



# Commonwealth Games Melbourne 2006



We were instrumental players in both the Opening and Closing Ceremonies of the Melbourne 2006 Commonwealth Games. Brought on board by Jack Morton Worldwide, producers and creators of the ceremonies, our motion control system, Qmotion, was the preferred choice to manage all the flying sequences. These included: the opening sequence where one of Melbourne's best loved icons, a W-Class tram complete with wings, 'flew' down into the stadium; the dream sequence of the young boy; the aerial ballet which involved us flying twelve dancers from the Australia Ballet and finally, 'flown' pyrotechnics.

**"Stage One designed and provided the automation control system and hardware for the flying system for the Opening and Closing Ceremonies of the Melbourne 2006 Commonwealth Games. Once again, they have proven themselves to be world leaders in the field of large stadium and arena automation systems and as such brought with them a wealth of knowledge and experience. We would have no hesitation in working with them again and look forward to the next opportunity to do so."**

Tara Back,  
Managing Director,  
Jack Morton Worldwide Australia



ILLUMINATION: 21 metre diameter central lighting truss



ARENA: 7 metre diameter central lift with 12 tonne capacity

### AERIAL ENGINEERING

We spent a great deal of time pushing the boundaries of Qmotion for the Commonwealth Games and given the difficulties in staging a huge outdoor event, our achievements are noteworthy, not least the ability to accurately move either a 1300kg tram or a single aerial performer in exactly the same smooth, precise way. In order to achieve all the aerial movements, we used a total of 27 22kW hoists on two complete data networks and completed further development work on our 3D animation package, allowing the off line programming of individual spot points, to provide three-dimensional flying paths.

Particular requirements of the Melbourne Commonwealth Games included: five simultaneous motion playbacks, a global deads patch and the ability to enable and disable axes within cues, so that if one aerialist was not hooked up in time, the global cue could run.

We also supplied and controlled the 21m diameter central lighting truss that lifted to a height of 50m, complete with nearly seven tonnes of lighting and which also had to be capable of lowering to the ground in under 10 minutes.

### STAGE AUTOMATION

On the ground, we constructed and controlled a seven metre diameter central hydraulic lift, capable of lifting 12 tonnes to a height of five metres in only 30 seconds. The band performed upon this during the Opening Ceremony whilst the athletes were introduced, with further movements being carried out during the Closing Ceremony. All movements were controlled using our nextQ software and Qpos motion control processors, demonstrating our unique flexibility.

Also, as a sub-contract to Edwin Shirley Staging, we supplied and controlled the ram system for the tilting, hydraulic lift. This was capable of lifting and lowering a payload of over 30 tonnes in 40 seconds whilst travelling a distance of up to three metres.

Finally, all the show programming was undertaken by Australian technicians, so we undertook the huge challenge of teaching them all the intricacies, bells and whistles of nextQ and Qpos in only three months. This was achieved by building an off-site rehearsal rig to play with.

**AERIAL ENGINEERING STATISTICS:**

- Twenty seven 22kW hoists
- 10km steel wire rope
- Two complete data networks
- Five simultaneous motion playbacks
- Developed a global deads patch
- Able to enable and disable axes within cues
- Development of 3D animation, allowing off line programming of individual spot points to provide 3D flying paths
- Supplying and controlling a central lighting truss suspended on six, three tonne hoists
  - 21m diameter
  - 50m high
  - Four tonnes of moving lights



**HYDRAULICS STATISTICS**

**Scissor Lift**

- Six lift sections
- 60kW hydraulics power pack
- 12 tonne capacity
- Could lift five metres in 30 seconds
- Installed/removed within three hours



**Bridge**

- Five metres of travel in 40 seconds
- 30 tonnes of lift
- 60kW hydraulic power pack