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LAZARUS -BOWIE DOES BRECHT

MUSIC

Adelaide Spawns an Online Giant

REGULARS

Andy Stewart
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Tech Talk
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ROAD TEST

Allen & Heath CDM32 and C1500
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* Cover Photo – Post Malone. Credit: Troy Constable

* Contents Photo – Vivid live Studio Parties. Credit: Jordan Munns

Published by Juliusmedia Group Pty ltd ACN 134170460 under licence from CX Network Pty Ltd ACN 153165167.
Locked Bag 30, Epping NSW 1710 Australia
Phone: +61 2 408 498 180
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Stunning new 2000 seat theatre launched in Sydney

by Julius Grafton

Western Sydney is fast becoming a second city, larger than Adelaide or Perth. In December it gains a stunning 2,000 seat lyric theatre - The Sydney Coliseum - built at no cost to Government by West HQ – formerly known as Rooty Hill RSL Club. In six years, Nancy Bird Walton Airport will open as well, consolidating the megalopolis as the fastest growing city in Australia.

West HQ is a unique destination, built from a huge green-field site next to the Western Railway line. It is 19 minutes west of Parramatta, 23 minutes east of Penrith, and 23 minutes south of Rouse Hill. From the city of Sydney CBD it takes about 50 minutes by car, or 46 minutes on a train.

The program was launched last month at an event staged on the stage, which is still a building site. Held on a Builder's Day Off, the vacuum cleaners were working overtime and temporary everything was installed. With a $100m build cost, the 2,000 seater will be launched in considerable style in December, with concerts by Tina Arena, David Campbell, Dame Edna Everage, and the opening with Keith Urban.

NSW Government Minister for Western Sydney, Stuart Ayres, spoke at the launch and noted "the community decided to invest, not the Government". He was referencing the sad fact that the entire cost of the venue is borne by West HQ and his Government have not spent a dollar. Compounding the now obvious reality that the NSW State Government does not care about the arts, the NSW Arts Minister did not attend the launch.

Nasty politics aside, the complex is a stunner and will be the first Lyric Theatre in the region to install an immersive sound system, with five hangs of 10 L-Acoustic Kara across the 15m proscenium. It will also feature Ayrton LED lighting, controlled by an MA3. Overhead are 83 fly lines, to be installed by Jands Theatre Projects. The pit can handle 55 musicians, and the rehearsal room is the same size as the stage.

A lot of industry savvy has been poured into this project, with theatre boss Craig McMaster backed up by Technical Manager Bicci Henderson. CX has a full feature on the project coming soon.

Eventec to distribute PR Lighting in Australia

The addition of PR Lighting as an established professional lighting brand with a rich history and innovative products is an exciting milestone for Eventec. Their team is excited to distribute PR's range, which will complement their current offerings from Event Lighting, Event Pixels, Antari and DGX.

Sasha Xiong, Deputy General Manager of PR Lighting is "..thrilled to have Eventec as our exclusive distributor in Australia. Emanuel Maniatis is an old friend of PR Lighting. His extensive knowledge about our products, the industry and the market trends makes this an ideal partnership. I believe Eventec's offerings of high quality service and support will take PR to another level and benefit all our customers in Australia." Eventec is currently expecting a variety of demonstration units that will be arriving in Australia in the coming weeks.

PR LIGHTING

New Chapter for Schoeps in Australia

German high end microphone manufacturer Schoeps has appointed Studio Connections Australia as its distributor for Australia as of June 1, 2019. The appointment follows a thorough evaluation between the two companies in the past few months. As Deborah Sloss from Studio Connections Australia puts it; "We are delighted to begin this exciting partnership. Given our strengths within the Studio, Broadcast, and Film segments of our business and the exciting emergence of Immersive and 3D soundscapes, it makes perfect sense for us to partner with the excellence that is Schoeps Microphones, and it presents a wonderful opportunity to grow those strengths across the Concert, Conference, and Sports sectors of our business."

Comments Alex Schloesser for Schoeps; "When I started with Schoeps in April 2018, there were two territories where Schoeps wanted me to focus my efforts to promote the brand further and one of them was Australia. After plenty of discussions and asking for advice around the industry, I finally found my way to Deb and to Studio Connections. We clicked right away and the feeling was also shared at Schoeps HQ in Germany. Studio Connections have a great assembly of pro audio brands in their lineup. There are very exciting times ahead of us now in Australia and I look forward to be part of this."

www.schoeps.de
www.studioconnections.com.au

Studio Connections' Deb Sloss

Crown Theatre Perth boosts pulling power with L-Acoustics K2

One of Western Australia's most prestigious musical and entertainment venues, Crown Theatre Perth, recently commissioned and installed a new L-Acoustics K2 PA system, with help from AAA Productions and Jands.

Crown Theatre Perth is part of Western Australia's premier integrated resort - Crown Perth - located in Burswood, Western Australia. The resort has an established reputation as a word-class entertainment venue, playing host to a number of the best international and national entertainment acts and cultural events. In addition to hosting a long list of award winning musical productions including Disney's The Lion King, Disney's Aladdin The Musical, Matilda, and Mamma Mia!, the theatre also boasts an impressive music and entertainment roster including Tim Minchin, Icehouse, Noel Gallagher, and The Australian Ballet.

In 2017 Crown Theatre Perth made the decision to permanently install a high-end PA system which would cement its current world-class reputation and increase commercial potential. To do so, Crown Theatre Perth approached pro audio service provider and L-Acoustics Rental Partner AAA Productions.

"Specifying a full and permanent system was a natural move for Crown Theatre Perth," says Neil Campbell, Director at AAA Productions. "We've had a long-standing and successful relationship with the venue – particularly with L-Acoustics rental - so the staff there were already familiar with the technology and with our own high standards of service and support. It made sense for them to consider a complete and permanent sound reinforcement solution. This move can only help attract more international performers and productions, and further re-enforce the theatre's high-end reputation."

One of the main challenges for Crown Theatre Perth was overcoming the restrictions on advance rigging positions and Safe Working Loads (SWL). L-Acoustics, Crown Theatre Perth, and AAA undertook a 12-month research period before final commissioning, ensuring all architectural challenges could be overcome in order to install the possible system.

"The K2's amazing power-to-weight ratio proved to be a big advantage," explains Campbell. "It's designed to hang where rigging limitations are tight, but where quality and coverage are still paramount."

After a full year of planning and budgeting, Crown Theatre Perth's L-Acoustics installation was completed in November 2018.

The new system consists of two left-right hangs of 11 L-Acoustic K2 line source elements, bolstered by eight KS28 subs as well as a centre fill of four Kiva II. Two stacks of three ARCS II are used for infill with two delay rings of six X8 each - one in the upper dress circle and one in the stalls. All elements are powered by LA12X amplified controllers whilst the whole system is network controlled and monitored via LA Network Manager.

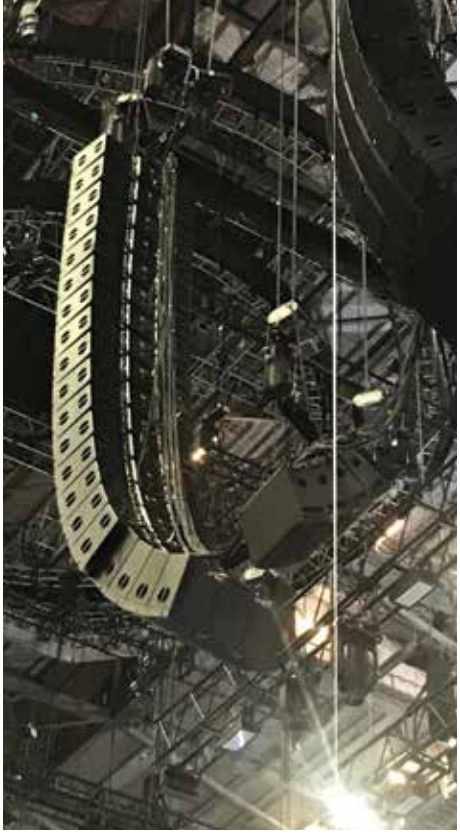
The initial design for the new system was completed by Jordan Gibbs, Crown Theatre Perth's former Head Technical Operator for Audio along with Neil Campbell and John Kerns from AAA. This was done using L-Acoustics Soundvision software - a 3D modelling and acoustic simulation tool. Crown Theatre Perth's current Head Technical Operator Audio Jason Brown installed the design with final calibration by Julien Laval, L-Acoustics Applications Engineer.

"It was important to make sure the system was perfectly suited to the space," says Campbell. "That would guarantee problem-free, exceptional quality sound reinforcement for every future production and audience member. We're very pleased with the result; the accuracy of the Soundvision predictions in frequency response and SPL coverage when compared with real world measurements is amazing."

Gerry Gavros, Brand Manager for Jands, L-Acoustics Certified Provider Distributor in Australia, sums up the experience; "Neil at AAA ensured that the theatre's staff were supported all the way through the process with regular communications during the research, technical, and purchase phases, liaising with us at Jands, and with continuing support for the client after the install."

With the new L-Acoustics K2 system installed and already working hard on a number of high-profile shows, Crown Theatre Perth's Technical Manager Shona Treadgold comments; "We're proud and pleased to be able to offer this industry-leading PA system. It has radically improved the venue's sound quality and coverage and we have received incredible feedback from our clients and theatre guests. I'm certain that this system will ensure we continue to attract the high calibre of world-class performers and theatrical productions that Crown Theatre Perth has enjoyed to date."

ADAMSON INSTALLED AT THE MCEC, BRINGS IN THE BIG GUNS FOR HILLSONG



by Jason Allen

Dramatically increasing its attractiveness for concert production, the Melbourne Convention and Exhibition Centre has invested in an Adamson S10 line array system, complemented by E119 subwoofers, and CS7p dual 7" loudspeakers for infill; the world's first powered, Milan-ready dipole loudspeaker with network redundancy. Completing the package are lab.gruppen amps with Lake processing. This new system gives MCEC the ability to turn all of its major spaces not currently fitted with a concert PA into venues for major musical acts.

"Over the years, we'd invested heavily in the tech installed in our meeting rooms, but hadn't yet secured a concert-quality PA that we could bring in and out of our exhibition bays," explains Michael Walker, Infrastructure and Equipment Manager at MCEC. "Expanding our visibility in that market has been a focus of our management team for a while. Our Plenary fills a nice position in that market, and has been successfully picked up by promoters, but we also have 39,000 square metres of flat-floor concrete exhibition bays that with appropriate acoustic treatments, draping, and theming, are excellent for live performances. Melbourne's been losing some of those spaces, and we're looking at where we can fill the gaps."

"It's about expanding what we do and can offer our clients," adds Michael Pfundt, Audio Specialist at MCEC. Michael spearheaded the project to add to MCEC's PA capability, and supervised all product assessments and evaluations, eventually recommending Adamson for purchase.

"There were a lot of reasons to choose the S10 system," elaborates Michael Pfundt. "It's smaller than most competitors, which is advantageous when rigging, and for sightlines; it looks good in a corporate environment and doesn't get in the way. With that, it's incredibly powerful for its size, throwing 40 to 45 metres. It produces a natural sound in the vocal range; very clear with none of the harsh high-end you often hear in line arrays that exaggerate high frequencies to achieve their throw distance."

With its custom-made Kevlar driver cones, the Adamson S10 produces the same outstanding mid-range response as the flagship E Series. "We just rigged up our S10 system, tuned it, and it sounds amazing," reports Michael Pfundt. "The response is very smooth and natural with no EQ, in a room I've mixed in hundreds of times. Out of the box, it's a turnkey solution that takes almost no effort to sound good. It's a great sounding box that makes life easy."

Meanwhile, Australian Adamson distributor CMI Audio has imported a substantial turnkey E12 concert system with associated amplifiers. The move comes as major Adamson customer Hillsong Church readies itself for its annual Sydney Conference in Qudos Bank Arena as this magazine goes to print. The 2019 Conference is being staged in-the-round, a configuration that would have required more Adamson PA than was available in the country.

Adamson is Hillsong's preferred loudspeaker vendor for installations, with their Baulkham Hills campus already home to E12 arrays, and other selected campuses running Adamson S10 systems. Last year's Hillsong and Colour Conferences in Sydney saw Hillsong deploy Adamson for the first time on their major Australian external events, and the results spoke for themselves. "The vocal clarity of Adamson systems is ridiculously good," says Justin Arthur, systems engineer for Hillsong Conference. "The result we got at Conference in 2018 with Adamson was excellent. We were very pleased with the coverage, and the system performed exactly as it was predicted to. The clarity of both speech and music was much better than we have experienced at Conference previously."

Above all, it's the tonal performance that is driving Justin's preference for Adamson "It's all about the way it sounds," he declares. "The spoken word is the most important element at Conference, and Adamson PA has proven it delivers the Word better than systems we've used previously. Adamson has what the mix engineers at Conference really need; mid-range clarity, and the depth it adds. A lot of the musical arrangements are really complex – there's electric and acoustic guitars, tracks, synths, keys, and then eight or 12 vocals over the top. What we've found is that the amount of complexity can get messy in some PAs, but Adamson brings it together much better than the others."

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Cat on a Hot Tin Roof - credit Daniel Boud

Fitting DPA mics

Testing DPA for water resistance

Sydney Theatre Company Switches To CORE by DPA

Better dynamic range and improved resilience to harsh treatment on and off stage is a key reason why STC is investing in d:screet CORE 4061 Miniature Microphones.

Alleroed, Denmark. June 18th 2019: As a long-term user of DPA microphones, the Sydney Theatre Company (STC) has been quick to adopt the Danish manufacturer's CORE by DPA amplifier technology, which has now been successfully incorporated into DPA d:screet Miniature, d:fine Headset and d:vote Instrument Microphones.

Already the owner of a substantial amount of DPA stock, STC recently added 75 d:screet CORE 4061 Miniature Omnidirectional Microphones to its inventory and is putting them to good use on a number of productions, including a new version of Tennessee Williams' classic Cat On A Hot Tin Roof.

Ben Lightowlers, STC's Head of Sound and Audio Visual, says: "Once the new CORE technology arrived, I was keen to put it through the rigours of a regular season at STC. The goal for us in Theatre is to not distract the audience with an obviously mic'd tonality but rather aim for a more naturalistic augmentation of the voice. The new CORE mics boast a more open frequency response, which is appealing when balancing vocal performances of varying dynamics in circumstances where some cast members are potentially quieter than others on stage."

STC's new d:screet microphones were supplied by DPA dealer Soundcorp, in conjunction with the company's Australian distributor Amber Technology. STC's DPA inventory also includes d:dicate 4017 Shotgun Microphones, d:fine Headset Microphones, d:vote 4099 Instrument Microphones, d:facto™ Vocal Microphones and more legacy d:screet 4061 Miniature Microphones than Lightowlers can count.

"In the 13 years I have been with STC, I estimate that we've purchased an average of fifty d:screet 4061s per year to service the main stage shows, of which there are 12-15 per year," he says. "They have a good resilience to sweat, skin contact, quick wig or costume changes and other extreme conditions we put them through. In the past this has included actors hurling themselves down a slip'n'slide across stage through a pool of water while fully nude, to a chorus of cast conducting an intimate conversation in typhoon conditions, all the while remaining intelligible to our audiences. Sometimes an actor might not leave stage for the whole play or it might be that a production spans over six hours."

Lightowlers adds that switching to DPA's new CORE microphones gives STC more resilience and even better dynamic range. He is delighted with the results they are delivering and pleased that they integrate so well with STC's fleet of radio transmitters. "I especially appreciate getting the microphones terminated to Lemo connectors at the factory," he says.

STC's new d:screet CORE 4061s have already been used on the theatre company's longest-running production, The Wharf Revue, which is a musical parody of Australia's current political landscape.

"The new CORE microphones rose to the occasion and established that they could stand up to the demands of a typical STC touring production," Lightowlers says. "They are now being used for rehearsals for Cat On A Hot Tin Roof in which one actor has to take a shower on stage. Instead of being able to put a mic on the actor backstage after the shower, he needs to stay on stage until interval, so we'll need to introduce a capsule cover. It will certainly be a fun test for the team, but nothing we haven't overcome before."

#AMPERVAN GOES TO DARWIN AND BEYOND!

Following TAG Cares' successful trip taking musical instruments, audio, and lighting to the remote Indigenous Community of Amata in the South Australian Anangu Pitjantjatjara Yankunytjatjara (APY) Lands the #Ampervan, now with dLive on board, headed off on adventures of its own!

"500 kilometres of dirt roads in the South Australian desert left the #Ampervan with a taste for more!" said Stephen Bray, Allen & Heath Brand Manager at Australian distributor Technical Audio Group (TAG). "Someone said there's plenty of people in regional Australia who are interested in Allen & Heath mixers, so why don't we pack a dLive and SQ into the #Ampervan and go visit them? And so we did."

Keen to see some open spaces, inner city cat and TAG NSW Sales Manager James McKenna took the first long-haul from Alice to Darwin. Along the way he dropped into Barkly Regional Arts (BRA) in the remote town of Tennant Creek. "Through a mutual friend I hooked up with BRA's Jeffrey McLaughlin and was amazed at the scale and scope of the BRA program," enthused James. BRA provides an interface between Indigenous and non-Indigenous cultures with assistance and programs to over 800 people throughout the region. On their books are visual artists, musicians, traditional Indigenous singers, dancers, and writers. "It was a great meeting and I was humbled by the quality of work and the passion of the BRA team."

Back in the #Ampervan, James had Darwin in his sights, a neat 1000 kms due north, where Peter Bayfield, TAG's South Australian and Northern Territory Sales Manager, eagerly awaited. "It's a long, lonely road so I was sitting in Darwin with several fingers crossed," said Peter. "But #Ampervan and James came through, which was lucky as several customers were very keen to get in front of the dLive and it's unwise to disappoint Territorians – most of them have pet crocodiles!"

The territory survives on a bit of FIFO so, as Peter and James flew out, TAG Director Maxwell Twartz flew in for the next leg. "Doesn't the road from Darwin to Mount Isa go through the Kakadu World Heritage National Park?," questioned Max, and #Ampervan eagerly agreed.

2000kms (and a few twigs and locusts in the front grille) later Max flew out of Mount Isa, and the heavy hitters of Team Allen & Heath flew in. Stephen Bray and Mix Wizard Andrew Crawford took the next leg from Mount Isa to Cairns but not before a successful visit to the Mount Isa Civic Centre and a less than successful visit to the local RSL for an Anzac Day game of two-up!

With a string of dLive demos scheduled in Cairns, #Ampervan had no time to lose. Unfortunately, roads through outback Queensland are no places to hurry, and a couple of beers in Normanton's Purple Pub, a glimpse of the Gulf of Carpentaria at Kurumba and a very lonely coast-to-coast 750kms across the bottom of the Cape York Peninsular meant #Ampervan was dodging kangaroos well past dusk on the run into Cairns.

"Over the last couple of hectic weeks Steve and I have been demoing in Cairns, Townsville, Ayr and Arlie Beach as the #Ampervan steadily heads south," said Andrew, before quickly adding; "We will of course be stopping wherever a well-toured dLive and an adventurous little Fiat van with a big '&' on its rear door is welcome."

ShowPRO Pluto 350

Part of the new ShowPRO Pluto range, this 350 W moving head spot is equipped with a 5°-35° electronic zoom system and has a brightness of 42000 lux at five metres. It has a smooth and precise CMY system, focus, prism, colour wheel, rotating gobo wheel, iris, frost and gobos. With a rapid and silent pan and tilt, the Pluto 350 moving head spot is ideal for function centres, halls, schools and rental companies.
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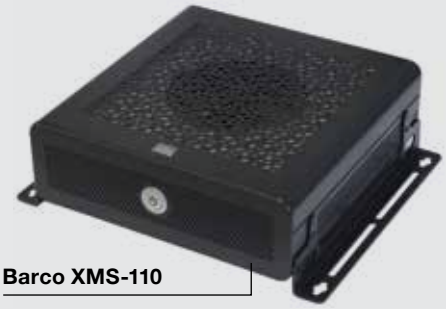

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DPA 4097

DPA Microphones has previewed the 4097 CORE Supercardioid Choir Microphone. Ideal for house of worship and choir applications, the 4097 provides the same sonic qualities as the brand's d:vote CORE 4099 Instrument Microphone but was designed specifically to capture dynamic choir sound, with both wireless or wired configurations. The new 4097 Choir Mic features DPA's flat off-axis supercardioid pattern and, like all DPA microphones, has been designed to be one of the most natural-sounding solutions available. As a result, the microphone has a very high-gain-before-feedback, and due to the off-axis characteristic that DPA is renowned for, it makes the entire choir sound natural – not just on axis – but from all angles.
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BOWIE DOES BRECHT

Lighting 'Lazarus'

by Jason Allen
Photo Credit: Jeff Busby

One of David Bowie's final creative projects, the musical 'Lazarus' came to Melbourne's Playhouse in May for its first Australian production. Multi-award winning lighting designer Paul Jackson worked with The Production Company and director Michael Kantor to bring the enigmatic vision to life…

While 'Lazarus' features 18 of Bowie's very identifiable songs, no sane person would refer to it as a jukebox musical. With a book by Irish playwright Enda Walsh, the fever-dream narrative of the show can be seen as a sequel to the novel The Man Who Fell to Earth, which famously starred Bowie in the 1976 film adaptation. Lazarus's main character, the (possibly) alien Thomas Newton Howard is tormented by real and imagined characters, while a live band backs the vocally talented cast through often radically re-arranged Bowie hits that are as much a part of the fabric of the show as the set.

The overall effect is disorienting. Littered with lyrical and visual allusions to Bowie's catalogue, the Melbourne production seized on the deeply German aesthetic of the show – think expressionist theatre, abstract opera, and above all Brechtian detachment. This was definitely much more a trip to Berlin than to Broadway.

Working with this creative framework, and the compressed timeframes The Production Company is famous for, lighting designer Paul Jackson combined theatre, rock, and opera lighting around the physical centrepiece of the show; a 12-panelled, two storey tall Smart Glass array that featured almost constant video projections created by artist Natasha Pincus and engineered by Nick Roux. Smart Glass turns from transparent to opaque in reaction to voltage, and in this case formed a gigantic canvas that explored the inner workings of the character's minds.

"Director Michael Kantor and I have worked together for many years, mostly at the Malthouse Theatre," explained Paul. "He's wanted to work with a Smart Glass wall for a number of years now, and was finally given

"This was definitely much more a trip to Berlin than to Broadway."

the opportunity. Smart Glass is a clear glass and a front and rear projection surface simultaneously. Nick had two 20K projectors rigged to rear-project onto it."

Smart Glass is neither cheap nor common, which meant a limited amount of time and materials for Paul to refine his design. "I was only able to run tests with very small amounts of Smart Glass, which meant I only really saw the full effect of the large scale projections after we bumped in, six days before previews," Paul continued. "The issues that became evident when we saw the lighting around the glass were solved by upping the saturation and colour toning."

While glass set pieces and lighting fixtures typically don't mix, Paul has had a surprising amount of experience dealing with them together. "I've done a lot of shows that were encased in glass," he related. "Normally, you can find an angle to shoot through glass to fill out faces. In this production of Lazarus, that can't happen at all, because the emulsion embedded in the Smart Glass makes the light go milky. Once we discovered that, we had to retrain the performers, and my main job became lighting the show while staying off the glass. Whilst I was keeping light off the projections, I also had to support their looks, and occasionally colour tone them."

With the Smart Glass wall eliminating a lot of the standard options for characters and faces, Paul turned to side lighting. In Brechtian style, completely visible to the audience, the extensive booms sidestage tower as tall as the screen and are packed with ETC Source Fours and Lustrs.

"The sidelights are doing most of the work lighting faces and the action of the show," confirmed Paul. "We had five lighting bars flown upstage of the glass and two downstage. Three bars upstage of the glass were lighting the action, dance and toning the screen, with two more bars over the band. On LX1 just over the downstage, I've got seven PRG Best Boys HPs. On LX2 downstage of the glass are seven Claypaky Scenius Unicos, and a few 2K Fresnels. All up I've got 25 Unicos and 10 Best Boys, with GLP impression 4s lighting the band on the upstage rostrum. The Scenius Unicos are beautiful instruments, perfectly pitched for this kind of show, while I find Best Boys are always glorious to work with." Most of the rig, with the exception of the Source Fours, was generously provided by PRG.

With the stage bifurcated by the Smart Glass wall, the available space for the actors and dancers is limited, pushing most of the action to thin strips up and down stage. The band is visible upstage instead of in a pit, so not only is this conceptually unlike any other musical in the repertoire, it's also physically different.

"Bowie's music and lyrics are not your normal kind of musical fodder, nor are they normal rock and roll," elaborated Paul.

"We had to find a theatrical vocabulary that supports the show, but doesn't try to overwhelm it. A lot of the techniques and strategies you would use in a normal musical would just debase this material. Hopefully, we found that balance. What we're looking for is somewhere between a musical, music video, and theatre. Lighting had to do the normal work of a musical whilst understanding that a large amount of that work is being done by the screen imagery. It's trying to find a balance between supporting the performers in what they're doing, but not overstimulating the stage."

A harrowing show emotionally, Lazarus constantly reminds you of the passing of Bowie, his alien presence, and his chameleonic body of work. "Working on jukebox musicals, you often walk away having had quite enough of their songs for quite some time," said Paul. "I've been walking away from Lazarus wanting to listen to Bowie again. I keep playing Bowie driving home. The beauty of this piece is as a reminder of how great a musician and lyricist Bowie was. It's been quite moving in a way I didn't expect it to be, and has taken me deeper and deeper into his work."

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Adelaide music industry spawns an online giant

by Julius Grafton

On July 20, Adelaide's Thebarton Theatre will put up the 'house full' sign for a concert by local band Hindley Street Country Club. They are a band born on Facebook that play what they call 'thinking man's pop'. With more than a million song plays, this collective of professional musicians punch above their weight online and are forging a new business model for live music.

Everyone working behind the scenes in music and technical production can learn from this. It's a project that started with an idea that quickly took off. Now Hindley Street Country Club – or HSCC as it is easier to search – are approaching the next phase.

Back in the old days of 2017, Darren Mullan and Constantine Delo were, respectively a studio operator and a bass playing arranger. Due to their inherent talent and business savvy they both enjoyed a career in one of the smallest of our state capitals.

"You hear in music circles about DRAB-elaide, SAD-elaide. BAD-elaide", Darren said. Then: "If you're any good you gotta leave town." But strangely many didn't. Adelaide is the capital of South Australia with a population of 1.3 million, and it has produced a heavy roster of major acts. Today there is an army of super talented musicians living right there, on Saint Vincent Gulf, in a town where you can watch a sunset over the water.

Ahead of the July concert, HSCC are dropping one song a week on Facebook and YouTube. These get shared and shared and viewed, and the word spreads everywhere across the globe. A lot of eyes are now on the project, led by Darren and Con. Darren does the recording and keyboards, while Con is the bass player and arranger.

They have a great dynamic – CX interviewed them on a Monday afternoon at the start of Winter in Darren's studio, Adelaide Recording Studios. It's a simple but vibey working space with 32 inputs, and the studio interface rack of stuff – Logic, MOTU, Steinberg.

There's something about wired people. These guys have bounce, charisma and vigour. Let's explore what is happening here.

Live Recording

Back in late 2017 the guys posted a bunch of songs under the Hindley Street Country Club moniker. Anyone who knows Adelaide will know there is nothing upmarket about Hindley Street - it's a gritty avenue of bars and strip clubs. Rock singer Shannon Noll was arrested outside a club there a few years back and put it into further and better (or worse) notoriety.

Because Con and all of his cohort had – and still do - play in cover bands up and down that street, they penned the name because it has the opposite upmarket connotation. It localises the project into Adelaide, since a lot of Australia knows that damn street. It is to Adelaide what St. Kilda is to Melbourne, and Kings Cross WAS to Sydney. (Before that state government decided to shut down an entire nightlife!)

For the first year, they shot everything on one camera in Darren's studio, working on a one-day, one song a week regime.

The clips caught our eyes at CX because of the one camera simplicity, the musicality, and the great and consistent mix. Simple consistency is often missing when people try to do multi-camera shoots and edit various takes.

Towards the end of 2018 they moved out to


Darren Mullan


Constantine Delo

location, with the Chaka Khan cover, 'I'm Every Woman' lighting up social media. Shot at the Palais Hotel, on a lovely sunny day, the sight of Sarah Lloyde backed by Melissa McCaig and Pina Del Re absolutely ignited social media.

The tech was again surprisingly simple. Darren engaged Peadar McBride as camera operator. Peadar also owns a Soundcraft Ui24 – a very handy 22 input audio mixing system designed by Melbourne's Danny Olesh. The Ui24 is the backbone of the HSCC live shoot.

"The Ui24 is the only thing that can do it", Darren says. "Everything goes in the one box, we use an iPad, 22 inputs with all takes and tracks recorded onto a USB stick. When we shoot on location, you can't hear the singer. We use in-ears for the singers – the musicians can't hear the singers. They focus on the groove!"

"When you shoot live, you must not amplify the vocals. You don't want the spill. I trigger the kick drum – Con plays a Gallien-Krueger 600w with a 4 x 10 box. 'Bass must be loud!' Con says. Drummer uses sticks – we feel every hit. Re-triggering the kick gets rid of the fluff – I use a digital kick, that's instantly the HSCC sound."

So about that song? "The song comes first, before the performer. A common feature is the songs appeal to our generation – they come from before kids and mortgages. Thinking man's pop. Blue eyed soul", says Con who arranges the music.

"The songs need to have strong lyrics", says Darren.

"Next season, after the Thebarton Concert, I have 15 songs lined up – and it will go to what we call 'yacht rock'", says Con.

Darren says he is unusual as he doesn't do gigs, but Con does, and he gets a lot of people pitching at them. "There's so many people, so many songs, not everyone can get a song."

Con says: "a lot of people send stuff to me now, and some get pissed off because they can't get on, but it doesn't reflect badly on us. A lot of people want to do a video but then they don't work so well on camera."

Darren chimes in, "Red light syndrome – freaks some at the 'Go, Record' phase."

Con: "On the shoot day I ask them to listen to the original song then disregard it. We build it on the day. I come in and know how I want the song to sound, but it is a beautiful collective!"

Darren: "This is old-school recording, we're doing it live, all together, and it's a benefit not hearing the singer."

This defies conventional logic, but if you live in Adelaide you get used to working by a rule book that is perfectly SA Proud!

"I like that the musicians are a bit on edge" says Con. "And the last person to learn the song is Darren because he's setting up. "It's not sink or swim, but we never do more than six or seven takes."

Darren: "We record audio of more takes than we film. I'll record all, but film maybe three of them. It's hard to use pitch correction but if someone hits a bad note – then it's 'skin grafted', if I record the lot, especially the early takes when the vocal is strong, I can grab a part."

Con: "I knew things had changed when we recorded 'Ride Like the Wind', by Christopher Cross. We changed the chords – it wasn't true to the original, it came out how we did it. As validation Christopher Cross wrote to us and said it was great! We re-interpret. That's what we do. Barry Gibb heard our version of 'How Deep is Your Love'. The guys from Player, John Waite, they're all hearing us."

Making It Pay

Now there are almost 60 songs online, with more than a million views, and the theatre gig is selling towards a full house on July 20. The only thing missing is – um – money.

"Great concept. How do they monetise it?" a musician mate asked me.

So far they haven't. Every performer to date, all 7 drummers, 18 guitarists, 21 vocalists, 6 keyboards, 5 brass players, 1 mouthharp and 1 violin player have done it for love. "And, the video", says Darren. "Most of them don't have a better video than the one we made!"

And there are plenty more hot musicians in the area. "I have ten more people who Darren hasn't even heard who can sing their arses off", says Con.

What is in that water in Adelaide?

It's all very nice, but eventually something involving money needs to happen. The guys are on to this.

"We are the go-to guys for a super-band, we can tour and back people", says Darren.

"We could make a comfortable living doing new versions of old songs. There's a lot of Australian acts – we can do our style with the artist singing", says Con.

"We're in S.A. Proud mode until the Thebby Theatre show - and then all bets are off", says Darren. "We're multitracking all our gigs and filming. We can take this anywhere!"

HSCC have signed a Shure Sponsorship.

Performers:

Arranger
(Vocals and Bass)
Constantine Delo

Producer
(Vocals and Keyboards)
Darren Mullan

Drums/ Percussion
Brad Polain
Mark Meyer
Steve Todd
Ben Todd
Lewis Todd
Mario Marino
Enrico Marina

Guitar
James Muller
Tom McGrath
Steve Wilson
George Klironomos
Tzan Niko
Stefan Hauk
Greg Blanch
Stuart Day
Jason McMahon
Sam Leske
Katrina Caton
Nick Kipridis
Steve Salvi
Colin Elmer
Dusty Stephensen
Mike Bevan
Joe Belcaro
Peter Grimwood

Vocals
Rick Woodroffe
Andy Seymour
Jordan Lennon
Brian Ruiz
Callum Campbell
Therese Willis
Daniel Lopresto
Dusty Stephensen
Vince Contarino
Ian Politis
Dino La Vista
Zkye Compson Harris
Kat Sasche
Mel McCaig
Diane Panopoulos
Sarah Day
Pina Del Re
Nikki Heuskes
Alex Castillo
Souzi Wilson
Matt Gilbertson

Keyboards
Marcello Rosmini
Paul White
Jack Strempel
Dave Ross
Russell James
Lachey Doley

Brass/Woodwind
Dave Zanchetta
Eric Santucci
Josh Chenoweth
Rob Chenoweth
Jason McMahon

Harmonica
David Blight

Violin
Julian Ferraretto

Songs Online
(Free) At YouTube
Curiosity Killed the Cat
How Long
Use Me
Lowdown
Lady Wants to Know
Feel Like Making Love
I Can't Go For That
Jealous Guy
Sex on Fire
Georgey Porgey
Is This Love
Feels Like the First Time
Love the One You're With
Broken Wings
Ride Like the Wind
Sideways
I Can't Make You Love Me
Breakfast at Sweethearts
More Than Words
Are You Old Enough
Simply Beautiful
Reminiscing
If You Want Me to Stay
Heading in the Right Direction
Sweet Thing
It's Too Late
Can We Still Be Friends
Rocky Mountain Way
One Day I'll Fly Away
Missing You
Superstition
Who is He (and What is He to You)
Baby Come Back
Summer of 81
Controversy
Sweetest Taboo
Maybe it's Time
Dreams
I'll Be Around
April Sun in Cuba
Young American
I'm Every Woman
Killing Me Softly
Jesus is Just Alright
Walking on the Moon
Suddenly
Bette Davis Eyes
Don't Stop
I Don't Want To Talk About It
Chuck Es in Love
Wanna Be Startin' Something
Isn't It Time
How Deep Is Your Love
Bad Girls
Music
Drive
Sure Know Something
Rolling in the Deep
Lady What's Your Name
Temporary Heartache
Famous
Lonely is All I Do

POST MALONE

by Cat Strom
Photo Credits: Troy Constable

Post Malone is lauded as being the voice of a generation. Ask anyone over 40 years of age if they know him and you'd probably get a negative.

They wouldn't know that last year's album Beerbongs & Bentleys swiftly became one of the year's most successful albums. The project - which features the hits Rockstar and Psycho - clocked up more than 78.7 million streams on its release day. Rockstar hit No.1 on the ARIA Singles Chart, went four times platinum and accumulated over one billion streams on Spotify.

Post Malone stirs hip-hop, R&B, and alternative into his own sonic "sauce" that to his fans is intoxicating and invigorating. "I describe what I do as sauce," he says. "You can turn up to it. You can chill to it. You can do anything to it. It makes you feel some type of way, or it makes you want to party. It just comes naturally."

Post's 'sonic sauce' is heavy with subs to the point where our photographer believes he now knows what it would be like to be in an earthquake.

Norwest supplied the audio production including the L-Acoustic PA comprising 24 K1 (12 per side) and eight K2 (four per side, but added four extra for Qudos Bank Arena in Sydney) for the main L/R hangs. Behind the main hang were the main sub hangs of 16 K1SB (8 per side), the side arrays were 24 K2 (add four per side for Qudos in Sydney) and the rear hang of 270° arrays 16 K2 (eight per side). More sub hangs were 16 KS28 (8 per side) with a further 24 KS28 (eight stacks of three) ground stacked. Fills on subs were 16 Kara and four Arc II.

"Norwest did a fabulous job. They're a great team, and delivered what they said they'd deliver," remarked Joe Hellow, Posty's FOH engineer. "It's a fabulous PA that is very consistent for our show. I have mad respect for those L-Acoustics guys. We have enough to fill the entire arena, we carefully spec'd it using their software which allows us to dial in to see how many boxes we need, what type of boxes we wish to have and what is feasible with the sightlines and the weight of the hang. So we fill this up and max it out."

Joe commented that a PA can work in multiple venues but there are some that work a lot better in arenas and some that work a lot better outside for bigger productions.

"I really enjoy using Meyer Sound but if I want a consistent, clean sound in an arena that is very controlled, I love L-Acoustics," he added. "It reaches far in an arena, all the way to the back seats which is what we need. If we wanted to push further than that, I'd definitely lean on Meyer Sound. The vibe of hip hop with big low end and high SPL means there are only two systems that make sense for this artist."

Joe grew up in a recording studio with his father where he says he learnt the fundamentals of mixing, shadowing pioneers in the studio.

"I joined IATSE when I was 15 and was taught by a lot of great, hardworking guys in the union and that's where I got my foundation in the live world," he said. "Big Sean played a large role in kick-starting my workflow in hip hop, and I was with him four years as he grew from DJ act to band, and everything in between."

Out front there were two DiGiCo SD10 consoles; one for Posty and one for the opening act. It also meant there was a spare console if one console goes down.

"We weren't sure if we were going to mix the opening acts or not, and you don't want guest engineers going into your console and switching files," added Joe. "I'm using a lot of analogue gear so there's a lot of stuff going into the DiGiCo that even I don't want to touch if I'm mixing the openers. I love the SD10, it's a great console and DiGiCo are always amazing."

Joe explains that they control the SPL in a way that it's still a great show for the opening acts but certain frequencies get tamed, although still high.

"We don't want to blast everyone so that they're frosty by the time Posty goes on! They get a build up to his set which we can control and make sure it sounds nice."

Having grown up in an analogue studio, Joe says he notices the loss of warmth and headroom with digital gear and so he utilises a fair amount of conversion.

"I'm using Apogee's Symphony I/O to convert all my digital to analogue and analogue back to digital and the difference is night and day," he said. "I really appreciate Apogee for helping me through that and working together on building something that is road-ready and lasts on tour. Some interfaces can't handle being on the road but this one is meant for it – it has Waves SoundGrid built in so it's one Ethernet line that goes into the console. You really notice the difference.

"I also use a lot of Neve and API, enough said. Baddest of the bad. Best channel strips in the world."

Joe utilises the Waves and console onboard effects, having four different reverbs and three delays that change per song. He says that although DiGiCo make a great reverb there are certain things that match Posty's album for which you need to use use Waves.

"It's like a rollercoaster of sound waves and emotion filled with impactful, meaningful

timings of big hits and it's a beautiful thing," elaborated Joe. "With his passion on stage we just try to build our sound around that. He carries the show and we just wrap it around him."

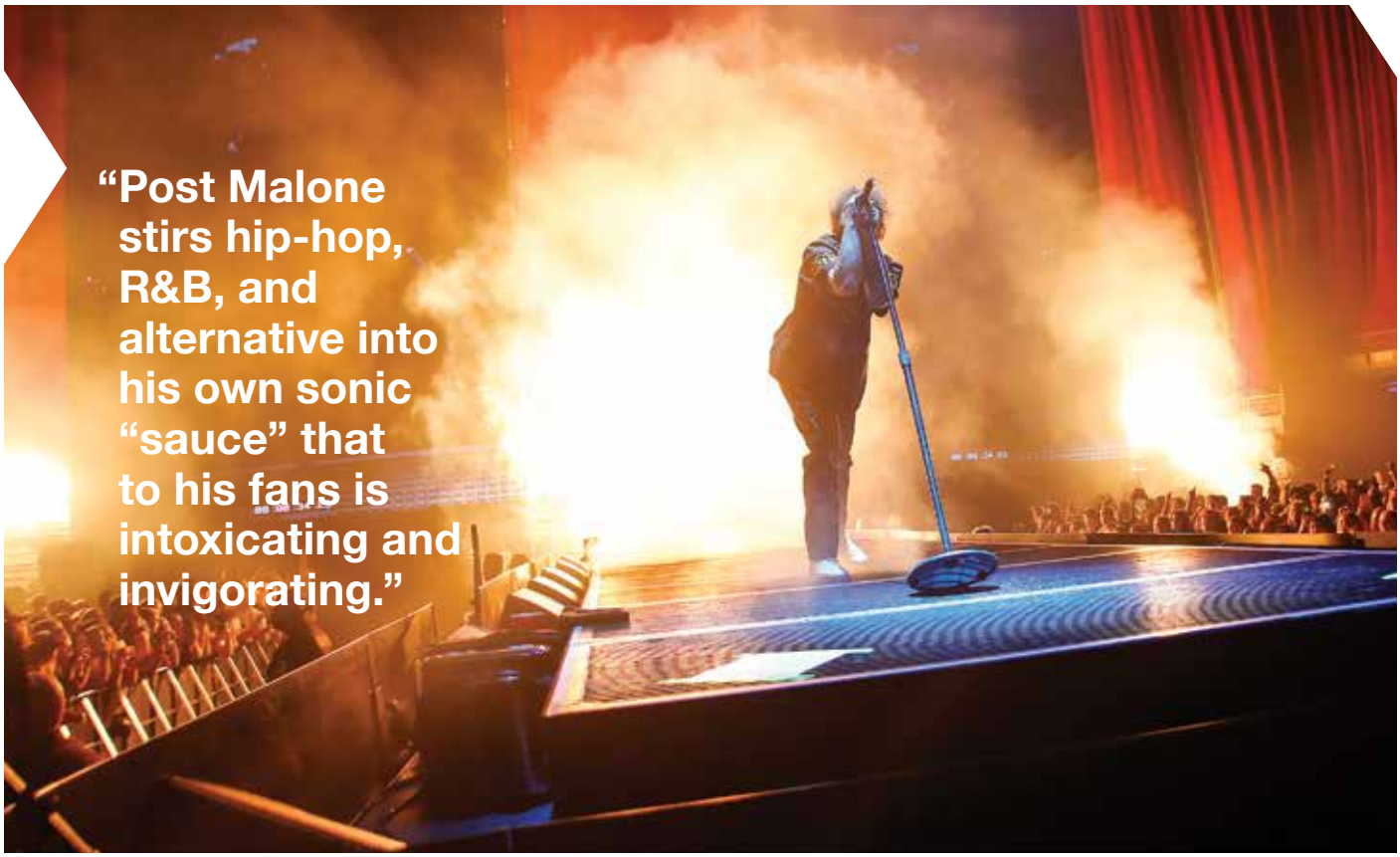
Posty uses a DPA d:facto on a Shure Axient handheld microphone, which Joe loves on his vocal saying he is unique and it sounds amazing.

"A lot of artists love using a standard Shure 58 but it just doesn't capture the emotion, the sheen on his voice, the grit – all of that is captured by the DPA and we have the accessibility to manipulate however we need to in order to make it sound proper for the audience."

As with many acts these days, Posty sings live and the rest is all backing tracks. A lot of time was spent mixing his songs for live performance with Willie Linton in charge of ensuring the music translates from the studio onto the stage. It means that Joe has a whole catalogue of Wav files and they can stem everything out as needed and add or augment with musical director Wow Jones to make it feel live.

For playback Willie uses Linx Aurora interfaces as his main I/O, with Ableton and ProTools.

"Everything starts in ProTools and once I get my mix cool and my arrangements how I want them, I'll put them in Ableton," he explained. "I use a program called Set List that helps me organise all my songs because I actually play back all the songs during the show as well. I



have a redundant playback system so if my A computer fails it goes to my B computer. We also use Autotune and other vocal processing live. We have a couple of effects we use and I also set that station up, although I don’t run it.”

“More and more artists are using playback as everything is run on timecode; pyro, lights, video. One of my jobs is to ensure the flow of the show is rock-solid and that every version we have matches because you don’t want a pyro cue going off at the wrong time. Sometimes we have up to six different versions of the same song and whatever they need to happen, I have to make happen. They call it the hot seat! Have to ensure it keeps moving.”

Monitor engineer Travon Snipes is the new guy, having only been with the tour for a month inheriting most of the set-up. Currently he has no outboard gear but hopes to sneak some in soon.

“You try not to come into a situation and abruptly change everything but you also want to bring your own character,” he said. “I’ve taken notes on the previous work and kind of put my little spin on it. I’m also using two DiGiCo SD10s and Shure PSM1000 IEMs.

“With Post it’s mainly making sure that he has a great blend of his tracks, making it sound as much as possible like his record. You have a lot of delays going on, just mixing in general trying to make it sound a clean vocal, but not vocal heavy – trying to find a good spot for everything in the mix.”

The stage was very simply a long catwalk, which was flanked by two large LED screens. A large flown moving structure the same size as the catwalk contained lights, lasers, pyro and smoke. The catwalk was grated and had a large number of lighting units underneath for uplighting.

The flown moving structure or “top box” structure as the crew liked to call it, was jammed with over 400 lighting fixtures. Around its edges were 68 GLP X4 Bar 20 which served to continue the brutalist look of the box as a large solid structure.

“We initially where looking at doing this look with lasers, but the X4 Bar 20 did the job with the fixtures pointing straight down,” said lighting designer Ben Dalgleish. “I tried to design the lights inside the box to be as flexible as possible, as it really is the main eye candy in the show. We have 80 Robe Spikies which can snap from a tight beam to wide wash in seconds. Also the 42 Varilite VL4000 BeamWash, while equally as versatile, are just so bright and big looking they form the majority of the spread-out looks in the show.”

And finally, down the middle of the box were a “spine” of 30 GLP JDC-1 strobes which Ben ran in full pixel mode.

“I wanted to have as many architectural looks as possible in the show, so all the fixtures are grouped as close together in straight lines,” he added. “Using different combinations of beam versus wash, as well as different positions, allowed each song to look very different.”

A total of 64 Claypaky Scenius Unicos started as a workhorse profile spot, but Ben soon discovered that some of the colours they could make really set the tone for a lot of the show. The entire look for the song ‘Too Young’ which starts the show is the Unicos backlighting Post in an incredible deep mint colour, which slowly fades to a rich CTO. Ben comments that no other discharge moving light he’s seen can come close to making those colours.

“I have these lights running all the way down the audience trusses, and they spend a lot of time lighting the crowd in unique colours,” he said. “We have no traditional blinders in the show, so their brightness and zoom range was well used.”

The rig also had 54 Claypaky Sharpy Washes which were grouped in six pods of nine fixtures each. These were also used for audience lighting as well as a continuation of the shows brutalist look. They rarely move during the show, instead each pod is used as one large light source.

Solaris Flare LR Strobes were both underneath the catwalk, but also behind the video screens in a long line. While they were only used for a few songs, they added a massive amount of depth to the show when they were, and changed the whole look heavily, by giving the screens a monolithic effect.

Smoke has been a large part of the show since Ben started with Post in 2018 and he says that they really try use it as an effect, and not just for the sake of having it look smoky. Smoke cues are planned and timecoded in specific songs and hours were spent dialing in how the effect is used in relation to not just the lighting, but the Notch effects that run over the IMAG feed as well. There were 24

Ben Ward

Willie Linton and Joe Hellow

Travon Snipes

smoke machines, all with DMX fans, and they were everywhere - in the Top Box, under the catwalk and over the audience.

The majority of the content on the two large LED screens was live IMAG run with Notch effects. Ben says that they are really pushing the envelope with these effects, and the lighting level plays a massive part in how they end up looking. “We spent a lot of time dialing in each song with front, side and back light, and normally have a few different key light looks per song in order to allow the Notch effects to shine,” he remarked. “I would describe my lighting as powerful and dynamic. While Post is primarily a Hip Hop/ Pop artist, I didn’t want the show to look anything like a normal Hip Hop or Pop show. There are no wild movements with the whole rig. Everything is super considered, but programmed to try and make it feel as organic as possible. Just like Post’s music, there are hints of 80s Rock’n’Roll lighting, Heavy Metal, and beat driven EDM style programming.”

Finally there were six PRG Bad Boy Spots which were operated by a selection of GroundControl Followspot Systems.

Lighting Director on the tour Ben Ward ran the show from behind a trio of networked MA Lighting grandMA2 full size consoles: one for each side of the truss and a third for a FOH view. Having three consoles means Ben doesn’t have to drag a console around every arena while focusing so many fixtures.

INTEGRATION CONTROL - DON'T MAKE ME THINK

by Simon Byrne

Some of you would have read my piece about the incomprehensible state of house light controls in last month's edition of CX. I see a lot of the same problems in the installed control systems as part of installations. That look of initial frustration because the user knows what needs to be achieved, but does not know how to do it. The user then cautiously starts pushing buttons, might have to call someone, followed by some more frustration as the system reacts in ways so as to make it just a challenge to get back to where they were when they started, then finally, the pleasant surprise when the touchscreen system actually carries out the user's intention after having to navigate a series of incomprehensible icons.

This is not a complete surprise. Apparently there are no standards by which people can rely.

For example, in Australia we all drive on the left hand side of the road. It is a standard that everyone knows, so everyone relies on that, and it works. No thinking required. With system programming though, it seems that the programming road rules are being made up on every new installation.

As well as no roadmap, the system programming is the last stage of its development. The lion's share of the money has been spent on hardware and fitout, and time is money, so the tendency is to get the implementation done as quickly as possible.

I have a modern, but astonishingly difficult to use oven in my kitchen. When I bought it, I thought I'd get a quality name brand unit so I bought a fancy-pants Bosch wall oven. This was a mistake.

Rather than using English to describe what the buttons and knobs do, it has twenty-six different icons. I bought the oven three years ago. I still don't know what twenty-three of the icons do! This is an extremely poor example of user interface design. And don't get me started on our Miele clothes washer!

So what are some priorities in terms of making a control system user friendly? Let me impose some of my thoughts on you:

The most important question to ask is; how is the system going to be used in real life? Not what it can do, but how is it actually going to be used. This should drive the overall process.

Be aware that what a client says and what they actually require are often very different. To make it more challenging, the client often does not know what they don't know. That is human nature. I'll often leave a job 70% done and unleash the client on it. That forces them to actually think properly, which distils their thinking, so you get a better brief.

Then test out the setup on other real users, and watch how they interact. This is often very telling.

Prioritise the key requirements above all else. Those are the must haves, and should not be compromised. Then and only then, the nice to haves may be incorporated, but only if they don't impact on the must haves.

Think how the user is likely to think. You are a technical user who lives this stuff - end users don't. So what seems logical to a techo is alien to them. It is up to you to interpret what they are trying to achieve and offer a solution.

Keep the graphic designers away. Useability is paramount and creatives often lose sight of that objective. If a design element makes something even slightly more confusing, it probably should not be there.

Use English; we learnt that in school. We didn't have iconography classes in high school so resist the temptation to use them where a word works better. As a compromise, use icons with labels.

Have a back button. Always, always have a back button. The user must have a way to step back if they have made a mistake.

Do you really need a password? I've seen systems locked down for no apparent reason and, what is worse, timeout whilst an event is in progress.

Unintended consequences. Complex integrations sometimes have unintended configurations which stops the user from operating it in the way they want to. Great efforts should be made to get these bugs out of the system, but is also another reason for that back button.

And lastly think about this; if you have to conduct user training or write an instruction manual, maybe you have failed. Revisit why.

Back to that Miele clothes washer. When it completes a wash cycle, it shuts down, which is sensible, so well done Miele. But, to get the clothes out, one has to turn it back on, which involves it booting up which takes 15 seconds or so, only after which one can open the door. If it is so smart, why doesn't it open the door itself?

Rant ends…

Simple AV control systems by Neets

presented by Amber Technology

There are several multinational suppliers of enormously competent, all-encompassing AV control systems such as Crestron, Extron, AMX and Control 4. Products from these companies can be assembled into sophisticated control systems, which extend beyond the realms of AV into lighting, climate control, security and energy management.

However, when an end-user requires a simple, cost-effective system to control just a single room or a collection of rooms, a small but independent AV control system, such as Neets, provides a comprehensive solution.

Neets, a Danish manufacturer of AV control systems, has a wide range to make life easier for presenters. The products are compact, easy to install, easy to program and easy to use with new models equipped with built-in web servers, providing a custom interface on an iPhone or Android smartphone.

The product portfolio starts with the QueBec family: control systems that have no user-operated buttons. QueBec II and QueBec III sense a connected computer and issue commands, for example, turn on a projector, select the correct input and lower the screen. The sequence is automatically reversed when the connected computer is removed.

Simple wall-mounted control systems with buttons include OsCar (four buttons; controls via Ethernet, RS-232, GPIO and IR), EcHo (8 buttons, controls via Ethernet, RS-232, GPIO and IR [model dependent]) and SieRRa (similar to EcHo, but adds a web-enabled GUI for smart-phone control). The unique UniForm (8 buttons, controls via Ethernet, RS-232, GPIO and IR) wall-mounted control system was introduced at ISE in 2019, incorporating e-Ink button labels that are fully programmable and easily changed.

The all-in-one wall-mounted systems are complemented by rack-mount systems: AlFa II, LiMa and TanGo, which can be paired with 4", 7" or 10" wall- or table-mounted touch panels.

All of the Neets control products are programmed using the free-of-charge Neets Project Designer software – a drag-and-drop environment for configuring Neets control systems and the devices they control. Comprehensive on-line documentation is backed by an engaging knowledge base and a team of enthusiastic support staff.

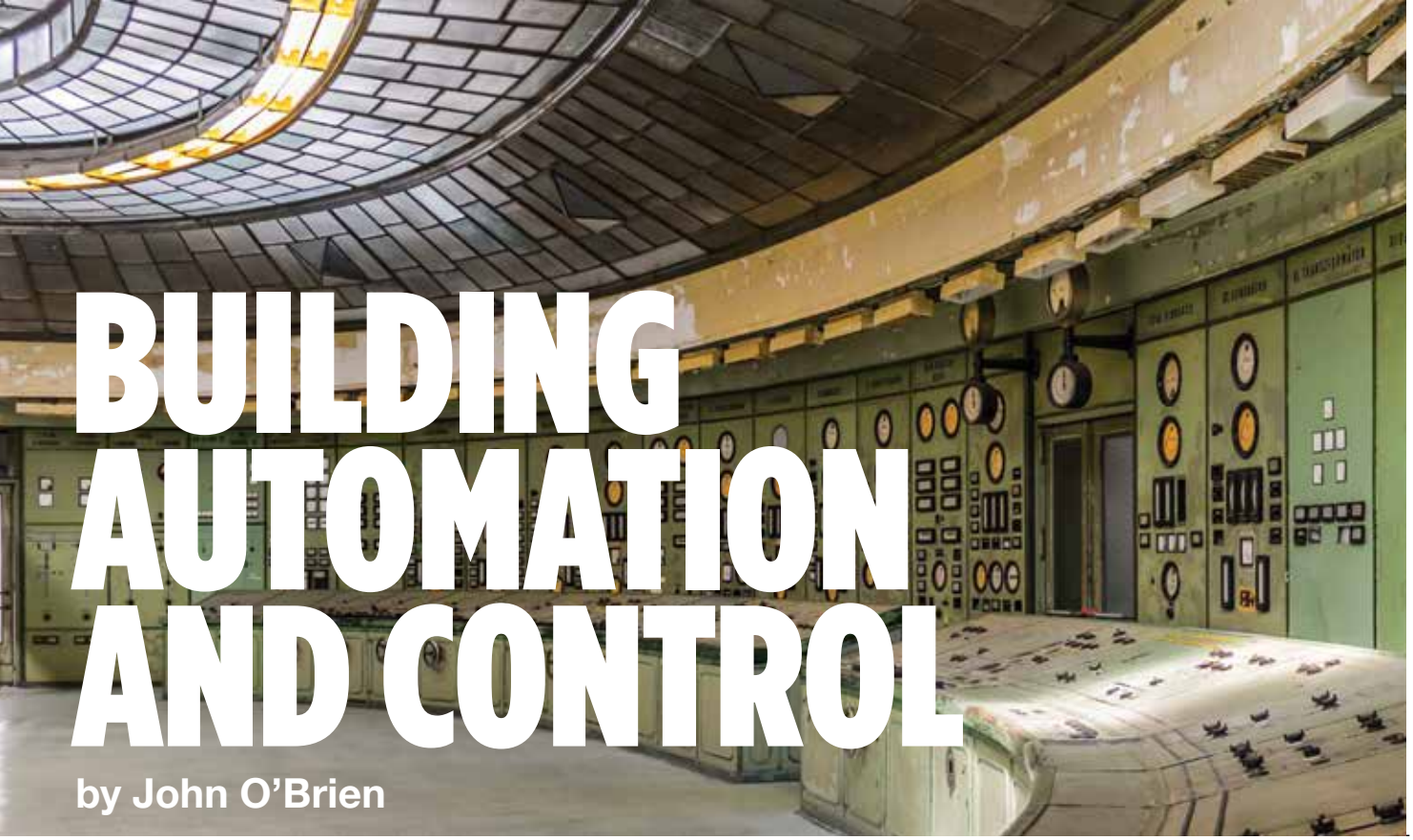
Not satisfied with just making it easier to control presentation AV in board rooms, meeting rooms, collaboration rooms and huddle rooms, Neets has recently introduced several products designed to improve and simplify audio and video within meeting rooms.

The Neets Soundbar SB1 is specially-designed for meeting rooms and, unlike traditional residential systems that require additional subwoofer to produce quality audio, the SB1 features output power of 4 x 20W directed to a pair of 4-inch woofers, partnered with 1-inch soft dome tweeters. Featuring RS-232 control, the SB1 offers balanced, unbalanced and optical audio inputs. SB1 features a black grille cloth, however, this can be upgraded to an exclusive Kvadrat 100 percent wool grille in grey, red, blue or green.

Collabo by Neets is a product that combines SB1's audio attributes with video hardware, allowing a single USB cable to connect a camera, microphone, display and speaker to a user's computer for a unified communications application. Users running any collaboration clients such as Teams, Skype, Zoom, WebEx or BlueJeans on a laptop or computer can quickly, easily and reliably use their software-of-choice in a meeting room environment. No drivers are required (Windows 10) – just plug and play.

The Neets control portfolio is complemented by a range of audio equipment (amplifier and pre-amplifier), table-top organisers (Neets MiniConnect) and other accessories.

For stockist enquiries please visit the new Amber Technology website www.ambertech.com.au or contact 1800 251 367.



BUILDING AUTOMATION AND CONTROL

by John O'Brien

Show control. AV control. Command and control. Control flow. Controlled burn. There are many aspects to the word 'control' and these are just some that I've been involved with. However, I'd like to concentrate on the niche that became my forte after showtime - building control and automation.

Disclaimer / Background

For me, long years of rock gigs had slowed down via 'traditional' theatre and then sideways to business theatre and I wasn't getting the buzz any more. Corporate retrenchment lead to a 3-month sojourn in the tropics where I decided to retrain. A depressing year setting up conferences for an AV hire company on my return (to pay the bills and all that) was the last straw, so I signed up for a 2-year Diploma in Software Engineering.

A pauper's diet of rice and veggies, and late nights doing lights or FoH for festivals and small gigs got me by as I studied harder than ever in my youth. Then the Dot-Boom crashed and my dreams of traveling the world as an overpaid freelance web designer crashed alongside it. With the IT market flat-lined, a background with black boxes saved me. I got a tech support job with the AU/NZ distributor for Crestron. After a couple of years there, I'd paid back my study debts and took off as a freelance programmer. Shortly after, Crestron's regional distribution changed hands and I got head-hunted to train up the new mob. Right time, right place - back on the payroll. A busy 4.5 years of tech support, training and business development followed until the GFC crunched me out! I then used the skills as Project Manager for an integrator of high-end residential installations.

This world of AV control, home and building automation systems was and is booming and has increasing levels of hype and money surrounding it. From a technical perspective, these systems are essentially glorified PLCs with a heap of IOs and funky GUIs ... a bit higher level than BMS but that gap is fast narrowing. It's still all black boxes though.

I'll admit that I initially battled with Crestron programming. Although I had a long history with various electronica and a shiny new Diploma, it just didn't gel. I was struggling with reconciling the long lines of structured code against a proprietary programming system based on electronic logic theory. It seemed a bit gimmicky to me until one day the penny dropped and I saw its true power and flexibility. Then the true learning curve began and it started with understanding what I was controlling and how that control worked.

Control Types and Automation

Serial (RS-232/422/485), IR, relay, MIDI, DMX. Each interface has its strengths and weaknesses. The lowly relay or 0-10V sensor are cheap and reliable. High level bi-directional communications such as serial (over DB9 or Ethernet) are costlier both hardware and programming wise but allow for a greater degree of versatility in control and reporting.

Pure control of a device is achieved at a very low level. A good example is using a wall switch to turn a light on or off. Switch on, current flows to the fixture. Switch off, juice stops. Automation adds the ability for that one action by the user to initiate multiple actions at the hardware level.

There are now many vendors with products that allow one act (a button press) to initiate quite complex sequences: dimming multiple lights; opening / closing blinds; setting audio; opening security doors; and controlling any device that has some kind of electrical or electronic interface. These actions can even occur without any direct input from the user at all, using pre-set triggers such as sunrise/set, wind speed, day of the week, etc.

Of course, the myriad solutions in the marketplace offer varying degrees of reliability, sophistication and pricing. And this is only home and building structured lighting - throw in audio and video distribution, security, communications, HVAC, conferencing, scheduling and you can have a real jumble of gear and options. Some do a bit, some do it all, some are dinky and many are now backed by global powerhouses like Google, Amazon, and Apple.

Home automation might be the glossy drawcard but the real control and integration industry money is found unifying black boxes for medium-large corporates and institutions like universities, governments and places of worship. Same gear, but greater volume and generally easier clients.

Control Interfaces

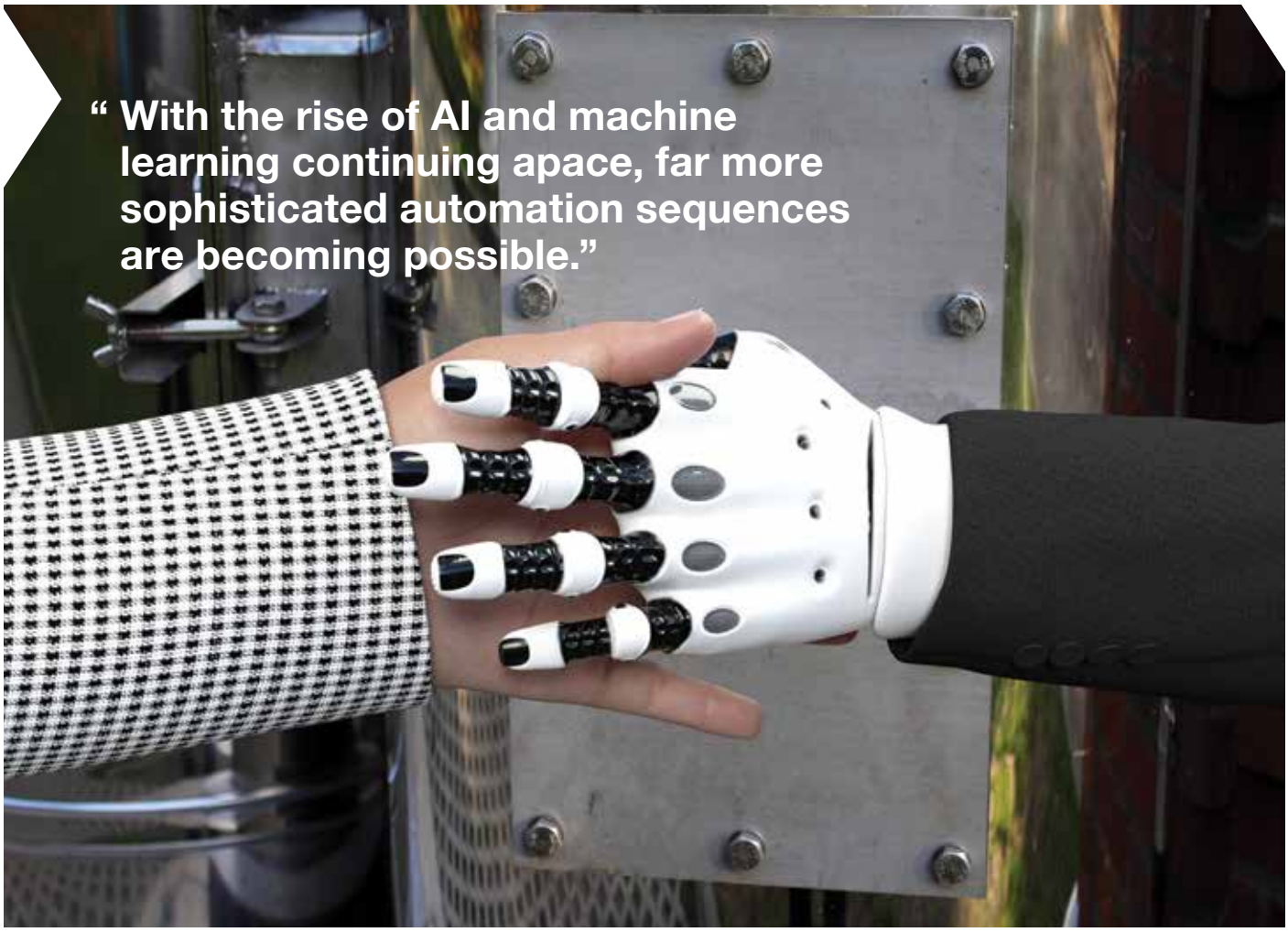
Designing automation software while servicing the hardware, I became fascinated by the concept of human-machine interface. This is where humans interact with the technology. You are all familiar with your audio, lighting and video consoles - this is where you exert your control over your part of the production.

But the most pervasive example of a control interface is the motor car. Get in a different one anywhere in the world and, excepting left hand / right hand drive issues, it will be pretty much the same. The wheel controls direction, the pedals control acceleration / deceleration and the stalks and buttons mostly do similar things. It is one of the rare occasions that competing manufacturers worldwide standardised on an overall approach. Phones and internet browsers seem to be following a similar pattern recently.

Unfortunately, this standardisation has not occurred in the building and AV automation industry. Dedicated efforts by industry bodies such as Avixa notwithstanding, there are still few widely adopted standards. Many manufacturers have their own proprietary platforms that are not directly compatible with those of others. As an integrator, this is frustrating but it does provide a wealth of opportunity for lateral thinkers and savvy business types.

GUI

Most machines now have computers controlling many levels of functionality and it is the job of the interface to translate that into easy decisions for the user. Almost inescapable now is the Graphical User Interface (GUI). Phones, tablets, laptops, desktops are obvious examples of this and screens are everywhere.



“ With the rise of AI and machine learning continuing apace, far more sophisticated automation sequences are becoming possible.”

These terminals have a lot of thought behind them beyond the ever-miniaturising technologies. Virtual buttons and shiny graphics aside, one of the keys to success with a GUI is anticipating and managing user expectation and experience. Web design, game design, AV console design - these collectively benefit from clever layout and architecture. There are multiple careers in managing user engagement alone. In my many personal efforts at GUIs, I've always striven to achieve intuitive layouts and structures but it's a continual learning curve and I'm no Cognitive Psychologist. Controlling infinite complexity at the back end for greater simplicity at the front end takes some skill and much practice. So what has this got to do with show production? AV integration and control is more construction industry, right? Well, yes and no. The tech is remarkably similar and the quick decision making skills and calmness under pressure from live work come to the fore at the crunch times like summer university upgrades, troubleshooting the VC system as the corporate VIP is about to speak to the company worldwide, or my favourite, ensuring that all 17 large screens in the mega-mansion can show every channel known to mankind in 4K before Christmas (even though the client is likely to be in the Bahamas until February)!

Control Alt Delete

With the rise of AI and machine learning continuing apace, far more sophisticated automation sequences are becoming possible in all aspects of our technology driven environment. The degree of direct user control is lessening (self-driving cars are nearly upon us) - all driven by the routines, sub routines and processes designed and implemented by intelligent and industrious souls like you. If you are over the bright lights and late nights but not yet over tech, there is a world of available professional options controlling and automating building electronics. Now, I'm off to ponder improving the algorithm of life.

THINK BEYOND.

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Extending Media Server Control Beyond Projectors And LED Walls

by Clint Dulieu, Technical Sales QLD, Show Technology

The humble Media Server has come a long way since we were first introduced to Catalyst back in 2000. What was once somewhat of a niche product, a cute gimmick that allowed the lighting op to manipulate some video playback, has today morphed into a powerful, essential tool in use on most every production. Whether it be a corporate awards ceremony in a ballroom, or an Olympic Opening Ceremony in a stadium, you can be sure to find some form of media sever in use.

Interestingly enough, what began as a way for lighting folks to enter the domain of the video professionals has now come full circle and we can find video operators just as easily in control of lighting elements directly from media servers themselves.

There have always been a number of bespoke solutions on the market to integrate the various pieces of equipment we have in use on a show. As productions continue to become more and more complex however, and as we see what was traditionally production based equipment in increased specification on long term and architectural installations, simple and more importantly reliable solutions for show integration are more important than ever.

Pixera Time

One such product suite entering this domain is a combination of the Pixera Media Server Platform and AVIO (Audio Visual Input Output) system, both produced by AV Stumpfl of Austria.

Pixera Media Server

Pixera is a next-generation software platform that combines ease of use with powerful features to achieve media playback and control, whether for a complex 3D mapping scenario or simple media playout.

A familiar timeline style interface allows the composition of media into a show that can then be played back via a variety of methods, from DMX control to timecode and everything in between, or simply locally from the software itself.

Extending the possibilities beyond just video media, Pixera allows for additional elements to be built onto the timeline. Whether that be multi track audio, control commands for various other show elements, or timecode to trigger lighting sequences on dedicated controllers.

All of this is achieved through a simple, clean user interface, enabling complex shows to be built rapidly and with ease.

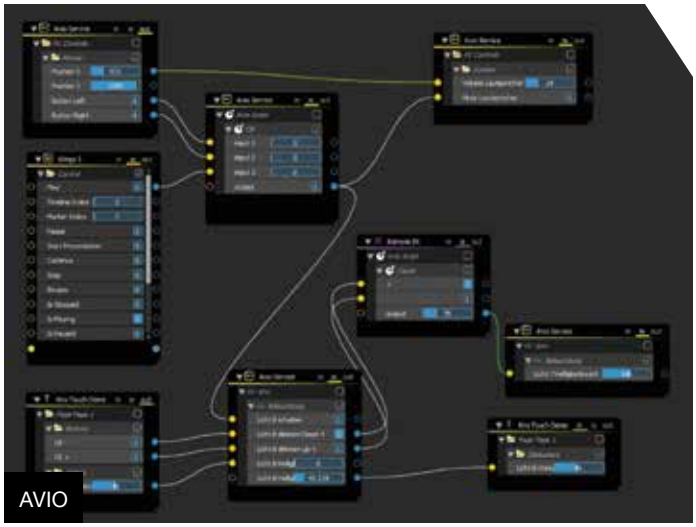
Enter AVIO

Once the show is built, the next step is to allow seamless integration with third party systems and equipment. This can be for a variety of reasons, whether to provide complex cueing and synchronisation, monitoring and failover controls for backup systems, or for intuitive simple interfaces for everyday people to operate.

Cue Synchronisation

As we rely more and more on tight cueing of multiple items in a show that traditionally were isolated systems, we need a reliable bridge between devices. AVIO's node based structure allows a variety of inputs to be received such as MIDI, push buttons, TCP/UDP, etc, then interpreted and processed so they can then be used to control other equipment.

This could be as simple as sending a sACN trigger to a lighting console upon a physical button being pressed, say in a gameshow type scenario. Or as complex as evaluating



AVIO

Web view

a number of conditions being sent by third party systems, and then using OSC to automate audio cues at an appropriate point in a Pixera timeline.

Backup Monitoring

In mission critical applications like live television or high profile architectural installations a system failure is just not acceptable if it stops the show. Backup systems for critical components have become commonplace, however it's essential that such systems can operate autonomously where required and equally important that notifications are given when said systems become active.

Through the use of a system like AVIO, heartbeats or watchdogs can be used to monitor the online status of critical systems.

In the case of something like a media server, should the main server fail, AVIO can recognise the loss of the heartbeat, trigger an inline video matrix to route the backup server outputs to displays, change the inputs on the audio system to receive audio tracks from the backup server, and email support personnel to make them aware the system needs to be tended to.

User Interfaces

Complex Audio Visual installations are being installed in applications that require their daily operation to be handled by largely unskilled personnel. Through the use of custom user interfaces, vastly complex systems can be reduced to simple controls that can then be operated via web browsers, tablets, touch screens and the like. AVIO offers the TOUCH module to achieve just that. Simple controls like displays, push buttons and sliders can be mapped to various other devices in the system. Powerful scripting logic can be used to evaluate a number of conditions based on user input and in turn trigger complex sequences and shows. This allows for media servers, audio DSP, lighting consoles, and even building systems to all be interfaced to the same front end user interface. Returning to our original subject matter, once triggered from such an interface, a media server can then be used to run a complex show, integrating the third party controls integration described above, whilst providing simple status feedback to the end user.

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How gaming accidently created an industry-leading product

by Alex Hughes

While this may only be my second article for CX, I am confident when I make the following statement; “Online gaming streamers gave us the best tool this industry has seen in the last ten years.” The best part is most people never saw it coming, and that includes the original manufacturers of the product. This revolutionary device is simply known as the Streamdeck.

This humble little device retails for roughly $250 Australian and while it may look like an executive’s desk toy, it heralds one of the biggest changes in our industry since gaffa tape started coming in different colours.

The Streamdeck was created as a first step towards having LCD screens on every key of your computer keyboard.

It was designed to allow people who are livestreaming computer games to effortlessly type in hard-to-memorise keystrokes for games and streaming software. When the device was released to the world many people canned it due to the fact it cost more than some of the more advanced gaming keyboards that already featured shortcut keys.

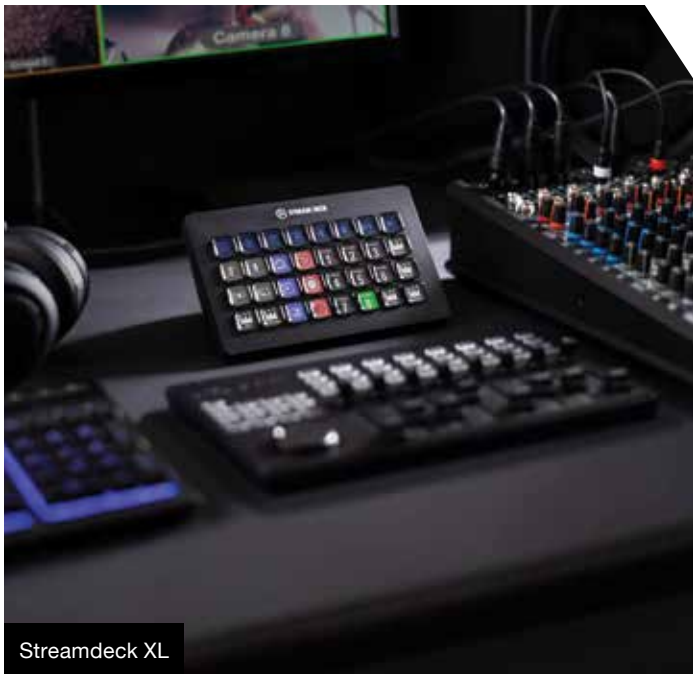
It seemed the idea was a waste of R&D and was simply just a passing fad for those with too much money to spend making little icons to complement their desk layouts.

However, for those in the entertainment industry it was something much more. I remember buying my first one to use for MAonPC and Vectorworks keystrokes as a tiny programming wing for those tight spaces while travelling. For the most part the functionality was very basic and just slightly outside of what it had been designed for, which was replicating keystrokes and shortcuts.

Meanwhile in Europe, a group of people known as Bitfocus saw a much deeper use for the device. They began to investigate ways of using many of the devices together, not limiting the output to just keystrokes and adding IP protocols. In mid-2018, Bitfocus released their first version of add-on software via the free software and coding repository Github. The software was called Companion and it allowed your Streamdeck device to control most vision, lighting and audio systems using just a computer hooked up to the AV devices via network. At first the list of systems that it controlled was limited to the ones that the team at Bitfocus had access to, but due to the community nature of GitHub, anyone could write their own plugin and contribute an add-on to control different pieces of equipment.

The Streamdeck in all its glory

Streamdeck XL and Mini controlling a Blackmagic ATEM via Companion



Streamdeck XL

Less than a year later, the list quickly grew from a couple of products to over 60 from the areas of lighting, vision, and audio, with the list growing every day. That list includes playback systems such as QLab and most lighting applications and consoles.

While the gamers thought the product was expensive, the production and AV industry saw this as a cost-effective way of controlling many devices at once. In early 2019 Corsair, the company that makes the Streamdeck, released an API that allowed the Companion software to natively interface with the device. Corsair also listened to the demands for a larger device and the Stream Deck XL was released, featuring more buttons as well as a detachable cable.

I have spoken a lot about the history of the product and how it works, but I haven't given a good use case. Depending on who you are, many things can be controlled or manipulated with it.

The example I always like to give is the video roll. With all your devices networked, with a simple button press you can start the video playback on a QLab or PVP machine, fade the lights on the Hog, MA or Chamsys lighting console, switch the input on the Analog Way or Blackmagic video switcher, then un-mute the playback audio channels on the Yamaha audio desk. A second press of the button can reverse the process and you can even add in delay timings between cues. All these actions can be configured via the web interface that the Companion software comes with.

I've barely scratched the surface of what it is capable of. I could talk at great length about the other features such as two-way communication with programmers such as Stage Timer 2, allowing you to see how long is left on a timer right on the device or even how you can run the Streamdecks off a Raspberry Pi microcomputer, but I fear filling up the entire magazine with my gushing review of the device would make for a somewhat boring issue.

So consider this a piece of friendly advice to look and explore new options in not only this, but all the technology around you. This isn't a paid advertisement, just a passionate user trying to get out to the technical world about a great piece of hardware that can save you a lot of time in your daily workflow. Personally, I own two Streamdecks, although both were recently murdered by baggage handlers at Nadi international airport in Fiji, so make sure you get a nice carry case for them.

As always, I will be ranting at length about this topic and more on the Lighting Nerds podcast as well as in an upcoming ConsoleTraining video. - http://lightingnerds.com

CONTROL COCKPIT SOFTWARE

by Jason Grbevski, Product Channel Manager – Integrated Systems, Sennheiser Australia & New Zealand

Sennheiser's Control Cockpit Software keeps everything under control, allowing you to digitise your AV management workflow for flawless daily business. It is the central software for easy handling, control and maintenance of the entire SpeechLine Digital Wireless (SLDW) and evolution wireless G3 and G4 portfolio as well as the new TeamConnect Ceiling 2 microphone, making it an ideal application for controlling and monitoring company or campus-wide installations of Sennheiser products.

The powerful software is accessible in web browsers on any smartphone, tablet or notebook.

It offers a continuous, global dashboard overview of all network-enabled Sennheiser devices showing all status information at a glance, while greatly simplifying adjusting settings for individual or multiple devices.

Advanced notifications are also a feature of Control Cockpit, with a comprehensive event log and on-screen alerts. The platform offers user definable alert profiles that allow facilities to specify which locations and class of notifications get sent to its facilities staff via either email or SMS. This assists in employing a preventative maintenance program, fixing the issue before it becomes a problem for the end user.

Sennheiser Control Cockpit 3.1.0 out now

A new update was made available in May 2019, version 3.1.0, which offers various workflow improvements. Version 3.1.0 offers an intuitive, easy way to set up and manage TeamConnect Ceiling 2 along with SpeechLine Digital Wireless systems, with the following additional features now available:

- Out of range detection for SpeechLine Digital Wireless. When activated, out-of-range activation will notify the system administrator via e-mail and/or text when a wireless microphone leaves the range of the receiver. Notifications are also visible in the 'Devices' dashboard under 'Device information'.
- For TeamConnect Ceiling 2, Sennheiser Control Cockpit version 3.1.0 offers the possibility to define vertical exclusion zones in order to minimize unwanted side noises from projectors or air-conditioning units.

The free software can be downloaded at www.sennheiser.com/control-cockpit-software.

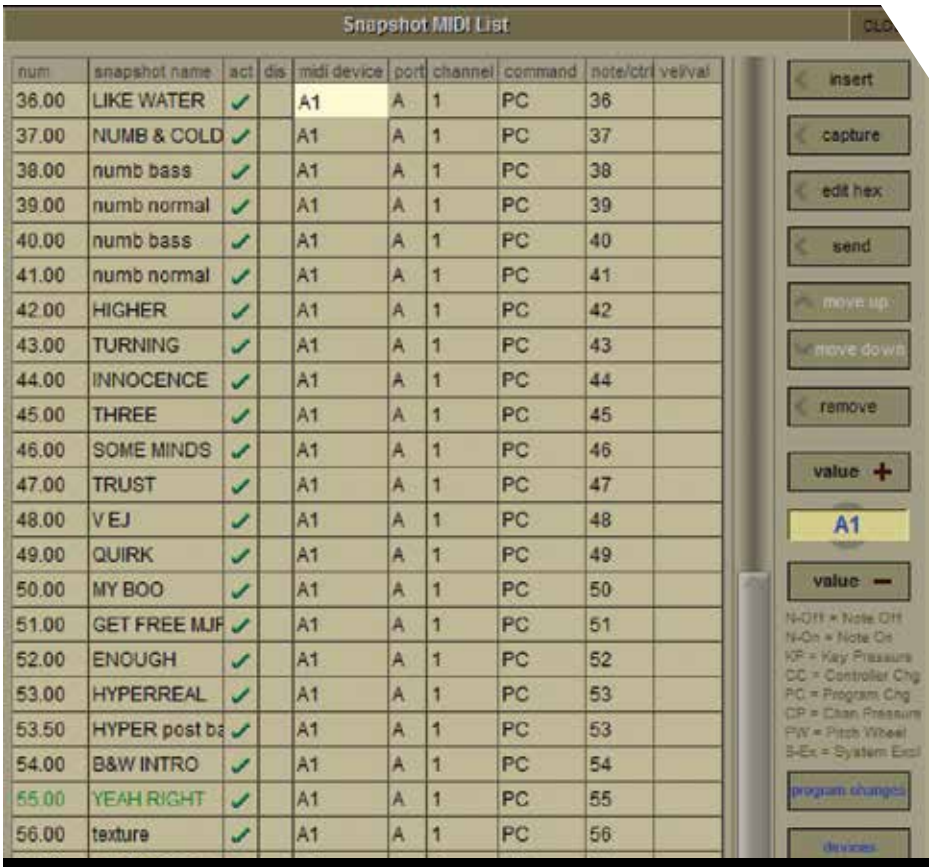
Everything but the fader

by Fraser Walker

A few years ago I saw the first iteration of a touchscreen console side of stage. There wasn't a tactile fader in sight. I was baffled - how could you claim to mix audio without a fader? There are stories of Pink Floyd huddled around the EMI console, each on 3 faders making the moves as the tracks from Dark Side of the Moon went live to tape; a lovely image abruptly ended by the advent of fader automation. In the live arena, VCAs made for a more refined approach to mixing. As far as audio in the digital world is concerned, a signal has no way of knowing if a touchscreen or a fader is varying its amplitude, only that something is telling it what to do. Here we take a look into the other external controls our modern consoles can receive and transmit…

MIDI

Thanks to the fact that it works, you can still find MIDI on just about everything. Whilst linking a Heritage and an SPX2000 to follow scene changes may seem old school, MIDI is still the easiest way to link your console to external gear. MIDI is the de facto standard used to synchronise the current scene between consoles and modern software such as UAD Live Rack, Waves MultiRack and Audiostrom LiveProfessor. The process will vary per manufacturer, however most have options to trigger a MIDI Program Change when recalling a scene, which points the external software to the right place. An



num	snapshot name	act	dis	midi device	port	channel	command	note/ctrl	vel/val
36.00	LIKE WATER	✓		A1	A	1	PC	36	
37.00	NUMB & COLD	✓		A1	A	1	PC	37	
38.00	numb bass	✓		A1	A	1	PC	38	
39.00	numb normal	✓		A1	A	1	PC	39	
40.00	numb bass	✓		A1	A	1	PC	40	
41.00	numb normal	✓		A1	A	1	PC	41	
42.00	HIGHER	✓		A1	A	1	PC	42	
43.00	TURNING	✓		A1	A	1	PC	43	
44.00	INNOCENCE	✓		A1	A	1	PC	44	
45.00	THREE	✓		A1	A	1	PC	45	
46.00	SOME MINDS	✓		A1	A	1	PC	46	
47.00	TRUST	✓		A1	A	1	PC	47	
48.00	V EJ	✓		A1	A	1	PC	48	
49.00	QUIRK	✓		A1	A	1	PC	49	
50.00	MY BOO	✓		A1	A	1	PC	50	
51.00	GET FREE MJF	✓		A1	A	1	PC	51	
52.00	ENOUGH	✓		A1	A	1	PC	52	
53.00	HYPERREAL	✓		A1	A	1	PC	53	
53.50	HYPER post ba	✓		A1	A	1	PC	53	
54.00	B&W INTRO	✓		A1	A	1	PC	54	
55.00	YEAH RIGHT	✓		A1	A	1	PC	55	
56.00	texture	✓		A1	A	1	PC	56	

Scene MIDI list: DiGiCo SD console. Console fires a program change numbered to match the snapshot, therefore external software will also recall the correct snapshot.

invaluable tool when programming these actions is a MIDI inspector to display the received messages.

These MIDI Program Changes are also useful in the current age of virtual soundcheck. If your recording DAW is set to insert markers on MIDI Program Change, you will have an automatic layout of where your song changes are, making a full show recording a lot easier to navigate. Better yet, if your console can change snapshot upon receiving MIDI Program Change it will automatically change to the right scene as your DAW passes those MIDI markers on playback.

Timecode

At the behest of their lighting friends, many acts have added a channel of SMPTE / LTC to their show. Since the task often falls on audio to route that to the LX console at FOH, it may as well serve a purpose. Audio consoles that accept LTC directly are at the very pricey end of town, so most engineers will have to convert LTC to MIDI Timecode to be accepted by the console. There are hardware[2] and software[3] converters to achieve this. The benefit of triggering scenes to timecode is that it is a completely hands-free operation that happens in the background. Not to say anyone is mixing another Dark Side of the Moon out there, but in the world of live events distractions abound and every little bit of help counts. A prime example is pressing record before the show starts. Most engineers will have a story there; it's a little thing that often gets missed in the highly-charged moment that the lights go down. The first seconds of Timecode can trigger a scene that sends a MIDI Machine Control command to your DAW to start recording.

OSC

Open Sound Control is gathering momentum as a cross-platform alternative to MIDI. It has the benefit of being IP based, allowing it be freely distributed across modern audio networks. Major manufacturers are turning to OSC in the age of immersive audio, where the data required to be transported between console and processor has progressed well beyond the scope of MIDI.

Automating repetitive tasks frees the engineer to be engaged

Early adopters include DiGiCo, Avid, L-Acoustics L-ISA and KLANG:fabric, making it safe to assume that OSC is here to stay.

Despite being a more powerful language than MIDI, it is incredibly easy to program thanks to its use of Uniform Resource Identifiers. URIs are just a way of saying 'it does what it says on the label' Take this example of an OSC command for a Digico SD console…

/sd/Input_Channels/1/Channel_Input/name,s,Piano
"Change input channel 1 label to "Piano"

Productions today are getting more and more intricate, and with that come the expectation of perfection.

We don't have the luxury of making multiple passes at something in the studio, yet we also have to retain total control over our mix.

Much like automation helps in the studio, harnessing the power of MIDI, Timecode and OSC enables live operators to automate parts of their workflow, and focus on the mix at hand.

Snapshot Recall Times

num	snapshot name	duration	activ	recall at	activ
33.00	DROP THE GAME	00:00:00:00		07:30:01:21	✓
34.00	TINY CITIES	00:00:00:00		07:40:01:10	✓
35.00	tiny cities drop	00:00:00:00		07:42:57:00	✓
36.00	LIKE WATER	00:00:00:00		04:20:02:00	✓
37.00	NUMB & COLDER	00:00:00:00		01:30:02:00	✓
38.00	numb bass	00:00:00:00		01:31:07:00	✓
39.00	numb normal	00:00:00:00		01:31:10:00	✓
40.00	numb bass	00:00:00:00		01:31:23:15	✓
41.00	numb normal	00:00:00:00		01:31:26:18	✓
		00:00:00:00		07:50:02:00	✓

Scene fire at Timecode: DiGiCo SD console

Software and Hardware footnotes

1. MIDI monitor for MAC

1. Pocket MIDI for WIN

2. Rosendahl MIF4 (below)

2. Brainstorm Distripalyzer (below)

3. Lockstep for MAC (below)

3. Reaper for WIN

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CHEAP INSURANCE FOR SALE

by LSC Lighting's Jeff Morgan

LSC Lighting APS

My wise old mother always used to say: "Never scrimp on paying for good insurance cover, if you go cheap, it will cost you!"

The money invested in today's A/V systems is huge – the latest audio console, speaker array, LED wall, video projector and intelligent lights – all amass to serious amounts of money. Yet, do we invest in the right equipment to power and protect this investment? From the stories we've heard, obviously not!

LSC Lighting Systems recognised this shortfall and reacted by redesigning its Power Distribution range to be more intelligent and accountable to its purpose – to distribute power to a vast array of equipment and protect the equipment from the potential problems encountered when running large rigs. The APS (Advanced Power System) is the result of a lengthy research project, talking to some of the world's most experienced system engineers and venue operators to identify the most common problems associated with Power Distribution Units (PDUs).

One of the biggest issues highlighted (and potentially the most expensive) is "dropped" Neutrals on the mains supply. If you connect your video, lighting or audio rig to power and turn it on and the Neutral is missing, you can potentially get 415V across all connected devices and the result can be catastrophic. The APS is designed to run at 415V without causing damage. When it powers up, it does not energise any of the outputs until it has measured the voltages on all phases and checked they are within safe working limits. If they are, it powers everything on, if not then it will not power on the outputs (no matter what you tell it to do) and instead displays a large error message. Similarly, if the Neutral fails mid-show then the APS will disconnect power within 50mS, therefore minimising damage to attached equipment.

The problem with many new devices (video walls, LED fixtures, moving lights) is that the switch mode power supplies inside them all have two forms of inrush current. There is the old one we all know, where a 1A PSU draws 3A to 4A momentarily on power-up, but there is another one. These power supplies also leak a few mA to earth momentarily. If you have more than a few devices connected to a single RCBO (combined MCB and RCD) then it can nuisance trip when you turn it on, either from current overload or from earth leakage overload. The APS minimises this by always turning on the relay as the mains voltage passes through zero volts (as it does 100 times a second), providing a pseudo soft-start as the voltage ramps up to 240V in the natural sine wave. This reduces the chances of an earth leakage or current overload inrush allowing a 10A 'C' curve 30mA RCBO to be used, providing the highest level of safety and the lowest chance of nuisance tripping, where other PDUs may require a 16A or 'D' curve RCBO to achieve the same result.

The APS is a programmable PDU. To overcome the issues mentioned above, APS powers up each output circuit individually, with a short delay in between. Inrush and leakage currents are limited, preventing any upstream RCD or MCB breakers from tripping. This staggering of the power-up sequence is programmable from the front panel – with a setting from 0.1s to 5s of delay between outputs being energised. If the requirement is for more than 12 circuits then any number of APS units can be linked and each given an identity number. They will then start sequentially; that is unit 1 will turn on its outputs in sequence and when it has all circuits powered on, unit 2 will start switching its outputs on, followed by unit 3 and so on. It doesn't always require a controller to be connected to complete this auto start-up, it can also be set-up from the menu system on the front-panel colour touchscreen.

The APS makes the use of generators at events less prone to potential issues. The APS measures both incoming voltage and frequency and uses this information to delay the power-up sequence until they have stabilised. As the power-up of the loads is completed sequentially there is no sudden change of load presented to the generator which increases the stability of the output.

The range utilises RCBOs throughout

ensuring the highest level of safety and electrical compliance. The RCBOs provide a 30mA RCD and disconnect both the active and Neutral protecting the load even if there is a phase/Neutral swap.

These are smart PDUs, so their ability to network in modern control systems is essential. Control can be from DMX512 controllers connected to the XLR input, remote third-party controllers via a voltage free contact closure or by front-panel menu system. Remote configuration and monitoring are achieved by Remote Device Management (RDM) over the DMX512 signal or via LSC's Houston-X software.

The APS is available in a number of formats – 19" rackmount housing for free standing or flight case mounting and a wallmount version for more permanent applications. Outputs can vary from 12 circuits of 10A, 12 circuits of 16A to 6 circuits of 25A with a wide selection of output connector styles.

I really do respect my mother, but in this case, you don't need to spend a lot of money to insure your expensive rig/venue power system.

APS ADVANCED POWER SYSTEM

QLAB AND APPLESCRIPT SHOW CONTROL

by Jamie Taylor, Managing Director, Australian Event Productions

The Ten Tenors audio brief is very simple: perfect sound in every venue, always. Having been with The Tenors for four years before getting a chance to mix their 2018 'Home For The Holidays' Christmas tour in the USA, I knew that virtual soundcheck was going to be a necessity for achieving that brief, and to make my life easy over the two and a half month tour, our control package would be needed.

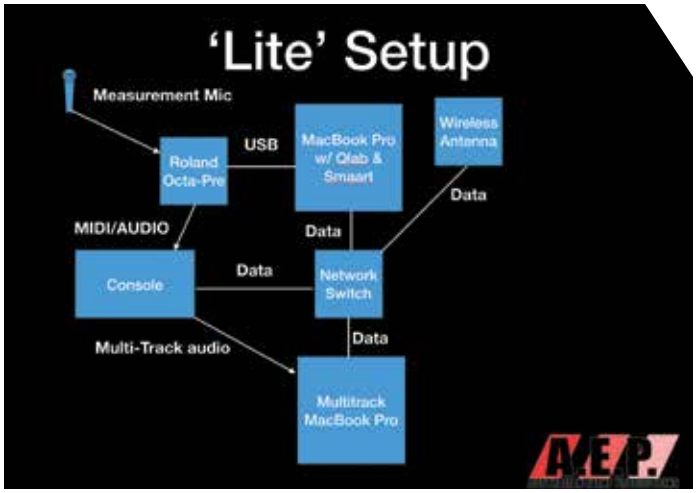
At Australian Event Productions, we have a standard theatre control package based around QLab. The reason for this is very simple; it's reliable and easy to use, yet is able to do a great many things very easily. Part of this is due to it being hosted on Apple computers, and it being able to use AppleScript.

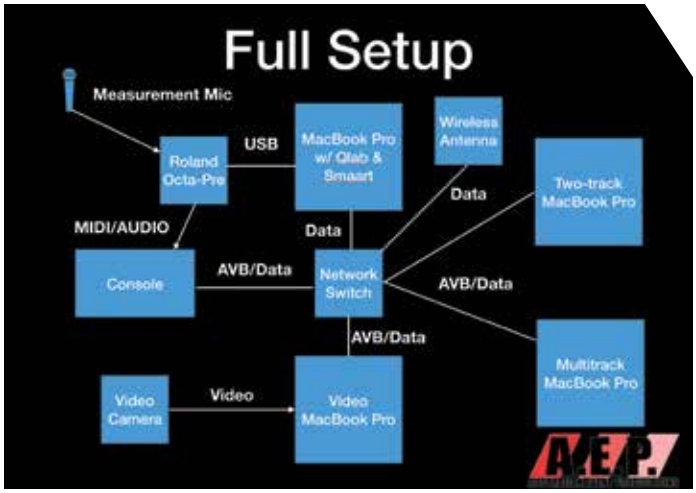
AppleScript is an easy to learn, powerful tool that lets the user automate most of their actions in any given program, thus meaning in combination with QLab we can automate most of the functions our operators need to do on any given day, not only saving them time on mundane tasks but also allowing advanced control possibilities.

For acts like The Tenors we have two rigs; a 'lite' rig for smaller tours, and a full rig for our longer tours. The 'lite' rig involves two laptops, one control laptop that runs QLab and SMAART, and another laptop that records the multitrack for virtual soundcheck.

Due to the touring MD and choreographer being performers in the show, in the full rig that number is planned to blow out to four laptops, with the extra two recording a stereo audio show feed for the touring MD (which is currently done on the multitrack computer) and another for a video archive for the touring choreographer. All of the above are controlled by the control laptop with QLab.

The Ten Tenors are a unique combination of a live music performance, with staging and choreography more akin to a theatre musical, and the QLab file for the show reflects this. Every individual song is its own group (coloured purple) that contains a number of sub-groups in it that are akin to individual snapshots on a mixing console. In those groups are a combination of MIDI bank changes and MIDI program changes to allow us to skip over to any snapshot, keeping in mind that MIDI has a program change limit of 127 and we're up to approximately 460 snapshots on our mixing console, therefore to get to scene 128 you need to tell the console that we're looking at bank 2 program 1. The first subgroup in a song also contains an OSC command, which tells the Multitrack computer (also running QLab) to fire off a MIDI scene internally that places a track marker with the





song name in our multitrack file. There is also an audio file, which is unarmed by default but can be armed with the press of a panic button, which acts as a third backup of the orchestral backing tracks for the show.

This is the main use of QLab in the show, but it's far from the full use of it. Due to the aforementioned AppleScript integration, we're able to expand QLab's control to most programs on the Mac. A quick example is the ability to time the show (based on the time QLab goes in to pre-show, when the first scene is entered, when interval is entered etc. etc.), export those times to a PDF and then email that PDF to stakeholders as required. Another use is the ability to open the Multitrack/two-track/video program (in this case 'Tracks Live' by Waves) in pre-show, name the file using the date and time of the show, and start the recording automatically. At the end of the show, these can be archived, moved to a storage device or sent automatically to the cloud if requested by our clients. All of this can be done without the operator needing to physically do anything outside of the normal operations for a show.

In a twist that we don't need to use for theatre but is used for The Ten Tenors, unused songs are simply dragged over to a second cue list that's called 'parked songs', meaning at a moment's notice I can swap a song out and add in an old song. The mixing console and all of the computers will all react to the change and the previous programming from the last time we used that song will automatically activate.

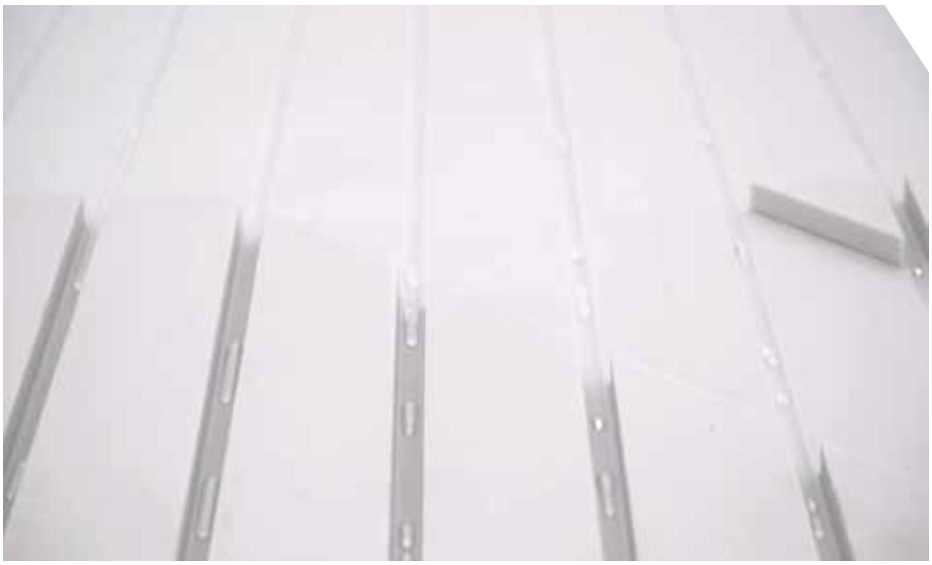
Another great benefit from using QLab to control our shows is that you can copy and paste to the next show. While some elements (like the parked songs) is only relevant for certain shows, other functions that are universal can be saved and used again and again.

Why do we go through all this effort and programming? Simple: in the end it makes our lives more efficient and provides a better service to the client. Touring is long and usually sleep-deprived, and the more things we can automate while retaining reliability is always better than being missed by a simple oversight.

Thinking Outside The Square

by ENTTEC's VJ Suriya

At ENTTEC we make lighting controllers. It's something we have been doing since we started out 20 years ago. We're used to the idea of using our controllers to operate everything to do with lighting, whether it's stage shows, nightclubs, architectural installs or everything in between. But when you distil it down to its essence, control is just about sending, converting, receiving and actioning signals - and when you think about it this way, you can do some incredibly nifty things with lighting control gear.



Using lighting gear to control ... water?

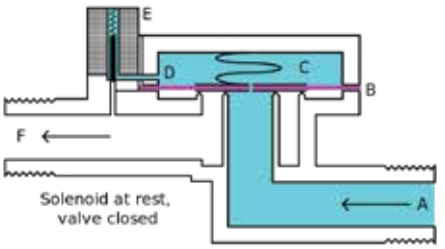
DMX was a form of signal developed for controlling stage lighting. To this day, it is still used in a great deal of lighting fixtures. Even in applications like pixel control where vast quantities of control channels are required, we still feel the legacy of DMX in how we organize control channels into universes. We naturally associate DMX with lighting control, however, did you know it could also be used to control flows of liquid?

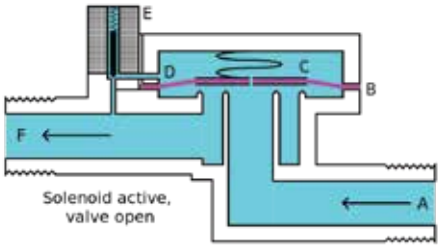
When the folk at iart, the Institute of Thermal and Fluid Engineering, and Hyundai Engineering gathered together to develop the Hyundai Pavilion (an exhibit designed by Asif Khan and set up for the Pyeongchang Winter Olympics 2018), not only did they use DMX to control the 4,000 LEDs on the Vantablack exterior facade, but also to turn the magical water installation inside into a working marvel.

The problem with valves

When we send DMX to a light fitting, it reacts according to how it has been programmed. As you slide a fader up, the signal comes in, electrons bounce around the circuitry, and the net result is the parameter controlled by that fader, changes. This is all a function of how the light fitting is programmed, it is programmed to respond to DMX, so when it receives those signals, it responds accordingly. That is all fine for lighting, but you would be hard pressed to find a control valve that responds specifically to DMX signals, or even Art-Net for that matter! So how do we make the jump from DMX signal to flow control?

A common device used to control air or water flow is a solenoid valve. This is a valve that is actuated by … a solenoid. That is, when it receives an electric current, it powers the solenoid which is like a simple electromagnet. That magnetic field which has now just been switched on, pulls or pushes on a ram inside the valve which then opens or closes the valve.





How a solenoid valve works

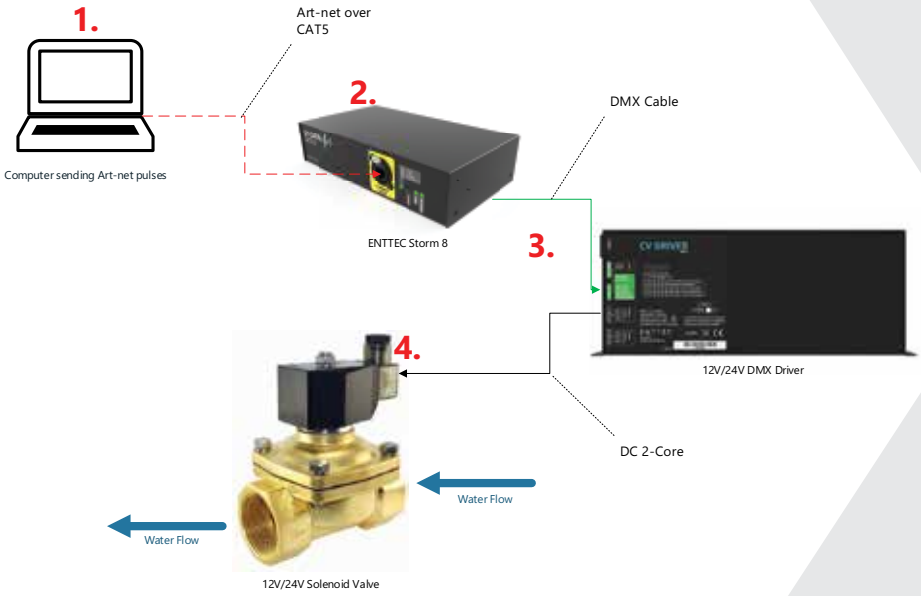
DMX drivers: the crucial link

A DMX signal by itself is not enough to open or close the solenoid valve. These valves usually require a certain voltage and current to actuate. For example, you might buy a 12V solenoid valve, a small unit might draw 320mA to actuate, so a signal by itself won't work. Therefore, you need a way to convert the signal, into a current adequate to power the solenoid.

Luckily, devices that do exactly this already exist in the form of DMX drivers. Also called DMX decoders, these devices are typically used to power LED strips. They receive a DMX signal, and correspondingly send power to the appropriate terminal on the LED tape/modules. We can use this same device, and instead of wiring it to the red/green/blue terminals on a strip of LEDs, it would be wired to the solenoid valve, so that upon receiving a DMX signal, the driver would send current to the valve, thus actuating it!

How does it all come together?

The folks at iart rigged up a system something like this:



The portion of their installation related to water flow was an extensive array of tubes and channels that created a live, interactive experience for participants. Water was released via the solenoid valves onto a huge sculpture covered in a hydrophobic coating to keep the water droplets in constant motion. You can see a complete video here: https://youtu.be/l9v15HZPD5A

Due to the vastness of the installation in the number of LEDs and valves to be controlled, the designers chose to control this using Art-Net, hence the requirement for the ENTTEC Storm 8 to complete the Art-Net to DMX conversion, both to send DMX for controlling the lights on the pavilion, as well as the water valves. We can follow the signal flow through the diagram above.

1. **A software was used to generate pulses of Art-Net data.**
2. **This Art-Net data was sent out to the Storm 8 which would convert this to DMX signals.**
3. **The DMX signals would be fed into the various DMX drivers located around the installation.**
4. **The drivers, upon receiving the DMX signal would inject power into the solenoid valve, forcing it to open, and then snap shut when the pulse of Art-Net (which was a pulse of DMX after the Storm 8) stopped.**

Things to keep in mind

The coordination between water valves, LED lights and the overall design of the pavilion led to an award-winning result for all involved. However, it is important be aware of safety considerations when doing anything like this.

The water flow in the Hyundai Pavilion was controlled using relatively low-pressure water, and only produced quite small droplets. If there were errant data spikes, there was nothing especially catastrophic that could have happened. We need to keep in mind that DMX is a simple form of signal that is not error-checked. That is, whatever packets of data get sent, are simply sent, without any acknowledgement from the receiving device to confirm the accuracy of the data packets. How many times have we been connecting some lights up when one randomly lights up for seemingly no reason? It's fine when that is just an errant light turning on, but imagine if that was a high-pressure water line? And instead of a light, that was a solenoid valve?

We need to keep in mind that DMX was designed for controlling lights, and apart from some rotation and tilt functions on moving head lights, it is not necessarily the best protocol for controlling moving objects, especially when people are nearby, so remember to stay safe! But, the point is, you can achieve almost anything if you put your mind to it. So, get creative and never be afraid to think outside the square.

You're always welcome to talk to us via enttec.com if you have any ideas that you might like to turn into reality.

BACKWARDS THINKING

by Andy Stewart

Next time you make an album, do yourself a giant favour during the tracking phase (if you haven't already) and reverse some, or all, the files on the multi-track timeline (if it's a digital recording), or flip the tape upside down (if it's on analogue tape). Now listen to the audio backwards. What you will quickly discover by doing this, is that there's a whole parallel universe of amazing sounds, recorded by you, just begging to be incorporated into your forwards production.

There's a genuine prospect of finding nuggets of pure gold for your current project, by investigating how its component parts sound played backwards. Some of the best aspects of many of my favourite albums were discovered this way, proving the point yet again that not all sounds on an album are crafted and designed, but rather, discovered by chance. This is gold prospecting in air-conditioned comfort, folks. Time to break free of our one-direction mindset – sounds can travel forwards and backwards in time!

There are several ways these sorts of chance discoveries are used in a production, though in truth, not all of them can be pigeonholed into neat categories. Who knows what you might discover or how you'll ultimately use what you find…

Some backwards nuggets can transform a piece of music, unexpectedly becoming the new backbone of the final production. Others may masterfully and mysteriously provide the hook melody, delivering it (as a bonus), via a far less obvious musical instrument. (The backwards nature of most sounds tends to disguise its source.)

Then there are those sounds that provide unconscious rhythms to the untrained ear, even when hiding in plain sight. Other backwards sounds are brilliant at providing slingshot dynamics into musical transitions of things like choruses, or in anticipation of a vocal re-entry, or by adding other-worldly disturbances in the background of a piece. In many cases this sort of complex detail is simply the main sound laid backwards on top of itself. Then there are those musical or rhythmic loops, which, when played forward, might lack a certain intensity, but backwards trip the song out completely by providing the treatment you were after, only now they have a strangely hypnotic, indefinable and intangibly bent quality.

Okay, so now, even though we just said we couldn't do it, let's try pigeonholing this extraordinary universe of magical misfits, by loosely categorising them into particular roles.

Welcome Stranger (Regnarts Emoclew)

Occasionally, listening backwards to the Multi-Track of an in-progress production delivers you the Welcome Stranger of outcomes. One minute your song is travelling along a certain, fairly predictable path, and the next minute, after a single listen to the song backwards, you're forced to admit that a chance discovery you've suddenly made is far better that everything you've designed and constructed thus far. If that happens, don't despair. Embrace the find and own the magical gift you've been given! You recorded it after all. It just took playing it backwards to realise how ingenious you really are!

Melody Rekam

The next, not too dissimilar discovery is the one where a new melody is handed to you via the reversal of an existing one of the same key. Only now, with the melody reversed, you've discovered what is, in some cases, a whole new and improved hook, or possibly one that weaves its way in and around the original to create an awesome stereo image of melodies. In some rarer cases, the melody backwards is the same as it was forwards – a musical palindrome if you like. In this situation, you can use the backwards version instead of the original, blend a backwards duplicate into the forwards melody for otherworldly effect, or morph between the two as you see fit. Sometimes cross-fading from one to the other can sound completely nuts, especially when they're panning at the same time – perfect for the final bar of the performance!

Likewise, if you just love your original melody, but also love the sound it makes backwards (even though it's not the same melody any

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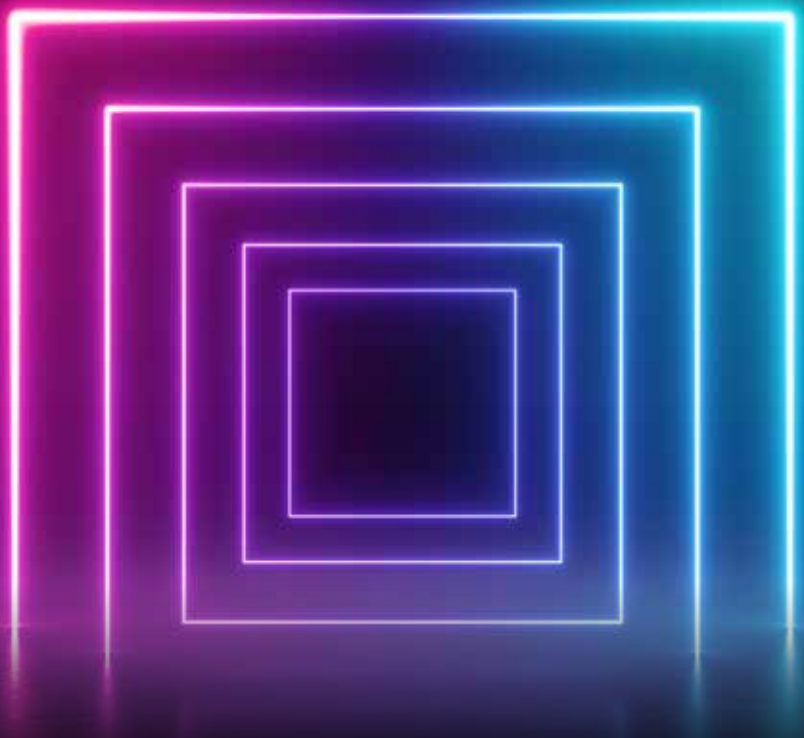

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Andy Stewart owns and operates The Mill on Victoria's Bass Coast. He's a highly credentialed producer/engineer who's seen it all in studios for over three decades. He's happy to respond to any pleas for recording or mixing help...
Contact him at: andy@themill.net.au

Andy Stewart

more), you can still have your cake and eat it too. Try cutting up a backwards duplicate on a channel directly below the original in the mix window, placing each note below the original. The attack and decay positions of the backwards notes will obviously be different, but overall the notes themselves will coincide with the original. A mix of these two versions of the melody can sound awesome too.

As you might have already realised by now, the variations on this basic theme are literally endless. The trick is to let your imagination run free. Experiment, and use your gut instinct.

Re-Recorded Backwards

This technique is one I developed in isolation – even though lots of engineers had probably done it for years. I used to think the human voice was particularly strange and somewhat sinister in reverse. So one day, when I found myself recording a short play about a murder, I recorded a full pass of the narrator's script, flipped the two-inch tape, and transcribed phonetically what now appeared to be being said. Once we'd settled on this new version of the 'script' we went for another take – with tape still rolling backwards. This time the narrator recited the phonetically transcribed gobbledygook language. When we finally flipped the tape back over, we now had a totally weird, deeply sinister version of English, with mispronunciations all over the place, breaths in strange places, and the disturbing overall tone that only backwards audio delivers. It was awesome.

And of course, this technique can be used on anything. For instance, record a lead break, reverse it, learn to play the new backwards version of the melody, replay it along with original, and finally, flip it over. More often than not the results of this technique are truly amazing.

Loops & Beats

Historically, the most commonly used backwards treatments in music production have been rhythmic. This is probably for two main reasons: things like snares, rim-shots, cymbals (or frankly any percussive instrument) can sound awesome backwards, but they also tend not to change melodically over time.

Some of the most obvious, tried-and-true rhythmic treatments are things like backwards cymbals that launch you into a chorus. But less obvious are things like backwards snares or kicks overlaid directly in front of the beat itself, on a separate channel so they can be, for instance, subtly mixed on every second or fourth beat, or perhaps just in the breakdown. Another key feature of backwards percussive effects are typically that they are also pitch-shifted to some degree, to further disguise their origins. Not that this matters, per sé. It just sounds better that way sometimes.

Some of my favourite backwards percussion parts are comprised of widely left/right panned stereo loops, quite blatantly mixed, often of real-world sounds, like the creak and whirr of a pedal organ's action, or a piano pedal being depressed. Often these cool parts can be found on the tops and tails of performances. If you hear something that sounds unexpectedly cool, either as a beat or a loop, grab it, play with it, and see what happens when you put it back into the timeline. Even if it's the wrong length – try it anyway. Sometimes a key feature of a backwards loop is that it comes up short, but sometimes that weird hole at the end of, say, a four bar segment can be the making of it. Remember, rules are for roads, not albums.

Harmonies & FX etc

Other great uses of backwards files can be things like ghosts of a main melody, played late in the song almost like a memory of what's transpired. Wet with reverb and filtered in tone, these can sound almost like a cellophane version of the original sound. These types of treatments sound awesome because people can't quite tell if they're actually hearing it, or imagining it.

Then there are the non-melodic, non-rhythmic audio files of things like soundscapes, or location recordings. Sometimes these just don't quite work in music, often because they're just too obvious and literal somehow. But the same sound in reverse can be inspired!

Harmonies can be played backwards too, to great effect. Similarly, things like BVs can have reversed reverbs on them. Not just a Reverse presets in an FX unit, mind you, but rather a reverb that's recorded off a backwards version of a vocal, printed onto another channel as audio, and then flipped back so that the reverb anticipates the voice, rather than fire off it. Re-combined with the same reverb firing forward in via its conventional bus trigger, your BVs can sound like they're floating in the atmosphere.

I could go on and on but unfortunately there's no more space.

If you want to read more, just start here and work backwards.

HUMAN NATURE

by Cat Strom
Photo Credits: Troy Constable

Australia's most popular vocal group, Human Nature, celebrated 30 years of making music with a national tour entitled Little More Love Tour: A 30-Year Celebration Tour 2019.

In their 30-year career, Human Nature have sold more than 2.5 million albums, earned 27 platinum awards, scored 19 Top 40 hits and have had five Top Ten albums worldwide. They have consistently appeared at the top of the charts for every decade they have been performing. They've opened for Michael Jackson and Celine Dion's global tours, sung for Oprah, and to a worldwide crowd of over 4 billion at the opening ceremony of the Sydney 2000 Olympic Games.

Production Manager and FOH Engineer David Rudder has been with them for much of that journey including their Las Vegas residency. Recently he returned to live in Australia but once again took up the reins for this tour, the planning of which began nine months prior.

"Its second nature for the boys and myself to work out the flow of a show," commented David. "We knew that this time we wanted a riser which could be lit through, so we had the staging people strip out all the internal structure so it was free-standing and could be lit entirely from the rear. It's a simple

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idea that's very effective and strong. We also discussed the split screen look and the proscenium arches, with rows of lighting between screens makes the lighting look massive."

David remarked that the audio design was fairly standard with the first two shows utilising L-Acoustics V-Dosc, but JPJ Audio, the tour provider, suggested he might prefer the L-Acoustics K1s and K2s.

"I switched to K1 and K2 for the third show and they haven't disappointed," said David. "They've been really coherent and clear and I've enjoyed using them."

The PA also included SB218 subs and ARCS for infill. Smaart was used for time alignment and flattening the curve.

"As it's a very musical show with four very loud, live lead vocal microphones we have to make sure we take care of all the resonances," explained David. "You can't put up an EQ that's just flat according to Smaart and let it be that way, you have to dig deeper and find all of the room resonances. I do this old school with a microphone and my voice and that's incredibly effective. You soon find out where the real problems are. Once we've fixed that we adjust the curve so that it's back to sweet and musical."

For this tour David also switched from an Avid VENUE Profile to an S6L which he describes as a steep learning curve.

"When the S6L first came out, they weren't compliant with the Waves infrastructure so I couldn't put my Profile file straight into one, and that show file had been evolving for ten years so it was very detailed and structured," he elaborated. "However, last year we did a private show with John Farnham and Jimmy Barnes whose engineers were both using an S6L and it was suggested that I should as well. Fortunately by that time the Waves server was available as a MADI option so I spent a day redoing my files one for one. I got to the show, put up the faders and there was my show only deeper, wider, sweeter and I was really sold on the sound. It was then just the issue of whether I wanted to go back to Waves and have my old show, or dive in and use the new Avid plugs."

David considered the fact that you need a $2500 per year license to have the Waves Server available which can be a problem for smaller production companies. So with that in mind, he changed all the plugins over, saying there are a few Waves favourites that he misses but the console's plugin compressors, multiband compressor, and EQ all sound great.

David says it's a busy show and his starting point is to ensure the four vocals are out on top of everything else.

"The great thing about the S6L is that it has a feature called Layouts where you can assign any fader I/O to the surface of the console which makes things much easier," he commented, adding that ten shows in, he's very comfortable with the console.

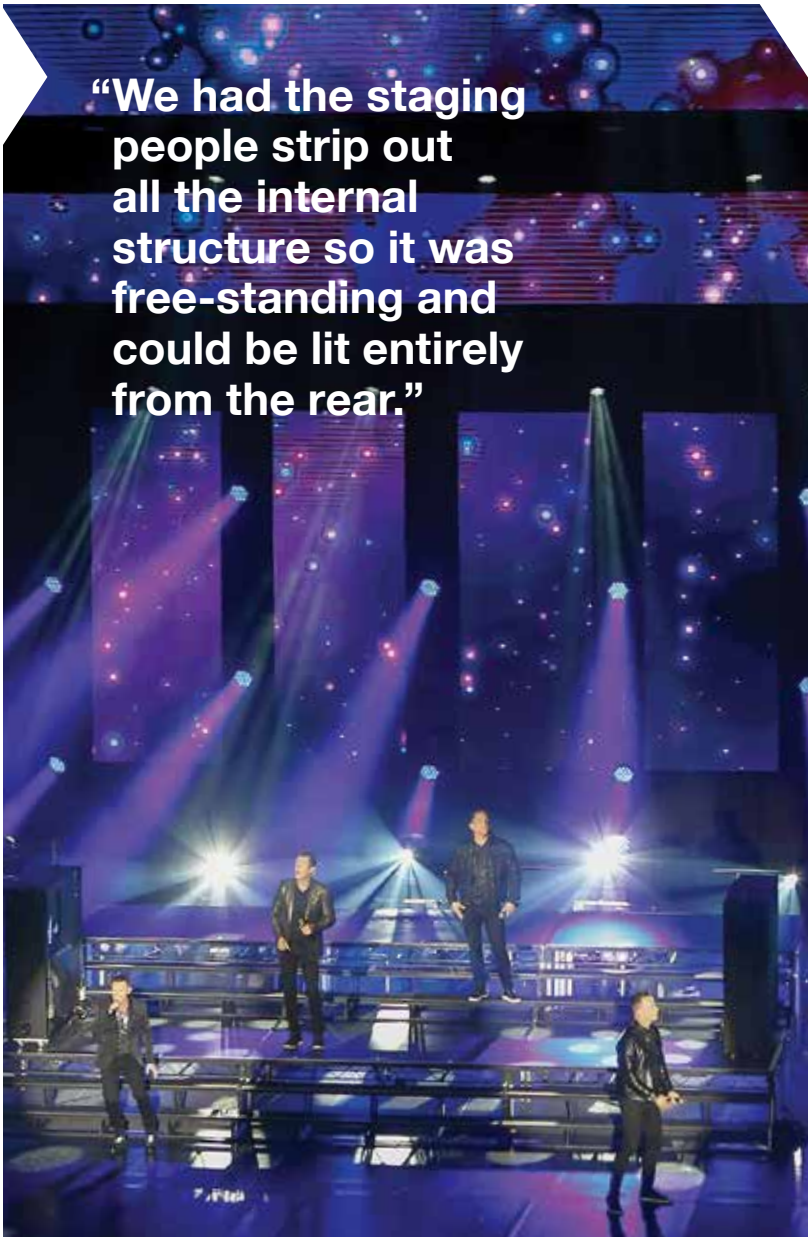
Many of the microphones are fairly old school; drum mics are a Shure Beta 52 on kick, Shure 57s on snare and toms and an Audix D4 on floor. Shure is the preferred microphone for the boys, and they have spent many years looking for the perfect capsule. A while back they discovered the Telefunken capsules, which three of them use.

"It's really bright, like a Shure Beta 87, and gives them the detail in the voice they need," said David. "We used to use 87s as they provided the detail but they were a little shrill and had a wide pickup pattern. As the bass baritone, Toby has a Heil PR35 mic which has a large diaphragm but a similar sound to the Telefunken – he really feels his voice vibrating around the room with that big mic!"

With stage aesthetics a priority along with the vigorous stage moves of the performers, Sennheiser G3 IEMs and radio mics were a necessity. The band also had body packs for their instruments as well as radio ears.

Monitors were mixed by Kez Kesby on a Yamaha PM5D with David saying that the boys love it when they play Australia; "ah yes, that's the Kez mix".

Lighting designer Jeff Pavey has worked with the band for many years. This time his brief was to make it their biggest and best show ever. The first third of the show maps their boy band period from the 1990s, the middle tracked the jukebox era and the final segment was Motown, which made them so big in Vegas.



"We had the staging people strip out all the internal structure so it was free-standing and could be lit entirely from the rear."

Jeff particularly enjoyed implementing the show opening where the silhouettes of the four boys were projected onto a scrim making the audience believe they were about to appear onstage but instead they pop up in the middle of the audience.

"It's an opening I've been wanting to do for about 20 years and I finally snuck it in!" laughed Jeff. "It worked well and Denis Handlin of Sony said it was one of the best openings to a show he had ever seen."

The design makes great use of two stage 'frames' of TourPro Dicolor M-Plus 4.8mm IP65 LED Screen, a simple yet effective and versatile visual. For the first part of the show, Jeff creates fake proscenium arches, which are particularly successful. At that time the band are hidden behind a white scrim and downstage are six GLP Force 120 fans.

"Each segment has its own looks and gags," said Jeff. "The back wall of video and

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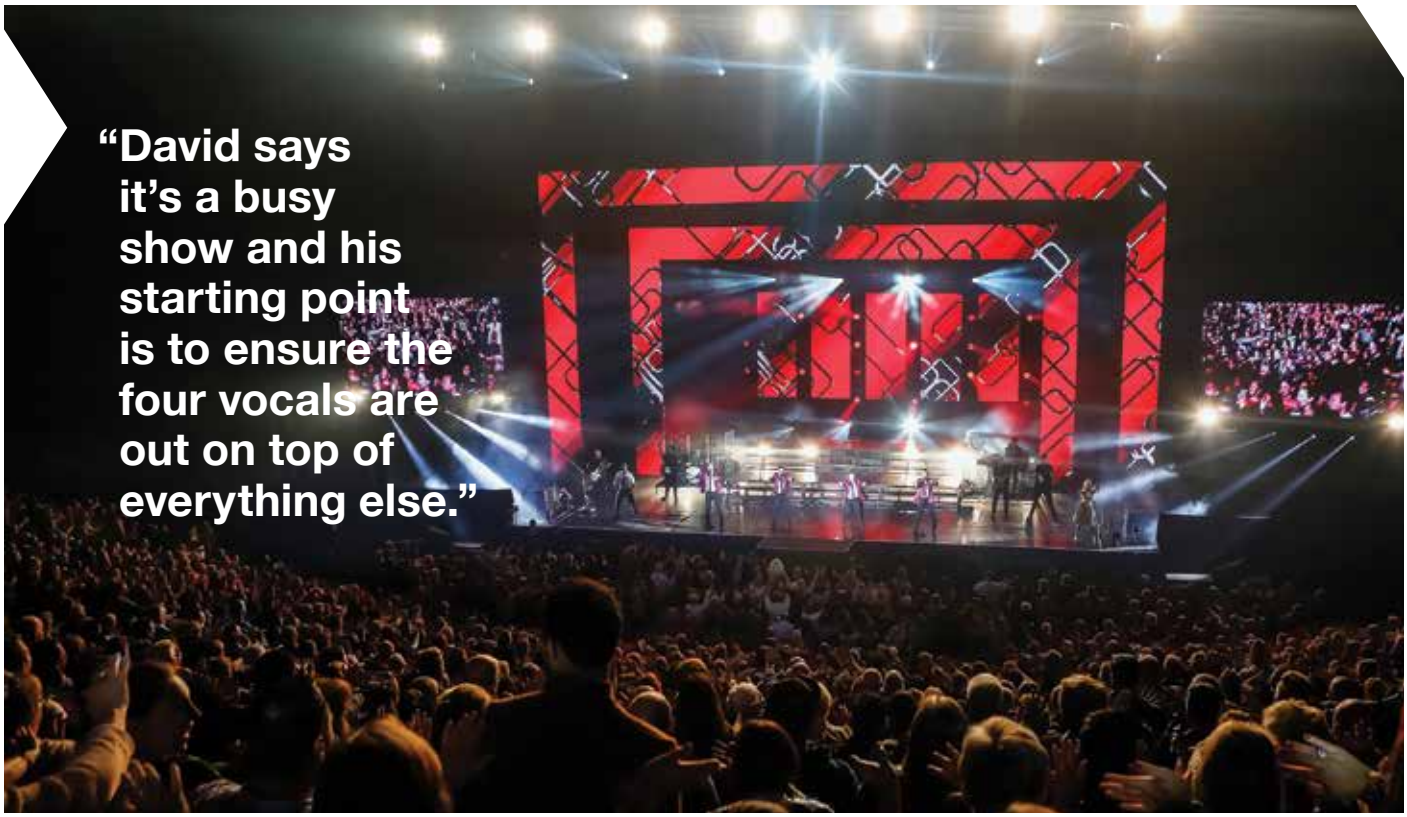

"David says it's a busy show and his starting point is to ensure the four vocals are out on top of everything else."

David Rudder

Jeff Pavey

more lighting is revealed. Living in Vegas the boys see a lot of shows and they had seen the idea of a segmented back video wall and wanted to run with it. I wasn't sure at first because a fair amount of the video we use is panoramic and I thought it wouldn't work, however it actually enhanced the video! It meant we could give each of them their own screen and do some really cool stuff for them."

Jeff remarked that his job is made easier by the professionalism of the boys who are really into all aspects of the production, and always hit their mark.

Creative Productions supplied lighting and audio. Hanging from the back video truss and separating the five TourPro LED panels were six dropper bars each holding four GLP X4. There were 43 X4s throughout the rig with eight X4 Bar 20s also used for side light. The main moving light fixtures were a total of 22 Robe BMFLs, four of which were on the floor and 18 on the flown trusses. Back of stage on the floor were five GLP JDC-1s and Molefays on the front truss lit up the audience when required.

"The Imag screens were also LED so the whole video feel had the same warmth," said Jeff. "Again I was hesitant at first because I wanted it for the colour correction but I also wanted them to look good. After the first show I was happy and it actually looks massive because rather than just having a bunch of LED on stage and then the projection on the outside, it all blended as one. Under each Imag screen we have four GLP GT-1 fixtures."

As usual, Jeff used a Hog 4 for control and he had only one day of rehearsal for the tour. Fortunately Creative Productions has built a previz studio in their new offices so he was able to spend a couple of days in there preparing for the tour.

The Barber of Seville lights up New Zealand

by Jenny Barrett

"From Betty Crocker to Rocky Horror, with a dash of Meatloaf and McEnroe, a splash of Split Enz and a quiff of Elvis" (Michael Hooper, Theatre Review) wouldn't be the description that you would expect for a 200 year old opera but that was the inimitable response to The Barber of Seville after opening in Auckland on June 7.

"The Barber of Seville is a sumptuous feast, colourful morsels to tempt the senses awaiting around each and every corner of the most elaborate and sagacious sets that has been constructed in recent years…with the most spectacular and inventive effects that a New Zealand Opera has ever presented," purred one reviewer (Sarah Kidd, Ambient Light). And Matt Marshall, Australian Lighting Designer, was the lucky man who got to light it all up.

Matt puts the opera's success firmly down to the team dynamics and the trust that exists between the different creatives, which has been built up over years. A co-production between Queensland Opera, Seattle Opera and NZ Opera to celebrate the 200th anniversary of Rossini's opening night of The Barber of Seville, Lindy Hume (Director) approached Matt back in 2015, having worked together on numerous previous projects. Channelling her innate Aussie humour, Lindy's vision was Looney Tunes meets Fawlty Towers, "She wanted the colour dial turned right up, a kind of Simpsons on speed feel to it and she wasn't afraid to push the boundaries, even envisaging the lighting cues getting laughs," recalls Matt. "Lindy simply wanted me to saturate the stage with colour."

Rossini's The Barber of Seville is the story of a barber, Figaro, who helps Count Almaviva in prising the beautiful Rosina away from her lecherous guardian, Dr Bartolo. A comic opera, many of the tunes are familiar, lending themselves to high-speed cartoon chases. In 1950, in 'The Rabbit of Seville', Bugs Bunny gave Elmer Fudd a clean shave to the soundtrack of Rossini's overture. The opera's best known aria sung by Figaro on his entrance, 'Make way for the servant who does everything' ('Largo al factotum'), was also the cartoon score for a Tom & Jerry episode. It is Rossini's energetic madcap zaniness that the cartoon writers loved, and that Lindy wanted to put front and central of this opera co-production.

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Matthew Marshall

Lighting Gear List

Venue

- 14x Robe 800 wash
- 24x 2k Fresnels
- 15x 1.2k PCs
- 28x MFL Par 64
- 8x NSP Par 64
- 38x Selecon Pacific 12°-28° zoom profile 1kW
- 20x Selecon Pacific 23°-50° zoom profile 1kW
- 48x Selecon Pacific 9°-19° zoom profile 1.2kW 80V
- 2x Strong Supertrooper 2kW Xenon follow spots

Grouse Lighting Aotearoa

- 8x Viper Performance
- 1x MDG Atmosphere hazer
- 8x Showpro LED Bar 154
- 9x 150w QI floods
- 1x Look Solutions Viper S Smoke Machine

Crew

Abby Clearwater - Head of Lighting

Stephen Paul - Assistant Head of Lighting & Board Operator

Nick Tomlin & Sarah Briggs - Followspot Operators

Thank you to Steve Sanders Project Manager at Grouse.

As well as the lighting, the set design would be critical, “Lindy envisaged myriads of doors and windows opening, closing and revolving.” Matt put Lindy in touch with set and costume designer Tracy Grant Lord, a New Zealander who he had worked with at Sydney Theatre Company. Tracy designed a fake proscenium of doors and window frames and explained what she required of the lighting, “Tracy is a creative who designs with lighting in mind. She can communicate her inspiration by recommending I look at some artwork or photos or even watch a movie, so that I can understand the aesthetic.” The result was thirty-two channels to light the proscenium and the cast as they whizz in and out of the intricate doors, crawl spaces and windows.

For the overture, as is traditional, there was to be no staging to detract from the Auckland Philharmonic Orchestra, and such was the trust between the team that Lindy handed over the overture in its entirety to Matt to create a seven minute light show. For Matt, with a musical background himself, this was the icing on the cake, “This is why I love lighting opera over plays. Tuning into the overture, breaking it apart and then designing the light to move and fuse with the music just comes naturally to me. I can listen to the music and see how the lighting should look, often before I even see the stage.”

Which makes Matt the ideal lighting designer for this touring opera, which to date has visited three theatres, each obviously with very different rigs and stage limitations requiring adaptations to the proscenium. The original season was in Brisbane in 2016, then they travelled to Seattle in 2017 and after Auckland, they move to Wellington and then Christchurch, “I could tweak the lighting forever, especially the lighting for the characters who each have their own palette for me to play with, but it comes down to time, and the skill of the programmer.”

At the Aotea Centre, Matt worked with Abby Clearwater who was in Matt’s words definitely up for it, “We cut back on the moving profiles but used a lot of wash. Our Figaro is like a rock star so we put a lot of time into lighting him up exactly like a rock ‘n roll star would expect.” And it worked – one reviewer comparing him to an OTT Elton John and another declaring he would make “even the iconic Prince envious.”

Matt himself sat back with a drink and watched the first night, “It worked brilliantly. The Kiwis, like the Aussies, have a great sense of humour and the Chorus were really good fun. It is literally one of my favourite operas and I really enjoyed it.”

Matt and Tracy are also working with NZ Opera on their next project, The Turn of The Screw, the first under new Director Thomas de Mallet Burgess. A very different brief, “This will be dark and moody, pared back and mysterious. I have always envisaged the ghost as being a light, so we are working through that and the set design at the moment.”

The Turn of the Screw will be playing at The Opera House, Wellington, 3-5 October and ASB Waterfront Theatre, Auckland, 18-23 October. The remaining tour dates for the Barber of Seville are Wellington, Opera House, June 29, July 2, 4 and 6 and Christchurch, Isaac Theatre Royal, August 1, 3 & 7.

IT'S ALL ABOUT SOLUTIONS

National Audio Systems, one of Australia's eminent pro audio distributors, has undergone a major rebrand to better reflect its invigorated brand portfolio and new direction.

It's all in the name — NAS Solutions. The company is expanding into the commercial audiovisual space.

Be assured, the days of supplying and servicing monstrous PA systems are by no means over. But the company's DNA has evolved far beyond blue ribbon audio installs and concerts. Audio now forms an important part of the overall NAS Solutions end-to-end AV offering, in whatever market that may be in — education, corporate, hospitality, government, retail, you name it. Armed with world class products and a wealth of industry knowledge, NAS Solutions is now just as comfortable helping you to hang a LED videowall as they are a line array.

"National Audio Systems' roots are in professional audio," explains Managing Director Shane Bailey. "Yet in a typical AV/IT integrated system, audio is only one piece to the puzzle. The NAS Solutions rebrand demonstrates to the market that we now offer more than just audio products but also screen technology, connectivity devices and networking — in other words, we provide complete solutions."

Best illustrating this bigger vision are the brands appearing in the NAS Solutions vendor portfolio — brands like Unilumin (premium large format LED displays), Hall Research (matrix switchers, scaling and automation products), Activ2Touch (4K touchscreens for workplace collaboration), and Ghost (a convergent network system for true Ethernet broadcast signals).

Bringing in world class brands is only the beginning. Shane says particular effort was given to the strategic hiring of key personnel. "Over the past 24 months we have deliberately sought out professionals with experience in the field of larger integrated systems. As a result the NAS Solutions Projects Team is fully equipped to join both front-of-house and back-of-house elements and build complete solutions for our customers."

The new NAS Solutions website contains several case studies of installations assisted by the NAS Projects Team.

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POWER OVER ETHERNET

by Simon Byrne

Show control systems are merging and moving onto data networks. Loosely speaking, audio, lighting and certainly video rely on TCP/IP networks of some sort.

This means the devices on both ends of a link require power. This is delivered by an external power source, usually a wall-wart unless a device requires a lot, in which case the power supply is fitted internally.

So, in less power hungry devices, why are there so many wall-warts, and not internal power supplies? In a word, compliance, which pushes up cost.

Device manufacturers are required to ensure that their widgets comply with the electrical safety and electromagnetic radiation regulations in the markets where they are sold. For products sold worldwide, this means a massive amount of work and cost is added to make the products compliant throughout the international markets. The cost conscious solution is to outsource the power supply part of their devices which is why nearly all manufacturers buy power supplies from dedicated manufacturers, who have done the laborious compliance work.

However, if the outsourced power supply is fitted inside the widget, the widget still needs to be certified as well. This leads to external power supplies that are certified independently of the devices they power.

As we all know, this leads to weak points in our systems because our high quality and expensive device is powered by a low-cost but compliant external power supply that can fall out of the outlet, combined with cheap connectors. Our otherwise reliable solution is not looking so reliable.

It should be stated that a good regulated power supply is not hard to make. The technology is easy and proven, so the wall-warts are reliable in themselves. They rarely fail but the tendency for the wall-wart to fall out, combined with the poor connectors, is what lets them down.

If you want to learn more, read Stephen Devine's excellent series on compliance. The link is at the end of this article. But I digress…

For low-power network devices on Cat6 cable, Power Over Ethernet, or PoE, is a smarter solution.

PoE is a nominally 48 volt DC supply voltage that is delivered using a similar concept to the phantom power on XLR that powers condenser microphones.

The DC voltage is delivered on at least two pairs of conductors of the Ethernet cable by applying a common voltage to each pair. Because twisted-pair Ethernet uses differential signalling, combined with the decent signal voltages of around five volts, the PoE does not interfere with data transmission.

There are three modes of PoE: A, B, and 4-pair.

Mode A delivers power on the data pairs of 100 Mbit cable. That is, just two pairs.

Mode B delivers the power on the other two, unused pairs in a 100 Mbit cable.

4-pair delivers power on all four pairs thereby doubling the amount of power that can be delivered.

For Gigabit Ethernet and faster, all four pairs are used for the data transmission, so all pairs are used to deliver power as well.

Mode A has two alternate configurations (MDI and MDI-X), using the same pairs but with different polarities.

In mode A, pins 1 and 2 form one side of the 48 V DC, and pins 3 and 6 form the other side. These are the same two pairs used for data transmission in 100 Mbit circuit, allowing the provision of both power and data over only two pairs. The free polarity allows PoE to accommodate for crossover cables, patch cables and Auto MDI-X.

In mode B, pins 4–5 form one side of the DC supply and pins 7–8 provide the return; these are the unused pairs in 100 Mbit. Therefore Mode B must use a 4-pair cable.

The power sourcing device (PSE), usually a network switch, not the powered device (PD), decides whether power mode A or B shall be used.

PDs that implement only mode A or mode B are disallowed by the standard.

The PSE can implement mode A or B or both. A PD indicates that it is standards-compliant by placing a 25 kΩ resistor between the powered pairs. If the PSE detects a resistance that is too high or too low (including a short circuit), no power is delivered. This protects devices that do not support PoE.

To retain power, the PD must use at least 5–10 mA for at least 60 ms at a time. If the PD goes more than 400 ms without meeting this requirement, the PSE will consider the device disconnected and, for safety reasons, remove power.

The system is quite smart. It works like this:

PSE (the power source) tests PD (consumer) physically to confirm that it needs power. If the answer is yes, the PSE powers up PD. The PD sends to PSE "Hey, I'm a PD, max power needed is X, can I have max power of X". The PSE sends to PD "I'm a PSE capable of max power X, so you can use this amount". The PD may now use the amount of power as specified by the PSE.

The rules for this power negotiation are:

- PD shall never request more power than within the PoE specification
- PD shall never draw more than max power advertised by PSE
- PSE may deny any PD drawing more power than max allowed by PSE
- PSE shall not reduce power allocated to PD that is in use
- PSE may request reduced power, via conservation mode

As you can see, once the initial handshake is done, the power is guaranteed so it is a very stable solution.

There are two wattage standards, PoE and PoE+.

PoE network switches can supply a maximum of 15.4 watts per port, and PoE+ switches can supply 30 watts per port. However, some power is always lost over the length of the cable, and more power is lost over longer cable runs. The minimum guaranteed power available at the device is 13 watts per port for PoE, and 25 watts per port for PoE+. Designers are fully aware of these limitations and are planned for in the design of the products.

As a user though, this is another reason not to exceed the recommended 100 metre Ethernet length between devices.

Where I can, I like to over specify power supplies. This way, the components within the power supply are operating well below their specified rating, and therefore less heat is generated within those components. It is the heat within the power supplies, and its ability to dissipate the heat effectively that can cause problems.

A word about standards. The Institute of Electrical and Electronics Engineers Standards Association (IEEE) standard for PoE is IEEE 802.3. It is important that equipment meets this standard otherwise it may not be compatible.

Some manufacturers still developed their own PoE standards after the IEEE got their act together. Cisco in particular manufactured switches, WLAN access points, and IP phones using a proprietary form of PoE many years after the standard was issued. As late as 2014, Cisco created another non-standard PoE implementation called Universal Power over Ethernet (UPOE). UPOE can use all 4 pairs, after negotiation, to supply up to 60 W, but is not compatible with IEEE 802.3.

Why are PoE enabled switches so expensive when compared to non PoE switches? Two reasons. Firstly there are some smarts which enable the handshaking between the devices combined with the circuitry needed to apply the DV voltages where needed, and to make sure it is not applied where it is not wanted. Also, PoE switches need quite a bit of power, so they have internal power supplies to deliver that power, which means the devices themselves need to be specified as safety compliant.

More and more networks are being combined into single larger networks. PoE enhances this by being able to deliver power over the same network infrastructure, reducing cost and increasing reliability at the same time. We love that!

Compliance for Australian Entertainment Products, by Stephen Devine:

https://www.juliusmedia.com/compliance-for-australian-entertainment-products/

VIVID LIVE STUDIO PARTIES

by Cat Strom
Photo Credits: Jordan Munns

Vivid Sydney commissioned Sam Whiteside, a visual art designer behind the massively successful Soft Centre Festival, to design a site-specific lighting rig for a run of shows at The Studio, a key venue in this year's annual festival.

The Studio lies hidden beneath the iconic Sydney Opera House and had been converted into an immersive space to host some of the world's leading underground electronic artists.

Sam created a unique lighting design for The Studio, where light would emanate from every corner of the room to rain down onto the discerning audience.

To bring Sam's design to life, he engaged David Fairless from Colourblind to be the programmer and operator for the event. After reviewing the proposed lighting rig for the room, David wasted no time getting to work on the project.

Instead of a single front-facing stage, Sam formed a composition of fixtures around the entire room to wrap around the audience. The aim of the design was to capitalise on every component in the room to create an omni-directional lighting rig. Having such an encompassing lighting rig gave David freedom to program a show not limited to the confines of a standard stage and overhead truss.

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A highlight of the programming process was using the density of fixtures to create unconventional shapes and vortexes above the crowd. By pairing fixtures that were parallel with one another across the room, an intensity chase was applied to the beams from either fixture to create a single robust beam. This effect was then multiplied by every fixture in the space to create layered grids leading up to the ceiling. Sam and David paired the gobo wheel of the fixture with some ultra-pan and tilt settings to be able to match the Claypaky Sharpys together so that the single beam look was flawless, without any other light spilling outside of the beam.

David bit-mapped the rig so that there were interchangeable intensity effect looks on top of the single beams. As the events ran over two weekends, Dave was able to develop initial programmed effects over the duration of the exhibition into a fully realised lighting performance.

Sam challenged David by requesting unique movement forms to be created that reflected in the programming.

"It was the first time I was given a four-wall design," said David. "I've worked with Sam on previous tours and installations before, but it was the first time bringing his sole vision to life. It was a new endeavour to program with the purpose of showcasing the design of the room and to not focus on a stage show. I loved the creative process behind the project and would really like to program a rig like that again where the emphasis was on the cohesive match between sound, space, and light."

The installation utilised 60 Claypaky Sharpy, 4 Sharpy Lasers from Oracle Lasers, 1 6w Laser and an array of GLP X4 Bar10. It ran between May and June and saw acts including A Guy Called Gerald, Laurel Halo, Nye In The Park, John Talabot, and Moritz VO come through the room.

Daniel Lee Munns is a Sydney-based freelance sound engineer, backline tech and tour manager. His career has included church production as a teenager, house and touring audio in his 20s, and venue production management in his 30s.

ALLEN & HEATH CDM32 AND C1500

by Daniel Lee Munns

I took the Allen & Heath CDM32 and C1500 out on a quick Sydney - Melbourne tour with Sydney pop + electronic artist CXLOE.

Most of the tours I've done have been walk-ins where I make use of whatever mixing console is available. Cultural and digital shifts in the industry with Virgin offering 64kg of checked baggage means it's never been easier to fly a console. After seeing and hearing dLive around the traps, and speaking and working with Andrew Troy (Ruel, Sticky Fingers, Middle Kids) and Andrew Crawford (TAG) I really wanted to get my hands on one in the field.

I was already familiar with the Allen & Heath interface through using a Qu-24 at a venue I work at and bulk corporate hours on GLD80. There's a lot of similarities between workflows, and you can get up to speed quickly on dLive if you've already worked on anything in the extended A&H family.

The Band

My line list was 10 channels of drums, 10 channels of playback, stereo Nord, stereo guitar (Line 6 Helix), acoustic, CXLOE's vocal, and comms lines for the lads. FOH and four stereo IEM mixes (some subs onstage also) are sorted from the same console and showfile. Everyone onstage has invested in high-quality IEMs from 64 Audio - so not just any system would cut it. They all have a developed ears as writers, musicians and producers themselves and can hear the difference between prosumer and pro gear.

With a band who have keen ears (and are relying on click), latency needs to be as close to zero as possible. I was confident knowing the CDM32 runs at 0.7 of a millisecond of latency, regardless of multi band compression and dynamic EQ inserted on every channel and every bus - it helps knowing that if I'm dropping in processing on channels or busses that I'm not moving things on the time scale. I didn't opt for a Waves card and/or Waves Server on these shows - wanting to flex everything the console could do within and of itself.

Handling and Practicality

While in my hometown and mixing at Oxford Arts Factory, it was easy enough for me to transport and wheel in the C1500 with the CDM32. Heading down to Melbourne at Howler was a different matter; we already had 15 pieces of luggage on tour and I didn't want to max the 12-seater with an additional roadcase.

The heart and brain of the system is the CDM32, so I opted to use the Allen & Heath dLive Director software to run the show without the C1500 and rely on the CDM32 as a rack mixer. In Melbourne, I put a laptop at FOH connected to the CDM32 via a Cat5

dLive CDM32 – The Specs

32 mic/line inputs, 16 line outputs

XCVI 160×64 FPGA core

96kHz sample rate

Latency - 0.7ms

128 Input Channels with full processing, 64 Mix Outputs with full processing

Configurable 64 bus architecture (group, FX, aux, matrix, mains), LR, LCR and up to 5.1 mains mode

Multiple PFLs

16 RackExtra FX with dedicated stereo returns

24 DCAs

AMM (Automatic Mic Mixer) up to 64 channels across 1, 2 or 4 zones

Built-in signal generator and RTA

gigaACE gigabit link to Surface, 2x DX links for I/O expansion, I/O Port (128 ch 96 kHz), dedicated ME-1 48kHz port, 2x Network ports, Wordclock BNC I/O

"The CDM32 fits a Pelican 1630, which it's perfectly at home in."

run patched into a pretty standard MacBook Pro running dLive Director - I also walked the room with my iPad running dLive Mixpad. The showfile for the tour was pretty settled by this stage, and during the show it was just a matter of a few fader movements - Thursday night was Martin FOH and Friday night was L'Acoustics.

With the C1500 weighing 18 kg, with the right custom case, you're good to fly. The CDM32 (a modest 10kg) fits a Pelican 1630, which it's perfectly at home in.

Director Software

I downloaded dLive Director before I picked the console up getting to know the workflow over a coffee at TAG HQ. Director's GUI just makes sense - while I would appreciate a little more polish in the appearance of the software, it's all there.

Whether I'm processing, routing, or chasing a problematic channel, I've always been able to quickly figure out what's going on. The ability to get real-time feedback on every channel via the software is invaluable.

During the show, I was running a digital split of separate channels for FOH and monitors. The software reflects the console – the right hand side has all of the soft keys which is where I'm usually going to do the things that keep the client happy!

Summing

I find the performance of any mixer is the 'sum of all things' or quite simply how it glues all your channels and busses together for the LR mix, or LRSF if you're lucky - with the benchmark being noticeable separation and clarity when you really ask it to work. The 96kHz sample rate doesn't hurt.

These days with Ableton taking the centre stage of many performances, clarity and separation is everything to me out front. When it comes to shows that are supposed to sound like the record, CXLOE commented that during one particular song section that's basically a wall of sound in the bridge, she could still hear everything clearly - happy days.

EQ and Dynamics

I don't personally use a lot of EQ or compression in the IEM mixes but I will respond to artist tastes - some like it clamped and others don't. I don't believe in compression for compression's sake - naturally the show is supposed to sound live but polished - artists now rely heavily on their musical directors or MDs (essentially those versed in the dark art of Ableton). Toby Chew Lee from Day One Builds is heavily involved with CXLOE and her tracks and playback. He'll spend weeks correcting and building arrangements, MIDI, triggers, levels, EQ, compression and sidechaining and customising the live playback rig itself. In summary, we trust our MDs and music is generally better when it's not crushed seven times and has some dynamic range before it reaches FOH or IEMs.

With the playback tracks, if they've been recorded five years ago the levels can be pretty different to tracks that were produced five weeks ago and the stems just handed over. Perhaps the artist's production skills have evolved or a collaboration with Producer XYZ has yielded some massive highs or rolling sub bass on one track and not the next. That's where I use the DYN8 multiband compressor and dynamic EQ; I don't have to limit, but if something's sticking out I can deal with it without squashing the life out of the rest of the track. Gotta love the DEEP Processing also. I've held onto some dbx 160as in my own analogue racks so it's great to see them emulated.

The CDM32's EQs are all lovely, and I like that I can use the touchscreen on the C1500 or the encoders to control them. I appreciate having both a high pass and lo pass on the channel strip, there is just so much music in the middle and I really need to vocal to own the high end.

FX

The included FX are stunning, just incredible. I use Waves H Verb or R Verb in other rigs (but I still haven't sold my SPX990s), and I wasn't missing them too much. Having 16 slots of this calibre ready to go is unbelievable. When you're doing monitors from FOH for an artist that has to have reverb, you can really dial in something special. The doublers (have to have with pop vocals) are also fantastic. The FX are just world class - they've nailed it.

Virtual Soundcheck

Virtual playback is really easy. I had a Dante card installed in the CDM32 and was running virtual soundcheck via Dante from Waves Tracks Live - I was up and running in no time. With VSC to build my show and dial it in, then going into pre-production, after two hours of rehearsal the band were happy. That's all you can ask for.

dLive C1500 – The Specs

12 faders with fully assignable layout – 72 fader strips

12” capacitive touchscreen

Gesture control – pinch, swipe, drag ‘n drop

Dedicated multi-mode EQ view

Configurable widget areas for Scenes, meters, FX and more

19 assignable SoftKeys

Engineer’s Wedge and IEM fader strips

Comprehensive multipoint metering

Daylight visibility

USB stereo recording and playback

6 XLR mic/line in, 6 XLR line out, 1 digital st AES3 in, 1 digital st AES3 out

Connection hub: GigaACE gigabit link to MixRack, DX link for I/O expansion, I/O Port (128 ch 96 kHz), 2x Network ports, Wordclock BNC I/O, Video output

Hands-On with the C1500

The C1500 is a compact package - and shows like these really lend themselves to DCAs, using the spill function. There is an incredible amount of user defined soft keys on the console - one through four were for the artist’s IEM channels, five ready for a guest IEM, then tap tempo, mute all inputs, mute all outs, and FX mute. There’s so much more you can do to customise the surface.

The C1500 has the best touchscreen I’ve ever used; it responds like a tablet; more capacitive than others. It’s big and it’s bright, smack in the centre and would punch through daylight with no problems.

Where possible and given the choice, I’d definitely opt for the C1500 surface or the C2500 - especially in timecode dependent shows where showfile is part of the performance. Having said that, I’d happily build a touchscreen rig with an IP8 and a mini pc running Director where compact touring is called for.

Thanks again to Andrew Crawford @TAG

Brand: Allen & Heath

Models: CDM32, C1500

Product Info: www.allen-heath.com

Australia: www.tag.com.au

New Zealand: www.jansen.co.nz

Reuben Morrison is the Director of Lux De Lux (www.luxdelux.co.nz), a provider of lighting control infrastructure and lighting console operation for movie studios in Wellington, New Zealand, specialising in large feature films. Since its first job supplying Avatar in 2007, Lux De Lux has provided consoles, infrastructure, programming, and operation services to a string of blockbuster productions.

LUMINEX LUMISPLIT 2.10

by Reuben Morrison

Lighting technology for film has been slow to evolve, but since LEDs hit us, everything has changed. Our rigs have now got very high DMX channel counts. A typical system will run LED fixtures from Arri, Digital Sputnik, ETC, Creamsource, LiteGear, and some other esoteric custom film lights. It gets very channel-hungry very quickly when each fixture has an FX mode with upwards of 20 channels. That's a lot of change when the industry is coming from running lots of one channel 1ks and 2ks.

As demand and the urgency to use more and more complex set-ups has grown, I've been running DMX distribution around stages in the same way I run power. I've matched all our 10 amp feeds with data. I now set-up a patch bay in every corner of the stage, and we can plug in to Universes 1 to 16 everywhere.

Our current project filming in Wellington is using eight stages at once, so I've needed to buy more Luminex gear! We like to roll-out the same rig for every project, and the LumiSplit 2.10s are super versatile, and have been good for us.

The Backbone

I came to Luminex because they have a really good name in the industry. I started using their network switches back when I realised that the network was the backbone of my whole setup – it's the middle of everything and I hadn't taken it seriously. I used to think a switch was just a switch, but the reality is your backbone needs to be your best gear. I learned this the hard way when I was using generic switches and had problems.

Workflow

In our typical set-ups, we're running a lighting console that outputs 32 Universes via sACN and/or ArtNet. It's usually my GrandMA2 sending sACN to a switch in the grid of the soundstage. Up in the grid, we go from the switch to two NZ-made, DMXKing four-port DMX nodes. We then drop Cat6 terminated with EtherCon in to each corner of the stage, to small network nodes in cases on wheels, which have the LumiSplit 2.10s in them. They're the end of the signal chain, before cabling out to the lights.

The LumiSpilt is 1RU, but carries two DMX streams. We can assign the outputs on the front for either Universe in any combination we want. You simply press the button next to the output and its LED indicator changes colour; A port is red light, B is blue. You can teach anyone how to use it, it's so simple. You can also lock it manually; hold down the A button for 8 secs and its indicator turns

yellow. If you mess with it, it'll flash. If you need a bit more of one Universe, you adjust the outputs. After a few weeks of shooting, if the crew want a bit more of this and less of that, we can repatch quickly and easily.

RDM Control

The RDM functionality is great and we use it constantly. Adjusting fixtures via RDM means we don't have to climb, we don't need riggers to go into truss, and we don't need harnesses. It makes it really easy to change the personality and modes of the Arri Sky Panels. We implement RMD control via a handheld City Theatrical DMXcat, which is a small hardware interface device and a suite of mobile applications. It opens up heaps of options; if a fixture's address is out, or it's not in right mode, we just bring it up on our phones and change if from the ground. The LumiSplits being RDM compliant are an integral part of making all of our workflows safer and quicker. RDM functionality is a selling point for our company, and I always include it on our quotes, as those in-the-know understand what it means for the production.

RDM Filtering

The RDM filtering feature on the LumiSplits is very useful. If an LD is using an old light that doesn't like the extra data packets, there can be some weird behaviour. I've only come across the issue once or twice, but when I did, I applied the filter and it fixed it immediately. Again, you can activate the filter per port via the button next to the output; hit the A button once, the blue indicator changes to light blue/cyan, or red goes to orange, indicating that the filter is active. It neatly solves a problem without affecting anything else in the signal chain.

Support

The support from PAVT and the reliability of the units have both been great. I've only ever had one problem with one unit, and it was replaced straight away.

Brand: Luminex

Models: LumiSplit 2.10

Product Info: www.luminex.be

Australia and New Zealand: www.pavt.com.au

Luminex LumiSpilt 2.10 – The Specs

Connectivity

DMX Input : 4 x Neutrik 5 pin XLR (male) (2 at the front, 2 at the rear)

DMX Output: 10 x Neutrik 5 pin XLR (female)

Power: 1 x Neutrik PowerCON TRUE1 In/Out

DMX/RDM Features

Supported Protocols - DMX512 (1986 & 1990), DMX512-A, RDM ANSI E1.20

RDM Discoverable, RDM Filter Per Input, RDM Filter Per Output

DMX Backup Mode

HTP/LTP Merger

Regeneration Mode, Dark Mode

DMX Zone Selection

2 User Presets

Optic and galvanic DMX isolation per port (except THRU)

Physical

WxDxH: 482 x 204.85 x 44 mm

Weight 2.54 kg

Turning Japanese - a Traveller's Tale

by Duncan Fry

I've just come back from a couple of weeks' holiday in Japan. It's a strange feeling suddenly arriving in a country where you can't read any of the signs, nor understand a word of the local language! And the locals can't understand you either.

But the essence of travel is experiencing the unexpected, and in my case that usually includes getting totally lost at every opportunity.

Most people's trip to Japan starts with Tokyo, and ours was no exception. It is a huge city with an approximate population of 36 million. We landed there, but only stayed a couple of nights just to get the feel of Japan, and then jumped on the Shinkansen (bullet train) and headed off to Hakone, up in the mountains on the shores of Lake Nashi.

We were booked into a traditional style hotel (a Ryokan) that had sliding doors with ricepaper windows and screens, and our own personal Onsen (hot spring) on the balcony, which was kept at a permanent 40 degree temperature from the volcanic activity. It was so relaxing to just climb in there and soak all day! I reluctantly had to get out and get dressed for dinner, but I'm glad I did, because the food was all traditional Hakone cuisine, so delicious and plentiful that I slept like a stunned Sumo wrestler!

Next stop was Kyoto. On one of the TV channels the previous night was a documentary on the development of the Shinkansen, saying that the first one (from 1964!) was on display at the Kyoto Railway Museum. 'Ooh I'm off to have a look at that,' I thought.

We wandered around the town that night, looking for somewhere that had live music, but it was hard to find. We came across a club type place called Vox Hall, on the 8th floor of a city building. I was hoping that it might be a collection of vintage AC30 amplifiers, but (a) it wasn't, and (b) it was closed! So we went back to the hotel and asked the receptionist did she know of any live music venues in Kyoto? She looked it up online, then turned to us and gave us a huge beaming smile, nodded her head and said "No... sorry!" One thing we noticed was that the Japanese were always wanting to be helpful, even when delivering bad news.

We returned to Vox Hall the following night, and found out it opened a bit later, and the guy upstairs told us in Japanese sign language there was a solo artist coming on, and the show finished at 2.15, writing it down for us on a slip of paper. "OK we'll get some food and come back later, we told him.

We queued up outside a cafe called Gyoza Chao Chao - advertising the 'Best Gyoza in Kyoto!' Gyoza are little dumplings stuffed with pork, shrimp and similar and grilled on a hot plate. We bought a couple of sampler feasts, came back to Vox Hall at 10 o'clock only to find the show had just finished! So much for sign language!

The next day my gf decided to go to a town called Nara, to photograph the shrines and the wild deer who live there. For some reason she seemed unwilling to spend the day at the Railway Museum with me, studying the ins and outs of Shinkansen technology. So I hopped on to the 205 bus, as instructed by our guide the previous day, and went down to the Kyoto Train station. The lady at the Information stand pointed to the end of the main street and told me to keep going until I got there - about 20 minutes.

I saw two guys walking in the same general direction as me, and said "Hi - are you going to the railway museum?"

"Yes, we go to the museum."

"Great - Can I follow you?"

"Yes, please."

And off we went. After a couple of kilometres, we stopped outside a very expensive looking building.

"Museum here," my two friends indicated.

I went inside, thinking this is all very swisho for a railway museum. Plus, I couldn't see a train anywhere. Perhaps they're all out the back, I told myself.

"Is this the railway museum? I asked the lady at the counter.

"No, she said, laughing. "This is the Institute for the study of the cultural works of Buddha!"

Luckily for me she pulled out a map of the area, drew on it where I was and where I should be, then walked me outside and pointed me in the right direction. She then bowed to me, waved goodbye with both hands, and then disappeared back inside, probably to have a giggle with the other girls about the crazy tourist looking for the railway museum!

After about a half hour's walk I arrived at this vast area with a 20-shed turntable, and an old steam engine in each of the sheds.

This was more like my idea of what a railway museum should be! Inside was the original 1964 Shinkansen train on one side of the building, and the 1996 fastest one (300 kph) on the other. Ah, this is the place to spend the rest of the day, I thought, getting myself a cold drink and settling in for a few hours' serious trainspotting!

When I finally left there were a couple of girl groups singing outside. Not K-Pop but J-Pop! I introduced myself to one of the girls' minders standing next to the mixer, and pointed to the PA system;

"Hello - this is my job in Australia."

"You are mixer in Australia? Oooh," and she bowed "Very smart man."

At last, true recognition of my talents!

I caught the local train back to Kyoto Station, and waited for a bus to go back to the hotel. Our guide the previous day had told us to always get on the 205 bus, as it was only a ten minute ride and went straight past our hotel. So I waited at the Station and caught the first 205 that arrived.

I should have perhaps caught the second or third, or any other one, because whatever 205 I was on went nowhere near my hotel! However, it must have stopped at every Shrine and Temple in the Greater Kyoto area, and instead of ten minutes I had been on the bus for at least an hour before I rang my gf, who was whizzing back to town on the luxury express train back from Nara.

"Help" I said. "I'm lost on the 205 to Nowhere"

"Whereabouts are you?," she asked.

"Well, as far as I can tell I'm up Sh*t Creek!"

"You are? What about me? You've got the bloody book with the address of the hotel in Japanese for my taxi driver!"

"Uh oh."

Next Month - will Dunk ever find his way back to the hotel in time for his Shamisen (traditional 3 string banjo) lesson? He learns a folksong called Sakura Sakura (Cherry Blossom), and teaches his tutor Smoke on the Water. A true meeting of the minds!

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