

# Youthful sound

The opening ceremony of the first Youth Olympic Games in Singapore was the culmination of 18 months of preparation. All the good planning did not go to waste, as **James Ling** discovers



Auditoria's Scott Willsasen



Systems engineering team at Youth Olympic Games

**WITH MAJOR INTERNATIONAL** sporting events, the opening and closing ceremonies are a time for a host nation to really show itself off with a spectacle to grab the attention of the world. These events are planned to keep visitors coming back long after the games have moved on and so must be memorable and inspiring as well as entertaining. Meeting this balance was the task faced by the creative team for the first ever Youth Olympic Games held in Singapore in August.

Both ceremonies for the games were held on the floating stage in Marina Bay with Singapore's skyline providing the backdrop. Creative director Ivan Heng and his team

wove genres such as theatre, music, song, dance and multimedia into a show infused with surprises and special effects. The three-hour event attracted around 27,000 spectators – making it the largest show ever held in the city – and involved 7,000 performers, most of whom were under the age of 18. Beatboxer Dharni, DJ KoFlow, fire performers from Bornfire and SOKA, martial arts students from Martial House and drummers from Drumfest as well as local school children all featured prominently in the event. It was broadcast to an estimated global audience of 2 billion viewers and included spectacular artistic performances, drawing on the

history of the city, lion dances and numerous firework displays as well as the athletes' parade and the traditional speeches and anthems.

The centrepiece stage – the world's largest floating platform stage designed by Randy Chan – featured a 32m tall Olympic torch in the style of a lighthouse flanked by six giant LED screens and a reflecting pool of water. The semi-elliptical lake in the middle of the stage hosted segments of the show and the reflections from the lake, together with the lighting effects, were used to enhance the overall effect of the show. As this was an evening event, lighting played an important role, and lighting designer Koert

Vermeulen of ACT Lighting Design (who was designing his first Olympic ceremony) used over 1,900 fixtures for the event.

While the ceremony was visually stunning, the audio was also of great significance. Handed the challenge of audio design for the event was Auditoria's Scott Willsasen. 'My company was approached by the producer; Vernon Teo and the technical director, Nick Eltis to submit a proposal to provide sound services for the project,' explains Mr Willsasen. This was not the first time that Mr Willsallen had worked with either the producer or the technical director. 'I have worked with both Vernon and Nick

on the 2007 National Day Parade in Singapore, I've also worked with Nick on many major events including Athens 2004 Olympic Ceremonies, Melbourne 2006 Commonwealth Games Ceremonies and NDP 2008.'

Having successfully bid for the project, Mr Willsallen was engaged as the sound designer. 'This involved designing a control and loudspeaker system for the venue including all monitoring requirements and linking to technical departments and linking to technical departments and broadcast,' he explains. 'Another key element in the design was the replay systems which provided the clock to all other technical departments for synchronisation purposes. Further to the technical



A close up of the Olympic flame



The audio team after the opening ceremony



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requirements of the position, I also worked closely with the composer to ensure that the music translated well into the large environment of the venue.'

## Building the system

The system setup that Mr Willsallen chose for the event consisted of 70 L-Acoustics Kudo cabinets and 36 EAW BH760 subs for the main system with 16 JBL CBT70J as delay speakers and 24 Nexo PS15s for monitors, all powered by 65 Lab.gruppen amplifiers and mixed by two Yamaha PM1D consoles for FOH and monitors. Further to this 100 Quest MS801 and 24 RCF ART322a cast paging systems, an eight device Optocore network for audio transport, 15 Dolby Lake processors, 24 channels of Shure UHF wireless, a four transmitter and 40 receiver Sennheiser G2 IEM system, two Pyramix Mass-Core 48



An extensive setup was required for both shows

control system was required. 'The control system was configured in a full dual redundant main/back-up arrangement where the FOH console supports the monitor console and vice versa,' says Mr Willsallen. 'The main systems provided AES to the Optocore network, and the backup systems provided analogue audio to the analogue signal distribution

for the opening ceremony audio system. 'The stage designers and choreographers wanted the front edge of stage to be as close as possible to the front row of the audience. With the loudspeaker system built into the stage front, balancing the geometry between audience coverage and artistic desires was tricky,' he recalls. This challenge was overcome by the distributed stereo setup of the Kudo arrays.

While happy with the way the system performed, there is one change that Mr Willsallen would make to improve the overall audio design. 'Given the simplicity in the monitor mixing role I would combine the FOH and monitor mixing duties to a single console and have a full backup console to avoid the complication of a crossover backup patch,' he reflects.



Brian Power in the replay room

channel replay systems, and two Instant Replay machines were all in use.

The choice of loudspeaker came down to the unusual design of the performance space. 'I am very familiar with the Kudo and it was very well suited to the geometry of the floating platform venue,' says Mr Willsallen. 'The audience area was 70m from front row to back and the floating platform was over 100m wide. It would be easy to assume you could cover the majority of the venue from a long line either side of stage which would be fine for the seating in the centre. However, due to the distance between left and right, all areas off centre suffer from the late arriving energy from the far side,' he explains. 'So rather than a big stereo approach I used a distributed stereo approach whereby 12 arrays were deployed along the front edge of stage in an alternating left/right configuration. Each array consisted of three BH760's and either five or six Kudo depending on the distance from centre. The delay loudspeakers were placed approximately 60m from the main system on 6m poles to provide high and mid frequency coverage to the rear rows.'

To ensure the sound setup worked to its optimum a large

system. Each amplifier location has multiple Dolby Lake processors which take inputs from both the digital and analogue networks and switch between the two based on AES sync or manual switchover.'

The choices behind selecting the equipment were down to the sound designer's experiences in the past. 'I always use Dolby Lake processing as nothing else I have experienced provides the flexibility, sound quality, reliability and intuitive user interface. The Yamaha consoles were selected due to their reliability, quantity of outputs and cost effectiveness. And the Lab.gruppen amplifiers in my experience are still the most reliable, high quality amplifiers on the market.'

Following a competitive tender process Norwest Productions with some assistance from Showtec were awarded the audio supply contract for the event. Norwest provided a team of seven and Showtec provided an additional four show crew and labour as required to install the equipment and complete the audio team. The sound system was installed and commissioned over a seven day period which was then followed by a month of rehearsals for the opening ceremony.

For Mr Willsallen, geometry was by far the most significant issue

thanking the volunteers and handing the flag over to the next host city (China's Nanjing for the 2014 event), but the atmosphere was one of celebration. The show again featured performances by a variety of school children and strong visual elements with the LED screens used to play a highlight reel of the games. With the extinguishing of the flame the games were closed with a dance party on the main stage for the 3,000 athletes and performances from local artists.

The same audio equipment was used for this ceremony, but it was configured in a slightly different way. 'The loudspeaker system changed but the control system was unchanged,' explains Mr Willsallen. 'The PA moved 15m upstage so fewer arrays were required to achieve the horizontal coverage, however due to the additional throw distance the arrays were increased to seven elements each.'

Both ceremonies were received extremely well by the local audience and International Olympic Committee, so much so that each member of the creative team was presented with a Youth Olympic Games trophy by IOC president Jaques Rogge. In his address to the team, Mr Rogge described the events as 'technical perfection', high praise indeed from someone who has witnessed a great deal of opening and closing ceremonies.

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## Closing the show

For this project, it was not only the opening ceremony that Mr Willsallen covered, he also provided the sound design for the closing ceremony. Staged at the same location, this was a much less formal occasion. There was still the protocol of



Mixing on the Yamaha PM5D



The closing ceremony



Røde Lectern Mics with cauldron

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