

Lighting & Sound INTERNATIONAL

September 2003

The Entertainment Technology Monthly

www.plasa.org/news

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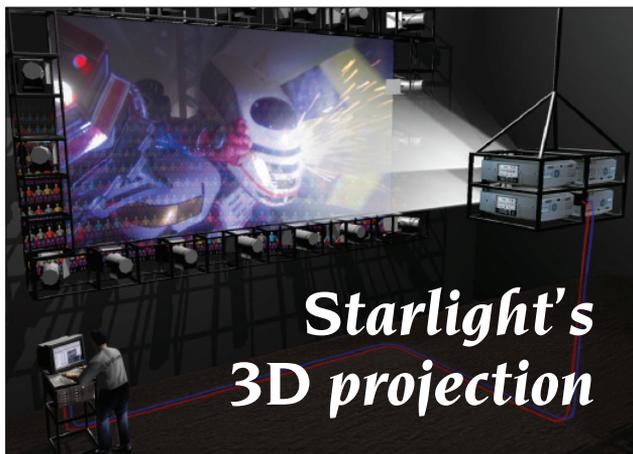
- City/Sportsters in Edinburgh and a review of club mixers





USA - Andrew Lloyd-Webber's *Starlight Express* first opened at the Apollo Victoria, London, in 1984, enjoying nearly 18 years of success there. Now it has a new incarnation as an American touring production, with dates scheduled until the end of the year.

Designed by John Napier for Troika Entertainment, it features an updated score and instead of the race track that was an integral part of the original show, it now has stunning stereoscopic 3D race sequences projected using a custom-built rig, from London-based 3D specialist, Inition.



viewing the content in 3D before taking it to the IMAX cinema. Inition put together a playback system in one of our studios. When it came to the film for *Starlight Express* we introduced them to Troika Entertainment who needed a preview system to view the rushes." Principal Media shot the race sequences using dual 70mm cameras and Inition provided a full-scale screening for Andrew Lloyd Webber in the IMAX cinema in London, before shipment to the USA.

During the two weeks running up to the opening night, Gant and Millns (Inition's creative director) fine-tuned

Stuart Cupit, James Gant, Chris Sutton and Andy Millns formed Inition in 2001. The team has a passion for 3D graphics, creating a range of virtual reality (a.k.a. VizSim) graphics products and services, including the recently-launched Duality range of stereoscopic projection rigs. Although 3D projection has featured in themed entertainment installations, this is the first time it has gone on the road. "The key elements," says Inition technical director James Gant, "are the high definition digital movie playback system and our duality stereoscopic projection system, consisting of four 7700 lumen UXGA projectors." "This is not just a first in theatre," adds Inition MD Stuart Cupit, "it's a sign of things to come."

The specifications of the playback system were demanding: two frame-synchronized UXGA (1600 x 1200) video channels at 30fps, along with eight channels of audio. To achieve this, Inition worked with software specialist Iridas, providing it with its Digital Cinema Playback System. DCPS uses uncompressed full resolution playback technology, so image quality wasn't an issue, and it doesn't require hardware decoders. With DCPS, the dual channels are queued through the same display pipeline, so there's no possibility of drift and the sound synchronization is precise.

One of the most important demands of the system was achieving adequate brightness for the

30ft screen. Rear projection was also necessary to avoid building a FOH projection tower. Because of space limitations in certain theatres on the tour, super wide-angle lenses were used, allowing a throw distance of under 25ft. To create the stereoscopic effect, polarizing filters were mounted on the lenses and the audience was provided with polarizing 3D glasses. The video footage was then projected through these filters onto a special, non-depolarizing screen, creating the 3D effect.

The system has to be portable, and quick to install and remove from each theatre. The four projectors take around 20 minutes to align and are housed in a custom-built rig that is transported fully assembled and flightcased. The DCPS playback systems are very compact, based on rack-mounted Windows PCs from DVC in Germany. The rig includes an identical back-up playback device running in parallel, with a switcher that triggers the second machine in the event of a problem. The system also plays back eight channels of audio.

The makers of the 3D film, Principal Media, introduced Lloyd-Webber's Really Useful Group team to Inition during its work on the IMAX production of 'Giant Screen Bugs' as co-producer Tim Wellspring explains: "We needed a way of

the technology, conducted technical rehearsals with the cast and trained the *Starlight Express* technicians to operate the system. "It was amazing to see how the stage action and scenes projected in 3D were integrated," says Millns. "For example, one transition began with real fog on the stage which then gave way to 3D projected fog. It was almost seamless."

Complementing the 3D projection was more conventional theatre technology. Lighting designer Rick Belzer specified a substantial rig controlled by a grandMA console with wireless remote focuses at the heart of the system. Christie Lites of Orlando, Florida, supplied the lighting system, which includes 106 Source Four profiles, 26 ACL bars (each with a scroller), 30 Vegas Ministris, 152 ETC Source Four PARs, 90 Spectracue CL3 scrollers, two Robert Juliat followspots, 12 Atomic strobes and 35 Martin MAC 2000s. It's all suspended from 23 sections of Thomas Swing Wing Truss on 25 motors, and the moving lights travel within the truss itself. Also in the spec are four 96-way ETC Sensor racks, seven F100 foggers and two Le Maitre Neutron hazers.

Sound is by specialized Audio Visual Inc of New York, with sound designer Mark Norfolk and consultant Mick Potter working together. The audio reinforces 22 singers and a live orchestra, augmented by 12 orchestral tracks and effects playback from a Mackie HDR/96 24-track digital multitrack. The PA is a main left-and-right proscenium system using EAW JFX260s for vocal, KF650Es as the main orchestra system and a single CH461 for balcony fill, with SB850 subwoofers. A small surround sound system of up to four Apogee AE5s is limited by tight load-in times. The system is powered by Crown, controlled by BSS Soundwebs and mixed on a Midas Heritage 3000, with Sennheiser wireless systems and a Midas Heritage 3000 56-input console. A Stage Research SFX show control system runs the narration, cues the console's presets and a variety of reverbs, effects and other patches, and controls a pair of Yamaha 01D digital mixers.

This is touring theatre on a grand scale indeed.

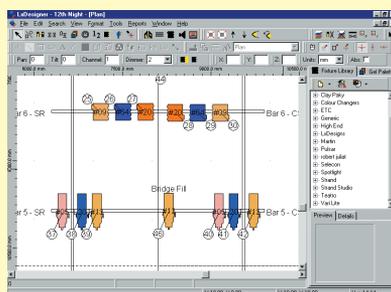
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