

Who is doing what?



## Largest Lightshow on earth about to lift off

14,208 channels of DMX, 970 automated fixtures and 658 conventional lights. If that isn't enough for you, try 14 Whole Hog consoles. But there's more. Lots more. John Grimshaw reports from seat 98,000 at the Olympic Stadium, as the preparations continue amongst more secrecy than the CIA could think up! Connections is there.....

**H**ave you ever seen a lighting design that was so complex and vast that upon first viewing, the overall plan was meaningless because the symbols are too small?

Lighting the Olympic opening and closing ceremonies is an exercise in scale not seen before in this country. The sheer numbers involved indicate the scale of the task at hand as Bytecraft installs the world's most complex event.

John Rayment has created the lighting design for both ceremonies. Contracted for the event back in December 1998, Rayment has spent a great deal of time researching the right equipment to use and planning just how to use it. He saw the two most important parts of his brief were to provide enough light for the billions of television viewers, and to deliver a spectacle that reaches the heights the occasion demands.

As most of us who work in lighting are aware, lighting for television is a vastly different prospect to lighting for live performance. Rayment is confident that he will be able to achieve a theatrical ambience while providing enough light for spectacular television coverage.

Certainly the design has potential!

It is very unlikely that you will see

anytime soon a similar scale of lighting design. Little things like using 48 x 7k Space Cannons for theatrical effects will not be quickly repeated.

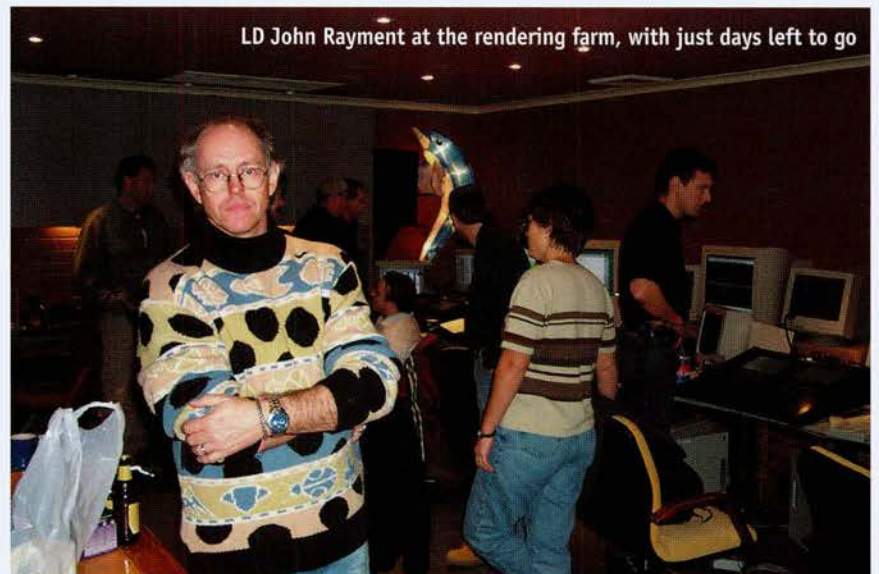
Rayment does not appear daunted by scale of the event. In fact, he sees it as a unique opportunity for the Australian entertainment industry to firmly place its stamp on the world. With billions of people watching the television broadcast, Rayment says,

"By midnight Sydney time on September 15, the whole planet will know if you have done a good job."

**W**orking directly with Rayment is Rohan Thornton, who was separately contracted to design the audience lighting and provides lighting coordination between SOCOG and the broadcast cousin, SOBO.

Paul Rigby (Technical Manager – Lighting) has the task of bringing the design into reality. One of his first problems was power - the stadium had no power distribution capable of supplying the ceremonies. So, power supplies were specially installed to provide more than 3 million watts and Rigby was able to specify exactly where it would be located.

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Paul divided the rig into zones, and OCA then installed a dedicated power supply for each area. One excellent byproduct of this installation is that future shows at the stadium will have an abundance of power available.

While we cannot reveal specifics about the ceremony itself, the equipment list gives a very good indication of what to expect.

Try this:

- 300 High End Systems Cyberlight Turbos,
- 136 High End Studio Beam PCs,
- 132 High End Studio Colors
- 48 7k Space Cannons.

This forms the bulk of the effects lighting. Coupled with 100 4k HMI Pars (60 with Licht Technik scroller/dowers) and you have a potential for a staggering light show.

The show has been designed using the software WYSIWYG, giving the designer the ability to computer model the design. By the time you read this, a rendering farm of computers will have modelled in 3D most aspects of the opening ceremony.

In addition, by connecting one of the 7 show control Wholehogs to WYSIWYG, the software can emulate on the monitor what the show will look like. As a result, much of the show will be pre-plotted before the installation is complete.

DMX is distributed to each "area" power supply using Strand's Shownet system on Fibre and Cat 5 Ethernet. At each of these locations, the Shownet data is then converted into standard DMX.

Controlling the lights are 7 Wholehog IIs for the show lighting and a Strand 550I to control the audience lighting. They also have a full backup of another 7 Hogs and Strand 550i, with all consoles connected via MIDI, so the cueing works in synch.

With many hundreds of lights required for the event, the resources of lighting contractor Bytecraft were quickly exhausted, causing them to turn to Procon of Germany to supply much of the equipment and cables. When Paul Rigby and Nikitas Koumos went to Procon's head office in Germany some months ago to finalise the arrange-

ments for the equipment hire, he was staggered at the size of their operation.

Despite the fact that he was there to organise the hire of hundreds of lights, pallets of leads, and tonnes of other gear, he could not help but get the feeling that Procon handled this scale of event regularly (though it is doubtful that there is a spare Cyberlight Turbo in Europe at the moment).

The planning for the load-in has been under way for several months. Rohan Trundle (Lighting Production Manager) sat down to work out the patch sheets required for the show. Planning for 14,208 channels of DMX, 970 automated fixtures and 658 conventional lights must have been laborious to say the least. Many weeks and several trees later, he produced a very big and complicated document that the load-in technicians subsequently used to rig and patch the lights. One of the complications of this system is that there are 18 sets of paperwork to be updated every time there is a change to the design or the patch – and on any given day, these sets could be very widely dispersed.

**C**rew chief, Nikitas Koumos manages the crew of more than 100 technicians required to hang, prep and run the show. During the load in, four teams of ten technicians work in four different areas at the same time. The four weeks of load-in are interrupted by the odd football Grand Final, and Olympic athletics tryouts. While this can slow the load-in process down, the biggest problem faced by the crew is the size of the venue. It takes a long time to walk and get that forgotten widget.

By the time 1 September rolls around, the rig should be fully installed and ready for the fourteen days of rehearsals prior to the opening.

The closing ceremony is a different animal entirely, as there is a very short turnaround from the final track event on Saturday until the gates open on Sunday for the Closing Ceremony. As reported in last month's Connections, the lighting team has eleven hours to complete the work so that rehearsals can happen. Luckily, the lights on the trusses will stay installed throughout the games, and only the fixtures in the arena itself need to be

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struck and re-installed for the closing.

During the ceremonies, there will be a lot of crew running the show. It will require 8 board operators and 26 spot operators (supplemented by four swings) all coordinated by Trudy Dalglish. That is more spot ops than even U2 tends to use! However, it is easy to tell this is not rock and roll – the crew sheets all had names on them two months prior to the show.

**S**ome mind-bending facts:

- 22 Forty-foot containers were needed to get the lighting gear to the stadium.
- The 111,169 meters of cable required weigh an estimated 34 tonnes.
- Each of these two ceremonies use 14,208 channels of DMX
- The estimated “man-hours” for lighting the event is 52,260hrs – the equivalent of employing more than 28 technicians full time for a year.
- Of the 1,628 fixtures rigged, there are 300 Cyberlight Turbos
- More than 3.2 million watts of lighting has been used (does this make “brown outs” possible through-

out NSW at the push of a button?)

- The 541 meters of truss have more or less exhausted Bytcraft’s truss supply

■ The development of the Cyberlight Turbo came as a direct result of John Rayment going to High End Systems in Austin, and talking to their engineers.

“I have never seen so many business cards with Ph.Ds!” he says of his time in Austin. Essentially, he put it to these designers that he needed a theatrical type light with a great deal of punch. Where the Cyberlights are located in the design, there is a 46m straight drop to the ground. The distance increases to around 76m when the beam is focused on the centre of the field.

However, it was unreasonable to ask a manufacturer to build a special device for the Olympics. Rayment wanted to find out if an existing device could be modified to increase its output to the kind of levels he would need.

The result was the Cyberlight Turbo.

With a modified reflector and optics, and a different lamp, High End were able to achieve more than twice the output of the original fixture.

As a result, High End has experienced increased interest in the Cyberlight throughout the world’s lighting markets.

## Sound crew prepared

By Julius Grafton

It’s certainly not a simple gig. Connections detailed some months ago the EAW system and preparations that audio contractor Norwest Productions are putting into the Olympics Ceremonies.

Ex-patriate Tony Szabo is but one cog in the machine, he works in London and Canada, but has come home to assist legendary soundman Bruce Jackson.

“My title is production manager, but that’s not me. I’m helping prep gear, doing QC over and over, all the gear in the Norwest shop.”

Jackson told Connections things were going well. The acoustical curve ball is the two end zones. EAW KF 750’s are allocated for these zones, and experiments are continuing. Coverage is everything.

Szabo was enthusiastic about the Crown US P2 cards which are installed in each of Norwest’s new amplifiers.

“It allows granularity! It means we can control individual components inside a speaker box! You just PC (using Crown software on a laptop) into an amp that affects one or two components, and can do some really fancy effects to steer a beam if you want. Things that you never think of! It’s like old technology the RF guys used for over the horizon radar technology. We ran it up in the shop - the 750’s are pretty wild.”

The audio for broadcast is another story. Legendary TV producer Peter Faiman has induced Colin Stevenson out of retirement to supervise the mix, which will come from several engineers.

Connections will be there during the show, and will bring you a full report in next month’s issue.

And, there’s MUCH more to the Olympics than the Ceremonies too!