



David Stephens  
Technical  
Training Manager

## New Venue for School Performing Arts Tech Training

### Inside a purpose built complex: tech choices, ideas and solutions

**B**uried in a backstreet in Sydney's inner western Burwood is a remarkable performing arts training facility shared by twelve Sydney high schools. Run by the Catholic education system, Southern Cross Catholic Vocational College is probably the ideal template for future high school-based facilities.

CX went inside. Here are some impressive features: there is a 450 seat performing arts venue with a DiGiCo SD8 audio console, heaps of Nexo PA and a GrandMA 2 lighting desk. Overhead is a Slingco



By Julius Grafton

Cablenet tension wire grid platform, a 'virtual floor' allowing up to 8 people at once to walk around and hand focus lights or re-rig things.

The venue has multiple modes of operation, and tielines back to a highly capable recording studio with oversized control room – in which students can watch proceedings on large panel displays.

So why has a school gone to these lengths for entertainment production training?

Flash back to last decade. The federal government introduced vocational

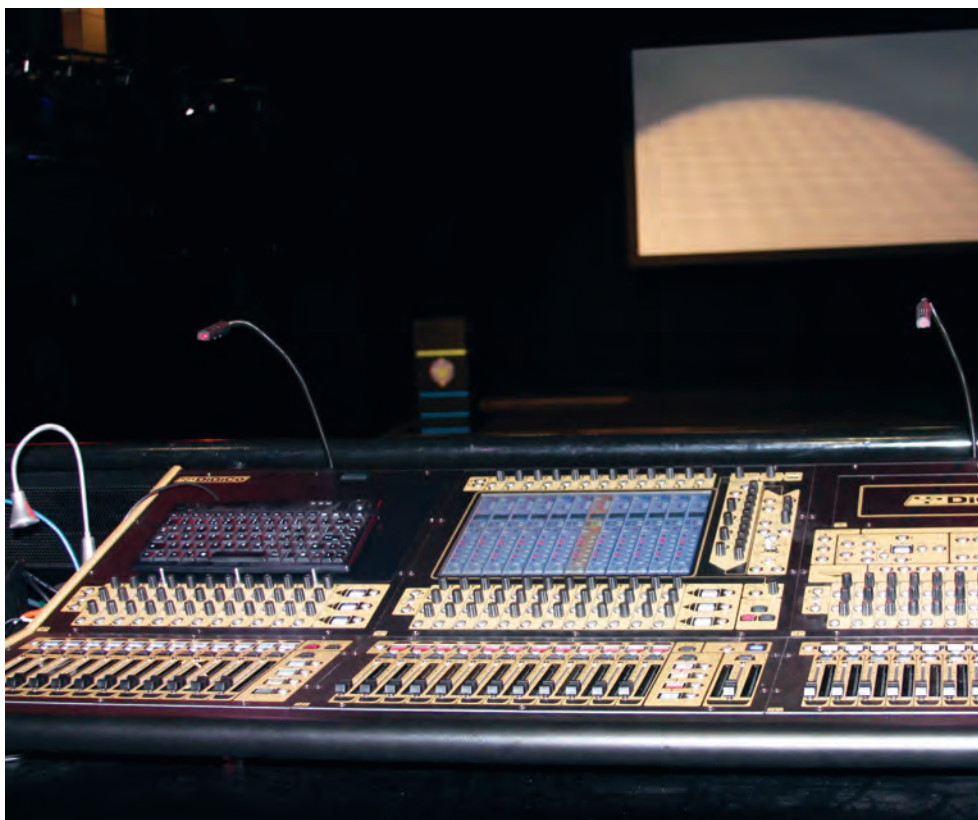
education training into the senior school syllabus in the middle of last decade. Initially delivering qualifications at Certificate II level, it soon moved up a notch to provide, in some cases, a professional trade entrance qualification, the Certificate Three.

The Trade Training Centres in Schools Program then came along, and provided \$2.5 billion nationally to enable secondary schools to seek funding for Trade Training Centres. A bunch of Sydney private school networks applied for money.

Along came the Catholic system in Sydney, and the successful project is Southern Cross College. It is a dedicated trade training centre, so the performing arts complex sits amidst catering, graphic design, automotive, business, beauty and a host of other courses.

Each high school trumped up equal funds, and the commonwealth matched those funds. The eventual budget was \$22 million, to build the facility, of which the performing arts complex and studio is a significant part.

The result is that students from 12



FOH console

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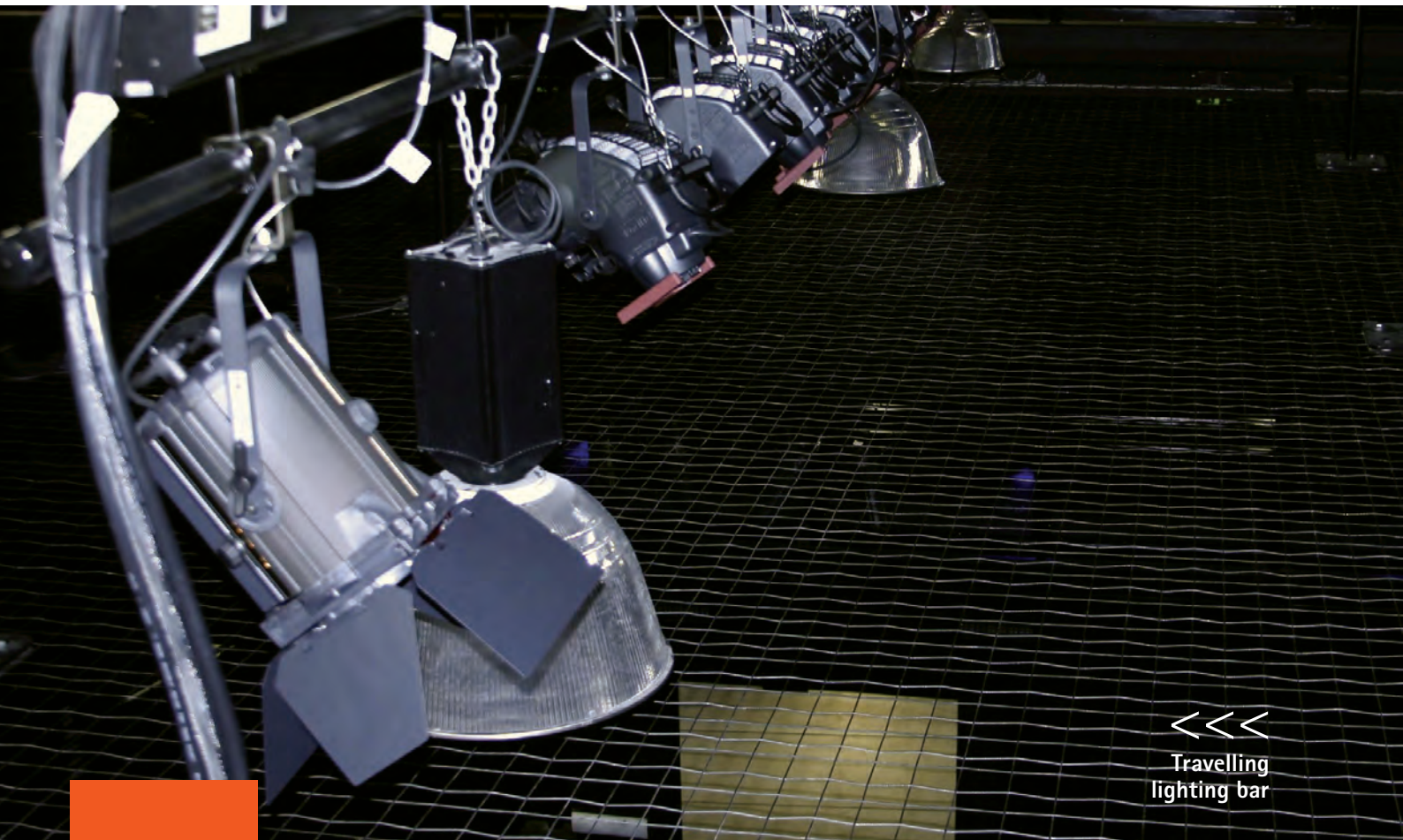


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Travelling lighting bar



Venue studio



participating schools across the Sydney basin, are now booked into the VET courses at Southern Cross College across their final senior two years of high school.

## How to start?

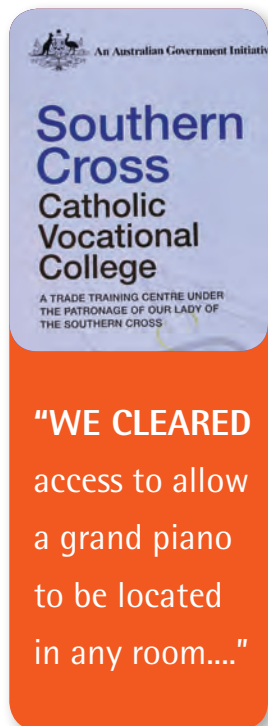
School system funding percolates downwards from the Commonwealth, where the national government funds education as a pillar of the future. Australians rate this highly. So \$22 million for a facility like this is a good investment.

CX saw exceptional value for money on our tour of the complex. We have benchmarks – other modern era projects, like Hillsong Convention Centre and Sydney Theatre cost around \$44 million almost a decade ago, and would probably cost half again in today's dollars.

The Catholic Education office initially invited Scottt Willsallen's Auditoria consultancy to advise on aspects of the performing arts spaces. He joined with architect Peter Morson from Thomson Adsett.

"They initially engaged us on a small scope, for advice, rough budgets, room sizing and ceiling heights", Scott told CX. "We then joined the project design team for the detailed design phase where we submitted designs for acoustics, audio, lighting, staging, video and general design elements".

"I was surprised at the commitment from the architect and the Catholic Education Office", Scott continued. "We modified corridors, doorways and floor coverings, all to ensure clear access for technical equipment and musical instruments. We cleared access to allow a grand piano to be located in any room on the ground floor including the recording room, the green screen room and the MPC. There is lift access to every floor of the building including the grid level. Scott says the scope was broad and the timeframe relatively tight. "There was a target completion for funding. So it was all we did for a couple of months - full design team meetings over nine weeks, then the project was lodged for the Development Application and the



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>>>  
Very neat  
cable work  
by Rutledge



>>>  
Softgoods and  
cable grid above



job went out to tender".

At the time Auditoria had Scott on audio, audio-visual, and control aspects, and Ian Anderson working on lighting, rigging and documentation. Luis Miranda did a lot of the schematics and CAD drawings.

"We engaged Peter Griffiths from Acoustic Studio to sub consult on acoustics", Scott explains. "The scope was too big and the studio required specific skills that we didn't have experience with at that time. It is a box within a box construction and a floating floor – quite intricate. Peter works incredibly well together with us and the quality of the facility is testament to the strong collaboration between Auditoria, Acoustic Studio and the Architect".

**"IT WAS A DIFFICULT situation for them as the builder and electrician hadn't done this kind of project before."**



educational environment access for only 4 people would be too limiting so Slingco designed the system for 8. "

"The tension wire grid has a perimeter catwalk which we thought important in an educational facility where class sizes would likely be greater than the capacity of the grid. The perimeter catwalk is not only somewhere for the students to wait their turn but also somewhere for those who are not comfortable with heights – the grid is not for everyone." "The rigging system is very flexible, there are 7 beams that run the length of the room, lighting bars are mounted to 4 of the 7 beams with beam trolleys to allow movement up and down-stage +/- 2 metres, there are 7 lighting bars in total. The remaining beams are used for mounting of chain hoists, again on beam trolleys and can pass over the lighting bars maintaining flexibility in lifting positions. The builder was appointed, then Jands tendered for the Slingco mesh grid, the lighting bars and softgoods (drapes).

"Rutledge won the tender for provision and installation of lighting fixtures, audio and AV throughout the building. It was a

### Design choices

"The design process was interesting. Ian and I were convinced it had to have a tension wire grid, primarily due to safety reasons. This one was specially engineered at double the typical capacity of 4 people. We reasoned that in an

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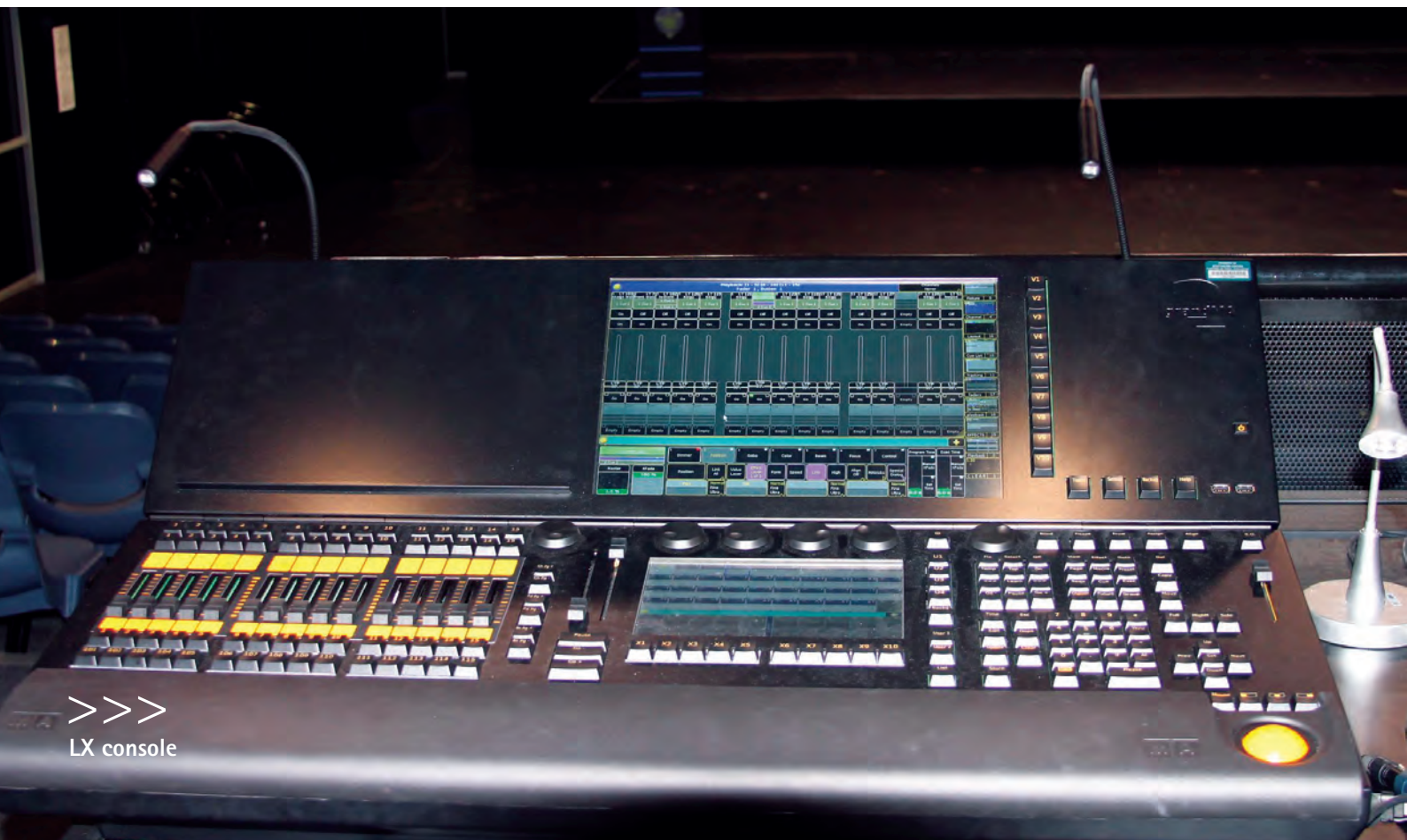
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>>>  
LX console

difficult situation for them as the builder and electrician hadn't done this kind of project before. There are details like cable separation, which while this is important on a hospital or apartment block, it is critical on a job like this. The Rutledge team kept pushing the importance of this. Bosco Tan was the main man for Rutledge. He was really focussed on not just getting it done, but doing it really well."

"The equipment choices are driven by the application – it was important to us that students who go to the facility are exposed to real world equipment. There are many types of conventional fixtures and a small number of moving lights, the students are trained in not only the operation of the fixtures but also the installation and maintenance. Six modes of operation had been identified by the architect and all technical systems and infrastructure has been designed to easily cater for these modes with minimal changeover time.

"There is full assembly mode, with the stage at the end. Or you can have the stage in the centre with a smother for large back stage area. Then there is the stage on the

## Cable Grid Rules!

Imagine an exhibition centre, where instead of half or a whole day of rigging points, with cherry pickers, crew and safety management on high alert, the riggers just walk overhead and rig safely while setup happens on the floor below? The cost savings in venue time would fast pay for the cable grid, not to mention the safety benefits. The more you think about it, the more sense there is with a cable net. The only downside? You may see the outline of a light beam. So what?

side wall, or the stage in centre (theatre in round), banquet style (table and chairs) or art gallery layout flat floor. So we designed for all those considerations. Using tension wire grid made even more sense, put lights, truss, drapes and loudspeakers wherever you want."

"I wanted a speaker system that sounded good, requiring no additional tuning, and the flexibility to hang wherever you want. There's a bunch of connections in the roof, and all have an amp channel behind each. There's a set of NL4's (speaker connections) scattered throughout the grid. We have more amplifier channels than in use at one time. It's the same with the dimmers, there is no patch anywhere. Every outlet has a dimmer – that's a safety element, and more functional."

## Practical approaches

The acoustics in the performance space need to be variable – for a band: soft surfaces, but for acoustic performances opened up so that 70% of the surfaces are



reflective.

With a lot of students available to close drapes, why pay for a push-button system? Then there are the tie lines back to the recording studio, so you can record anything that happens in the venue.

Scott specified 48 audio lines for inputs, a bunch of outputs and fibre tie lines duplicated for the side stage or the end stage room format. On the level 1 catwalk are multipin connectors so you can drop a set of passive audio splits down to a stage monitor console – anywhere in the auditorium.

Over in the spacious studio control room are 64 channels of record on Pro Tools, with 48 channels of Focusrite ISA mic preamps, and a rack full of Apogee D/A and A/D converters.

The Digidesign mix console has two video displays on swing arms, which can swing out to let the engineer see into the recording rooms. These are duplicated to overhead large screen displays so students can see what's going on. It's a big control room to allow space for students, and a big bench so 2 or 3 people can be involved in a project.

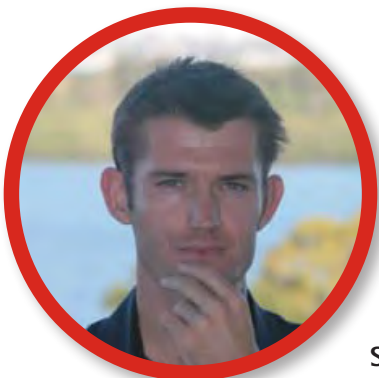
"I chose the 5.1 Dynaudio Air system", Scott explained. "It has a simple remote, with 3 settings for 5.1, stereo or nearfield."

Upstairs is an edit suite classroom with 16 iMacs for students, with tielines from the studio to the teachers position. The teacher has a little mixer which can send inputs from the studio or a local source to each student Mac, which in turn can record the stereo teacher feed or a local input.

Finally, the last word came from David Stephens, the Technical Training Manager at the college. It's his space to manage, and he describes it as 'brilliant'.



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system that  
sounded  
good...."**



**Scott Willsallen**

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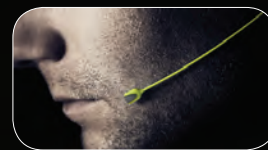
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