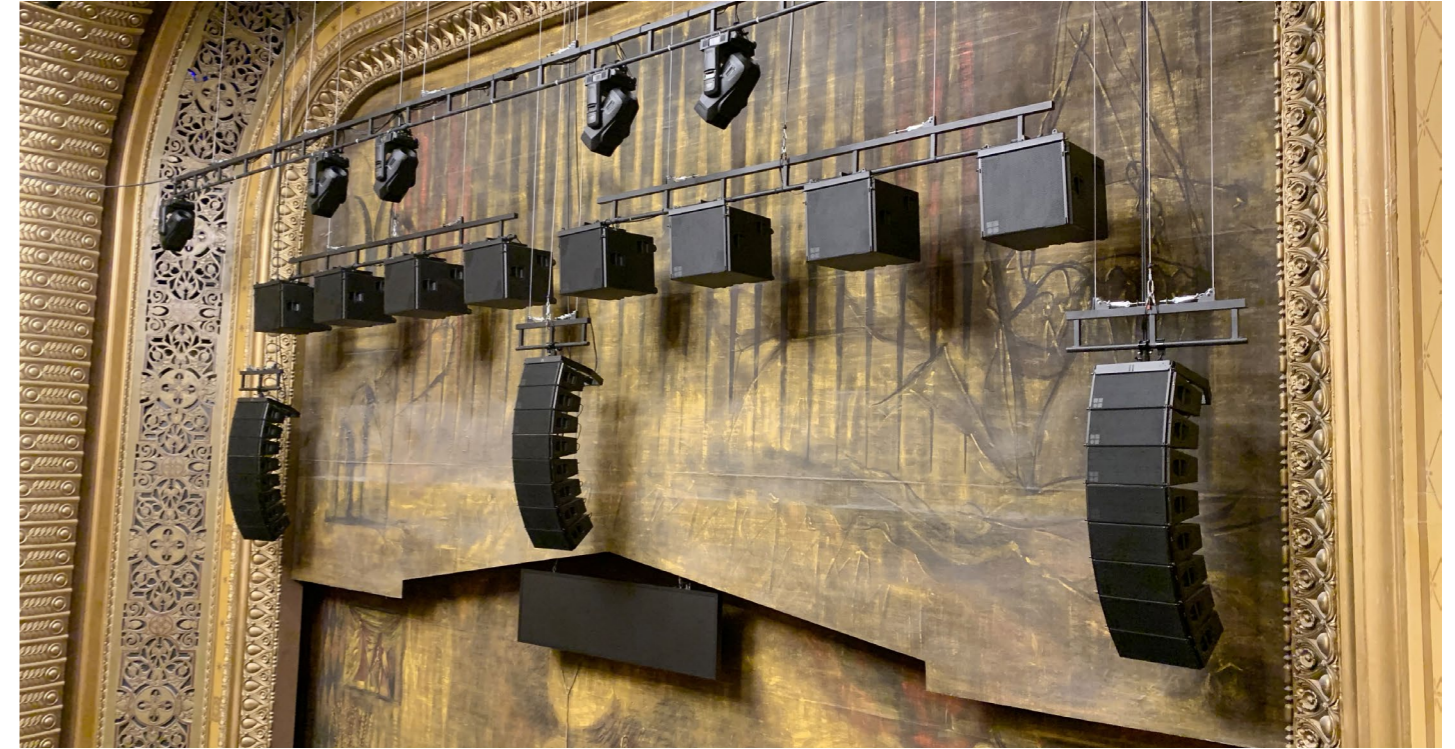
Setting objectives

A significant part of the city’s cultural landscape, the 2,038 capacity Théâtre du Châtelet is what is known as an ‘Italian style’ theatre where the audience is typically seated in boxes arranged in a horseshoe shape over four levels plus the parterre. While providing sublime aesthetics, this formation makes the

theatre a notoriously challenging venue to cover, and the existing sound system no longer did the space justice. As part of the renovation, the theatre decided to invest in a sound system that was capable of covering the venue in its entirety and versatile enough to cater for all types of performances, be this musical theatre, opera or any other form of performing arts.

“It was a natural choice to gravitate towards d&b. We’ve been a d&b house for many years and have always been happy with the products and the service, even though the old system was very outdated,” says Cyril Auclair, sound engineer and deputy head of sound at the Châtelet. During the two-year closure period, the Châtelet put on a production of ‘Singing in the Rain’ at the Grand Palais in Paris which allowed them to try out two key elements of the d&b range: Y-Series and ArrayProcessing.

“We were totally convinced by the results, particularly because the Grand Palais is another famously difficult venue,” notes Auclair.



"It's a vast space with a massive domed glass ceiling and a reverb time of up to 12 seconds! We had to reproduce speech, where of course intelligibility is key, so it was a real challenge. d&b completely rose to the occasion, which gave us all the encouragement we needed to stay with them."

"We decided to keep the idea of the central cluster, as it's important for us to be able to bring the voices back to the centre and give the impression that the sound is natural and coming from the stage. We have a L/C/R system of eight boxes of Y8 and Y12 per hang."

The other issue was low-end coverage, which has always been a problem for the venue. "The previous system didn't include subs, so we've always hired them in," confirms Auclair. "We tried a different configuration every time but weren't happy with any of them. Whatever

we did, there was always a dead area. We just hadn't hit on the right solution, and it was a real problem for us."

Finally, d&b suggested a flown sub array. "We can't deny that it is visually very imposing, but the sub array solution gives us impact, precision and the coverage is about as homogenous as you could expect given the constraints of the venue," reveals Auclair. "There are still zones here and there that need a bit of extra help, but of all the solutions we had tried up to that point, it was the best by a considerable margin."

We also put another couple of subs on the stage (one each L&R), on top of which we've stacked three Y-Series elements to add some impact for the orchestra area and to pull the image back down so that the sound remains natural and with the feeling that it is emanating

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from the stage and not from the clusters and sub array above you."

For frontfills, Auclair and the team opted for T10s. "When the T10 came out, d&b had us try it out, and we thought it was amazing," he recalls. "Not very big yet plenty of energy and what was interesting for us was the 105-degree horizontal dispersion option with a narrow vertical dispersion which keeps the voice focussed without sounding harsh. We've been renting T10s for a while, and we know that they work, so that was a very easy decision for our frontfills."

In terms of delays, the Chatelet remained faithful to E-Series but has upgraded to newer models (E4, E5 & E6) and added several more to cover the whole venue adequately. There are also forty-four 5S speakers cleverly concealed in the air-conditioning ducts, used for surround sound.

The entire system is optimised with ArrayProcessing technology. Auclair first discovered ArrayProcessing at the Grand Palais and was astounded by the intelligibility of the system and the perfectly even coverage once the ArrayProcessing algorithms were applied. "It was obvious that it would be a great solution for the Châtelet," he observes. "It's a challenging space with a natural reverb of 2.1 seconds when empty, and the fact that some balconies are quite close to the clusters - say 12m - while others are nearly 30m away. There are areas with low ceilings, and others with really high ceilings and awkward angles. We've got the lot! We therefore needed to spread the sound pressure evenly throughout the room, and Array Processing helped us to achieve that."

"We're thrilled with the results at every level," concludes Auclair. "We now have a

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Ruth Mackenzie
Co-director, Châtelet theatre

real system that covers the room properly, including the most difficult-to-get-to zones. The full frequency spectrum is covered, and when you're at the desk, you realise how sensitive the system is. You can tell you're working with a proper PA, but which still manages to convey the impression that the sound is coming from the stage rather than the speakers. B-Live, who are both our rental company and systems integrator, did a fantastic job, as did d&b France who supported us throughout.”

The new co-director, Ruth Mackenzie, comments from a more global perspective. “The tax-paying citizens of Paris have spent an enormous amount of money renovating this theatre at every level, including all of the sound, lighting and stage systems, to bring us into line with modern expectations and to enable us to stage any kind of show to the highest standards. We now have the technical infrastructure in place to embrace the future

with confidence and we are implementing measures via our programming choices and other social sponsorship initiatives to ensure that as many citizens as possible are able to benefit from the cultural opportunities offered by the Châtelet.”

> System: Y8, Y12, Y10P, V-SUB, T10, E5, E6, E4, 5S, B6, D80, D20, 30D, 10D