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Aladdin's Audio Genie-us

LSi reports on the pro audio wizardry at work behind the scenes for the current West End production of Disney's Aladdin . . .



Photo: Deen van Meer © Disney

UK - Disney's *Aladdin* brought a riot of colour to London's West End when it opened this summer. Ken Travis and his associate, Alex Hawthorn, designed the sound for the show's Broadway run and wanted to create an intimate atmosphere in London's Prince Edward Theatre. At the same time the audio system had to be almost invisible.

Although Ken is an established Broadway name, *Aladdin* is his first West End show. Candidly admitting that he didn't know what to expect, he was assisted by UK-based associate sound designer Tony Gayle, along with Andy Brown, senior production sound engineer at Autograph, and sound operator Simon Fox. "They really helped to guide the US team through the process. Honestly, I have never felt so relaxed walking into a theatre as I did knowing that Autograph were on the job," says Ken.

He continues, "We wanted a system that would be both cinematic and intimate. We

"We wanted a system that would be both cinematic and intimate . . ."

- Ken Travis

knew the ideal way to achieve it would be if the audience could localise who was singing, no matter where they were onstage. That way when the show gets big, like during *Friend Like Me*, the audience would still feel connected to the performer. Finding that balance of intimacy and power is tricky, it takes a lot of speakers and processing."

Ken and Alex specified a d&b Y series rig, with a TiMax delay matrix and a DiGiCo SD7T console, all supplied by



Autograph. "d&b sounds great out of the box and the Array Processing provides an amazing amount of control over EQ and volume. The room it gives a designer is amazing," says Ken.

Three TiMax2 SoundHub S64 units (including a hot spare) link via TiMax MADI64 card to the SD7T via Optocore and the d&b amps via DirectOut MADI to AES interface boxes. The TiMax Tracker system consists of seven TT Sensors, with rackmount POE Hub and two 1U TiMax

Tracker PCs (one as backup). Two sensors are mounted upstage, two at the pros and three on the balcony front. Only two sensors need to 'see' for tracking, so this setup provides plenty of coverage.

The SD7T sends MADI sources to all three TiMax units via MADI bridge splitters, including radio mics, plus sound effects feeds from QLab, band mix and reverbs for TiMax to spatialise across the loudspeaker system.

QLab plays sound effects into TiMax inputs via the DiGiCo, along with MIDI commands to trigger TiMax dynamic spatial surround pans. TiMax also manages routing snapshots triggered by QLab. All this occurs simultaneously with the real-time TiMax Tracker control of delay-matrix vocal localisation across 11 different stage zones - plus three elevated 'magic carpet' zones 3m above midstage. Out Board's Dave Haydon provided TiMax Tracker commissioning and training onsite at the theatre.

Andy Brown's job has been to take Ken's design and choice of equipment and to make the show happen, both technically and aesthetically. One of the key challenges was that the entire system had to be as visually unobtrusive as possible, an ongoing commitment by Prince Edward theatre owner Cameron Mackintosh. This was no easy task with an L-C-R system comprising 13 d&b Y Series each side of the proscenium, plus a centre cluster of 16,

← Andy Brown (left), senior production sound engineer at Autograph, and sound operator Simon Fox with the DiGiCo SD77 console

→ The TiMax processors and d&b amps



additional L-R hangs to cover the balconies, a row of Y subs and a full surround system.

"We needed a lot of loudspeakers to make the magic happen, but the only way we could achieve it in Cameron's theatre was to hide it," says Andy. "The main PA is behind scrims, while all the surround and delay loudspeakers are painted to match the theatre walls. It's all about a package and making sure that we do what is best for the show. That's

what Autograph is all about, trying to make it the best it can be from all perspectives."

Further logistical challenges that the Autograph team had to overcome were the ever-greater demands to reduce seat kill at the mix position and a change of location for the system racks. "The mix position is getting smaller . . . It becomes more of a challenge to fit in the console and have room for enough people behind it all," says Andy. "On this production, the whole

area takes the space of just eight seats.

"The racks and control systems are sub-stage in most West End shows. Even with shows that have quite a lot of lifts and other things within the floor, we've still managed to fit the racks around it. But on this show, because of the amount of sub-stage engineering, we had to move all the racks up onto a new platform, stage left, just below the grid. That also meant it was a major job to re-route the



Spatial wizardry



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cabling - and there's a lot of it for this show."

Nowadays much of that cable is fibre optic. "The digital networking side of things has changed massively in recent years. We pull in multiple fibres with a job like this, which we terminate on site," says Andy. "Everything is effectively run through fibre, even MIDI, which we use for triggering TiMax and also lighting effects. We use it as the backbone between FOH and backstage for just about every production we do."

A total of 16 of the show principals and ensemble are using the TiMax matrix. "I hadn't worked with TiMax before, but I really like it," says Simon. "It has taken quite a lot of fine-tuning, as it moves the sound both from left to right and up and down, for the magic carpet. But once it's done, it's a case of 'set-and-forget'. During the book scenes, which are very intimate, you can hear someone is speaking from stage left or stage right, and when they move upstage it gets quieter, so you don't have to make that adjustment manually.

"We have about 130 inputs to the DiGiCo SD7T, but output-wise it's a bit unusual because all of the 16 characters using TiMax have a subgroup out to it. It's all fully digital, from the input through to the d&b D20 and D80 amplifiers."

"TiMax is our ace in the hole on this show," says Ken.

"We wanted to stay out of the 2.4GHz band, because so many other things use it..."

"I also think the SD7T is a fantastic desk. It is the fastest console to program and it sounds great." Simon agrees, adding: "The functionality of the SD7T is perfect for this kind of production. It's quick to navigate and I think you would physically struggle to do something this big on another desk."

Cast microphones comprise 42 channels of Sennheiser SK 5212 transmitters with EM 1046 receivers, which Andy and Simon believe is the best-sounding and physically fitting wireless system for theatre, and a mixture of DPA 4061 and Sennheiser MKE1 miniature lavalier microphones. "We use 5212s on the majority of our shows; it's still the best in terms of quality," notes Andy.

One new innovation for an Autograph West End show is a ClearCom Freespeak II

Photo: Deen van Meer © Disney



communications system, which has worked extremely well in such a crowded RF environment. "There's a lot of scenery and the issue is trying to choreograph the movement of it all, because the wing space is so limited," says Andy. "We needed a system that allows multiple people to talk at the same time and we wanted to stay out of the 2.4GHz band, because so many other things use it, including the scenery automation. Freespeak II works in the 1.9GHz band and the number of conversations you can have at any one time is almost unlimited, so it was the perfect way to go."

Autograph's Duncan Bell remarked: "It's always a privilege to work with a truly global brand and so I'm delighted that we have continued our association with Disney Theatrical on

Aladdin. I'm equally pleased that we were able to meet and exceed Ken's expectations on his first West End project - I hope we get to work with him and his team again soon."

Despite not knowing what to expect from a West End production, *Aladdin* has been a positive experience for Ken and he is quick to praise the Autograph team. "Andy, Simon, Adam Taylor and Megan McDowall have been great. They mix and maintain an incredibly busy and complicated design and do it with smiles on their faces," he says. "Don't tell any production managers, but we were finished sound-checking eight hours ahead of schedule. If Arsenal hadn't been playing away that weekend, we would all have been at the match!" ✕

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