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Queensland University of Technology

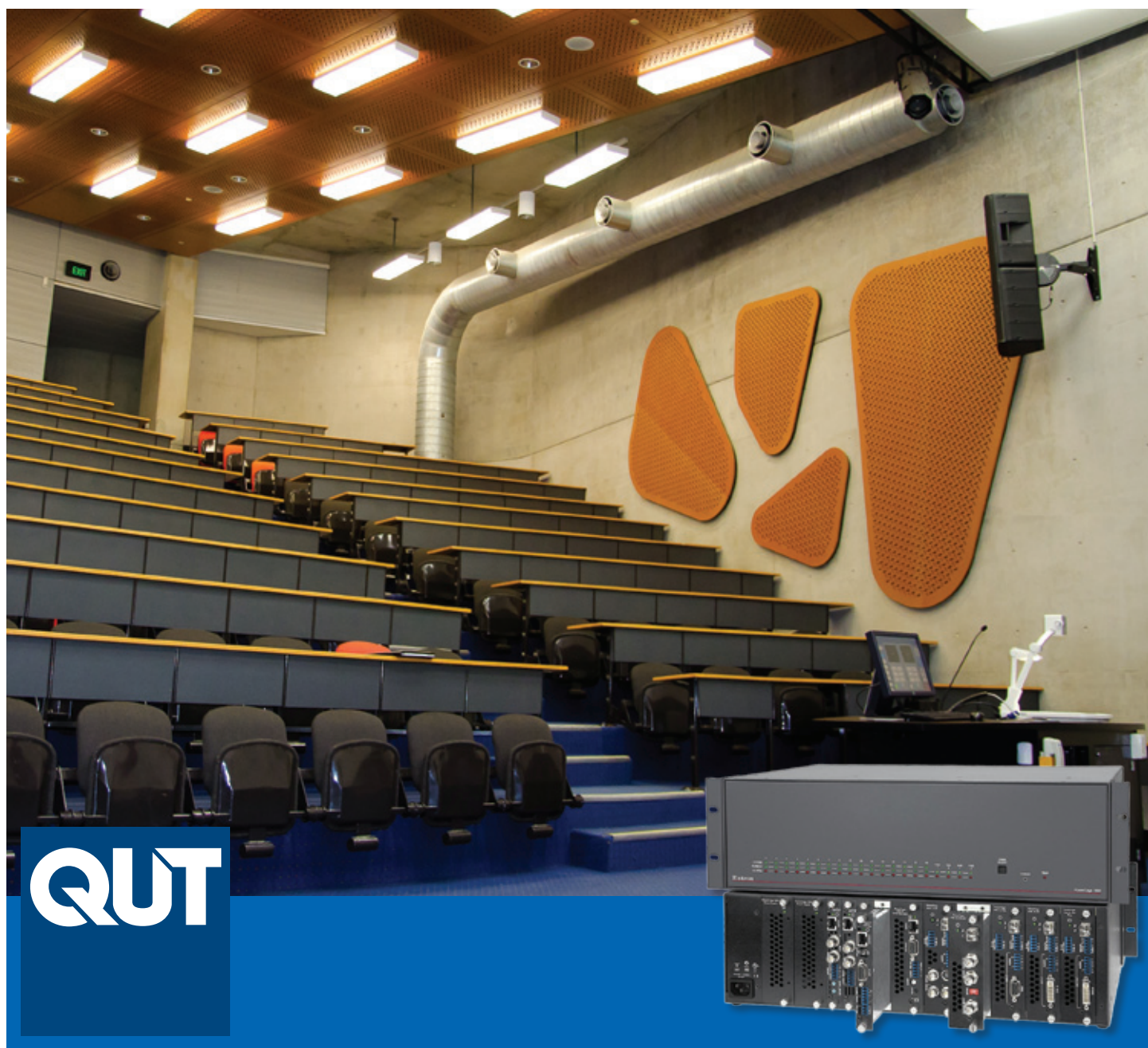
Tertiary education excellence with a best-of-breed audio visual infrastructure



Queensland University of Technology

Well known as a “university for the real world” due to its close links with industry and relevant teaching, Queensland University of Technology (QUT) is dedicated to providing its 40,000 students with the best possible learning environment.

The University’s high standards create a demand for equally high quality systems and support, not least in the audio visual (AV) field. A recent upgrade to one of the University’s 230-seat lecture theatres is ensuring students benefit from a best-of-breed digital AV infrastructure, and is also providing a future-proofed blueprint for upgrading other spaces.





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John Vikstrom
Audio Visual System Designer and Project Manager
Queensland University of Technology

The constant challenge confronting the QUT AV team is a serious one – to ensure the University has an AV infrastructure that is nothing less than the best when it comes to quality, reliability, cost-effectiveness and importantly, environmental responsibility. As the analogue-based AV signal transmission infrastructure in the University’s 230-seat D101 lecture theatre approached the end of its usable life, QUT’s AV team set out to design and implement an entirely new model – one that would support digital signal transmission over a single fibre optic cable. According to QUT Audio Visual System Designer and Project Manager John Vikstrom, it would also be a model upon which all other similar AV refits throughout QUT would be based.

Seamless quality, functionality and flexibility

It was after extensive research, product testing and consultation with peers at other universities that QUT’s AV team opted for the Extron PowerCage 1600 modular power enclosure with Extron PowerCage FOX fibre optic extenders from RGB Integration.

The PowerCage 1600 enclosure provides a range of benefits for QUT. In a single 3U rack-mountable enclosure it can house, power and cool up to 16 single-slot or eight double-slot multi-function boards. This design not only saves space, but also energy and allows for boards to be hot-swapped.

The PowerCage FOX extenders provide fibre optic image transmission and receipt over long distances with pixel-for-pixel performance, delivering the high-quality images the University’s staff and students demand.

The front-of-house system in D101 consists of a custom-designed lectern that, with an inbuilt PowerCage 1600, provides lecturers with the flexibility to use an incredibly broad range of inputs when presenting. “The FOX transmitters provide us with DVI and HDMI inputs, which are the current digital standards,” John says. “Lecturers can present from the networked PC that is built into the lectern, which also provides USB, DVD and Blu-ray input. In addition, they can plug in any type of laptop, use the document camera built into the lectern and even connect an iPhone, iPod or iPad.”

Whatever the input source, the signal is automatically scaled up to the native resolution of the room’s dual 15,000 ANSI lumens data projectors using an Extron In1508 Scaler. It is then transmitted in high definition over fibre optic cable to the projection room at the rear of the theatre, where PowerCage FOX receivers housed in another PowerCage 1600 connect to the projectors.

“The entire installation was a project we undertook ourselves,” John says. “The Extron gear was easy to install, and in particular the PowerCage design makes

for neat cable runs. In D101 it’s giving us everything we wanted – seamless, noise-proof signal transport and the ability at either end to plug in the necessary interfaces to cater for whatever signal formats we need to work with, now and in the future.”

Reliability and energy efficiency

With D101’s Extron-based AV infrastructure set to form the base model for all future theatre AV refits, reliability is of paramount importance. In commenting on that issue with regard to D101, John says: “During semester, the theatre is used 55 hours a week. The AV system is running that whole time and since implementing the Extron equipment, it’s been virtually flawless.”

According to John, adding to the overall reliability and non-stop operation of the solution are two of the PowerCage 1600’s key features – dual redundant hot-swappable power supplies and hot-swappable FOX receivers/transmitters. “For students and lecturers it means lectures continue uninterrupted, and for us in the AV team, a reduction in preventative maintenance overheads.”

A further advantage of the PowerCage 1600 is its contribution to meeting the Vice Chancellor’s directive that the University’s greenhouse emissions and energy consumption must be reduced by 25 per cent over the next five years.



QUT AV Design and Installation Team

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"Everything we do has that energy reduction goal in mind," John explains, "and the contribution of the PowerCage is that it is incredibly efficient and uses a single power supply for all the boards. The result is that the D101 AV refit is consuming at least 50 per cent less energy than the alternative solution of extender boxes with individual power supplies."

"Quite simply, we get excellent support"

Another benefit for QUT is the outstanding support John and his team receive from RGB Integration. "Whenever we've needed help, it's been just a phone call away," John states.

"For example, before we committed to the D101 setup we tested a simpler version in two of our smaller lecture theatres using individual Extron FOX boxes," he continues. "Our audio engineer is incredibly particular, and when he wanted to tweak signal levels he put a call through to RGB Integration for assistance. Within a few hours an RGB Integration specialist had researched the matter, devised a solution and was on-site with the resolution. Quite simply, we get excellent support."

John points out that with the constant and rapid evolution of AV and IT technologies, the decision to implement the PowerCage 1600 is of particular importance for the future. "One of our goals was to build in as much future-proofing as possible," he says. "For example, in the next 12-18

months we're planning to migrate D101 to widescreen high definition projectors. The PowerCage 1600 and FOX fibre optic system can already handle those signals so we're assured a smooth transition."

D101 is also a proof of concept and, based on its success, it will be the model for all future multi-projector theatres at the University. That is no small undertaking: QUT has 11 dual-projector theatres that seat up to 400 students, and one triple-projector theatre that seats 530.

These spaces will be upgraded over the next three years using the PowerCage and FOX fibre optic system. An additional 70 single-projector theatres will also be upgraded with individual Extron FOX transmitters and receivers to meet the same quality and reliability standards.

"With Extron being at the leading edge of AV technology, and the PowerCage 1600's straightforward modular design, we have the ability to plug in whatever interfaces are needed to adapt to emerging signal trends in the future," John states.

"We are developing at QUT a future-proofed and, to the best of our ability, best-of-breed digital AV infrastructure for the emerging tertiary education environment," John concludes. "The Extron PowerCage 1600, FOX fibre optic extenders and support we receive from RGB Integration are at the very core of that infrastructure."



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