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AN URGENT WAKE-UP CALL

The Resolution X Fire



The Monday February 6 fire at production and hire company Resolution X's Melbourne warehouse has spurred managing director Tim Hall to issue an urgent warning to the industry – never leave battery powered equipment charging unattended.

"We will never know for sure the exact source of the fire," cautions Tim, "But we do know it was at the charging bench. There were a lot of batteries and there's no way to know which one went up first. As per our policy, the charging bench should not have been left on. However, we had a quick turnaround of some fittings. There is no issue with the decisions here as everyone was just trying to look after the gig. None the less, we must all learn from this event, not just in the warehouse but also on site. The Fire Services Victoria investigators told me that now 90% of the fires they attend have a battery as the ignition point."

"I believe this event is a wake-up call to us as an industry," warns Tim. "If this was a case of lights left on charge overnight in a ballroom with attached accommodation, it may have been a very dangerous outcome, and way more expensive as well."

The first signs of the fire were at 2 am with minor smoke and a smoke alarm detection. The fire took off at 2.15 with more smoke alarms

and flames visible on the internal cameras at 2.22. It was only 11 minutes later at 2.33 that the first firefighter entered the building. Nine fire trucks attended, along with police and ambulance, shutting down access to Browns Road. The skylights melted and fell down in boiling globs that were hot enough to set office chairs on fire. LED High Bay fittings dropped out of the roof as did moving light test trusses, as span sets and suspension wires melted.

"The fire was hot – very hot," confirms Tim. "One of the vertical steel beams deformed in the heat. Diffusers on our internal security lights at the far end of the factory had melted and fallen off. Plastic pallet wrap had melted all over the factory, some up to 50 metres from the fire. Closer to the fire there is a MAC Quantum Wash that is a molten black pile only 2cm high; the only way to tell what it was is by the two metal grills left. It was about 4.30 am when the site commander took us inside, as it was all under control. He said to us the first crews in had done a great job, and if they arrived five minutes later we would have lost the whole

factory. I did not really believe him, but when we came back in at 7 am with daylight it was clear he was not exaggerating."

Tim reports that thankfully, ResX did not lose much gear to the fire. "It was localised to our battery charging area, service area, training room and lunchroom," he confirms. "The fire did not reach our main storage areas or main office. We are still going though stock but everything in a road case is fine as it was sealed from the smoke and soot. It is stock not in cases in our main space that is soot damaged, and we are now sorting through it all."

It is in fact the soot that has caused most of the damage. The residue is highly corrosive and is the enemy of electronics and metals. The factory may need its entire roof and tin walls stripped and replaced. While there is no damage to the main office area, the carpets, ceiling tiles, and insulation may also need replacing. "Apparently, the smell never comes out," says Tim. "The lunch and training rooms will be rebuilt. The factory needs a complete

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INVENTORY CHECK



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ALLEN & HEATH



rewire; new cameras, security system, and air lines. Pallet racking is to be assessed and cleaned or replaced. Hire-gear wise, anything in cases currently looks OK, but we need to externally clean the cases. In loose terms, anything electronic in the factory and not cased will be written off. Cables, drapes, truss and rigging is all to be assessed this week. We have structural engineers and metallurgists involved. We also have specialist cleaners and repairers on site."



"From a business perspective, we are fully insured," continues Tim. "While there will be some short term pain, we will come back bigger and better. Some bits hurt though. Three MA3 Command wings set up in the training room, never done a gig and not even paid for. New skylights that we saved for years to get that also are not yet fully paid for but sit in plastic strings on the floor. We are lucky in that we had our office back up and running by 10 am last Monday. We have moved back into our old offices next door to Lightmoves. We have been prepping larger projects out

of our Sydney office after flying up additional Melbourne-based staff. Few Melbourne jobs have been cancelled or supplied by others."

"We thank our industry friends for assisting with extra gear to cover some other work," concludes Tim. "Through all of this, we have maintained delivering for our clients. ResX has been challenged before and we will be again. I know if we can get through a pandemic, we can get through this. We are a strong and resilient team, perhaps more so now than we ever have been. I am viewing this as an opportunity to review what we have done in the past and build back better than we were. A great opportunity that perhaps we did not need, but one we should embrace."



Pliant Announces Dual Listen for MicroCom XR

Pliant Technologies have announced the latest MicroCom XR firmware update, which includes the addition of a new Dual Listen feature.

Dual Listen gives users the ability to listen to two intercom channels simultaneously. This provides the benefit of monitoring communications on both the A and B channels, while also allowing users to switch between talking on either channels A or B independently. In addition, this new feature is selectable on each pack in the system, giving the individual user a choice between Dual Listen and normal A or B channel communications.

"Being introduced as part of MicroCom XR's latest firmware release, Dual Listen is an exciting new feature for the Pliant Technologies two-channel MicroCom XR pack," says Gary Rosen, Vice President of global sales for Pliant Technologies. "Dual Listen allows our customers to create a more customised workflow for specific applications and provides even more value to an already cost-efficient wireless intercom system."

MicroCom XR provides full-duplex, multi-user intercom solutions for applications where high-quality audio, extended range, ease of use, and affordability are essential. Available in

900MHz (where legal) and 2.4GHz, MicroCom XR is a two-channel intercom system that provides up to 10 full-duplex users, a 12-hour, field-replaceable battery, and extended range.

The system offers unlimited listeners in addition to duplex users, all without the need for a base station, providing flexibility for a range of applications. Additionally, MicroCom XR features an easy-to-read OLED display, an optional drop-in charger, and is IP67-rated. The system's rugged, lightweight beltpacks have been built to endure the wear and tear of everyday use as well as the extremes encountered in outdoor environments.

MicroCom XR features a default Repeater Mode, which connects users working beyond the typical range by locating the Master beltpack in a centralised location helping to overcome RF barriers. Also, as a system selectable option, MicroCom XR has a Roam Mode that further expands the coverage area of any system. This mode links users spread throughout a venue by assigning a strategically located Master pack as well as a secondary Submaster pack. This allows users to move more freely throughout a venue while staying connected through typical communication barriers such as walls and floors.

MicroCom XR is designed with advanced RF technology and specifically for broadcast and production use, making MicroCom XR

an ideal solution for an array of professional applications. MicroCom XR offers exceptional sound quality and range, providing more features and performance to users with more modest budgets. This includes smaller houses of worship facilities, schools, videographers, corporate events, and more.

Pliant also offers a wide range of professional headsets for use with MicroCom intercom systems. Ranging from the complete line of popular SmartBoom headsets to small, cost-effective specialty headsets, Pliant has a solution to fit most applications and budgets.

The new MicroCom XR firmware upgrade, which includes the new Dual Listen feature, is free of charge to existing customers and is now available on all current shipments of new systems.

For updates to existing product please contact NAS at sales@nas.solutions.



NEW DUAL LISTEN FEATURE



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Pliant Technologies announces the latest MicroCom XR firmware update, which includes the addition of a new Dual Listen feature.

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“The spectacle of coloured light bulbs transforms the ceiling into the night sky and carries visitors into the rest of the Museum with a sense of wonder.”

450 Astera NYX Bulbs for Impressive National Museum of Australia Installation

A stunning light art installation created by Ben Cisterne and comprising 450 Astera NYX Bulbs graces the ceiling of the newest Great Southern Lands permanent gallery at the National Museum of Australia (NMA) in Canberra.

Designed as a digital 'murmuration', emulating the mind-boggling kinetic phenomenon made by hundreds of starlings flying in swooping and random but apparently intricately coordinated kaleidoscope patterns at speed through the sky, Ben was commissioned to create this special work with the exhibition designer, Fernanda Reis of Local Projects, based in New York.

Ben, who also lit the other elements of the Great Southern Lands Gallery, has known and worked with the NMA Canberra team led by NMA assistant director for the discovery and collections division, Katherine McMahon, and Suzanne Myers responsible for management and development of the Museum's permanent galleries, for close to 20 years. This has been at the NMA and other cultural institutions.

His background in theatre lighting and narrative interpretation has been highly inspirational in creating this and other light art works.

In this case, the NYX bulbs provide a living, breathing, animated and illuminated trail for guests navigating the exhibition space that is a visual contrast to the intricate, practical but still dramatic lighting of the various exhibits around the rest of the vast gallery.

The idea of having a murmuration was always a conceptual part of the plan for the gallery space, however it went through several iterations before the design team comprised of NMA, Local Projects, and Ben hit on the idea of creating it with light, making a pathway to guide guests.

Once lighting was the chosen medium, Ben immediately knew he would require substantial quantities of individually controllable dots or pixels that were bright and ultimately controllable, so Astera's neat, handy and highly sustainable NYX Bulb came to mind, and he contacted Astera's Australian and New Zealand distributor ULA Group to arrange demo product.

The NYX Bulb is the same size as a standard LED bulb and was ground-breaking as the first colour-tuneable LED bulb fixture for professional film, stage, and event productions.



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It has a CRMX receiver for wireless DMX, plus RF and Bluetooth modules for control via the Astera App on a smartphone or tablet.

Wireless DMX was vital as it was always intended to run specific video imagery through the installation as well as lighting sequences, and the controllability had to be super-accurate, so "Astera and wireless DMX was an obvious route," Ben explained.

The light sources also needed to be bright, be able to colour change with finesse, and emit a rich and sumptuous quality of light.

Ben was already familiar with Astera as a brand having used AX5 TriplePARs, Titan Tubes and other products previously. "The NYX Bulb was a perfect size and spec," he commented, "I knew as an Astera product that they would be well engineered and robust, and another consideration was being able to hang them individually and very neatly."

The murmuration features two essential gently asymmetric conjoined shapes. Fernanda developed the first one and Ben the second,

which consume 300 and 150 NYX Bulbs respectively.

Fernanda also suggested some key coordinates and dimensions like the height of the installation and how far off the floor it should be, both to integrate with the overall gallery architecture and other exhibition elements, and for it to stand out as an artwork in its own right.

The NYX Bulbs are all hung on high quality cloth pendant light cables which look good and blend in almost to imperception, so the collection of beautifully twinkling and morphing pixels look like they are floating in the air.

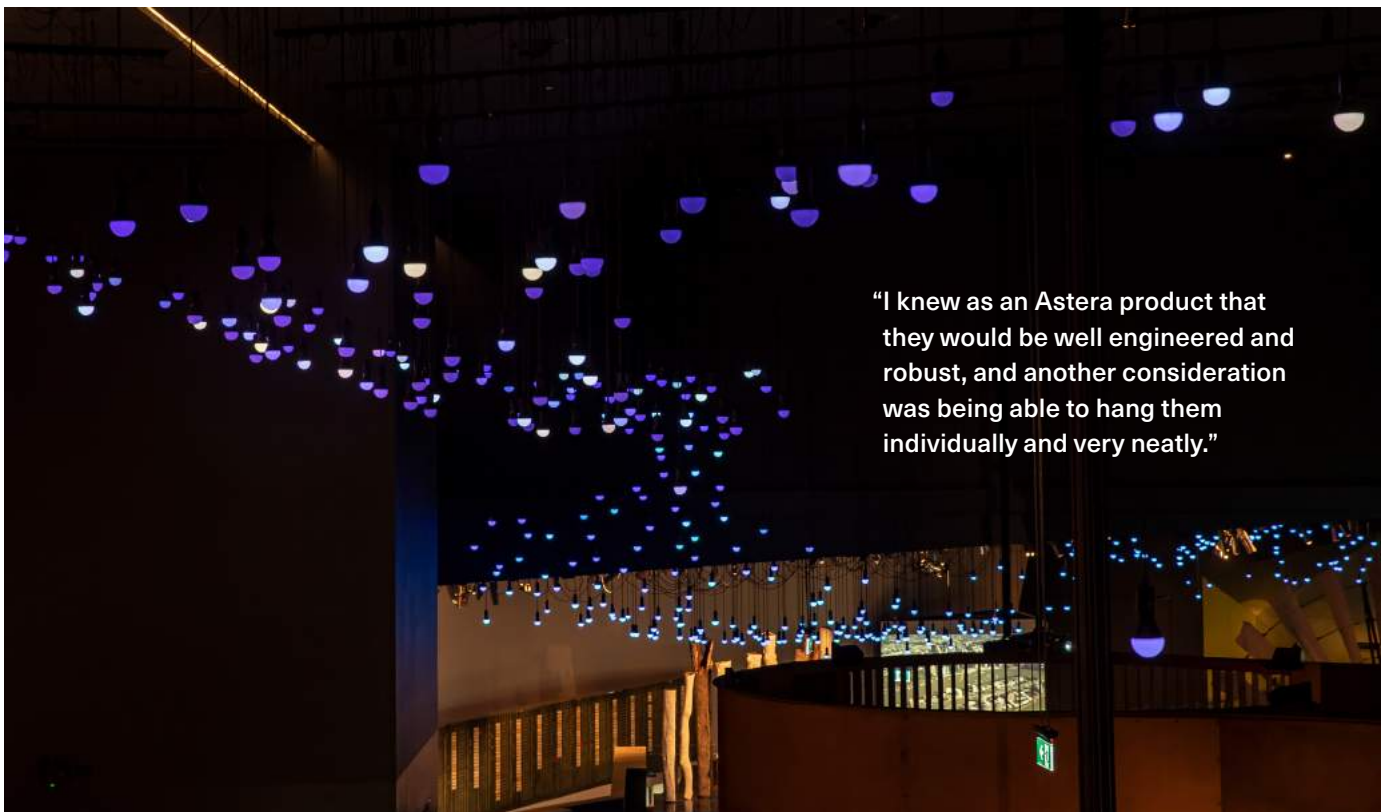
They are powered via the exhibition lighting tracks already put in place when the gallery was built, with data run over Art-Net via a Stardust CRMX controller to a Pharos touch panel interface.

In addition to the standard operating murmuration patterns running through the NYX Bulbs, some special sequences are pre-programmed for events and private functions.

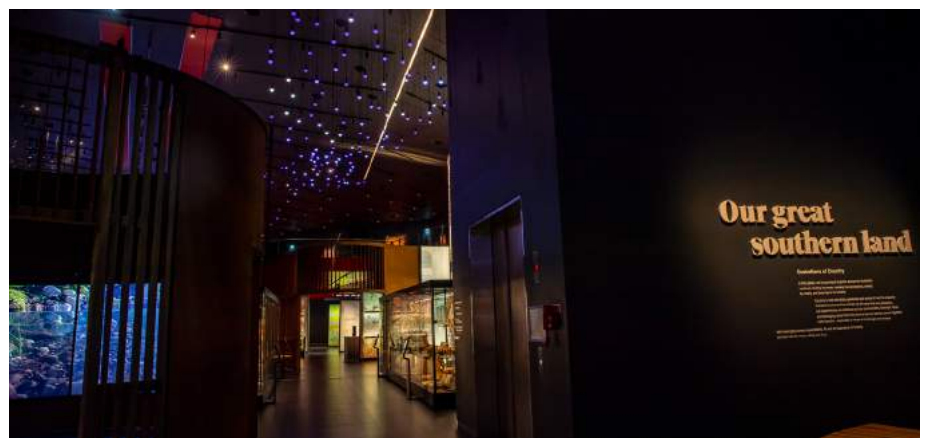
The content for the murmuration effects was influenced by descriptions of night skies and river flows early in the process by gallery curator Martha Sear, and all related to the overall Great Southern Lands presentation.

The video sources and lighting sequences were programmed via the Pharos FX engine, with a series of bold and complex moves that also have a simplicity to them. "It was a really fun project in which to be involved, the teamwork and collaboration was fantastic, and we are all happy with the end results," enthused Ben.

"The starry sky light treatment is a key element of the light murmuration that guides visitors through the Great Southern Land gallery," noted Suzanne. "The spectacle of coloured light bulbs transforms the ceiling into the night sky and carries visitors into the rest of the Museum with a sense of wonder, and we couldn't be happier with the final product and are confident our visitors will enjoy the experience for many years to come."



"I knew as an Astera product that they would be well engineered and robust, and another consideration was being able to hang them individually and very neatly."





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KOLOUR BY KAZ

A COVID START-UP



Karen Skillen

We all remember where we were a little over three years ago, when we heard the news that all our gigs had been cancelled and almost all of our work had dried up. Some of us went out of the industry to find a different job as an 'essential worker', others hung around and took what little work was left. Some of us got JobKeeper and were lucky enough to live off savings until it all blew over. A handful of people even retired.

A few people were brave enough to have a crack at starting a business. Statistics will tell us that nine out of every 10 businesses will fail in their first year, a fairly harrowing figure on its own. Compounded with the lockdowns and uncertainty, early 2020 did not seem like the most opportune time to be starting a business.

Karen Skillen started out in the industry as a followspot operator in 2007. Her first gig was Lionel Richie. Having worked in the industry almost exclusively up until Covid hit, she, like the rest of us, was out of work.



In response, she decided to create her own job. She had a few T-shirts printed to sell online, which proved to be an instant success. After spending a few months reading and researching printers (Covid left many of us with spare hours) she spent up and started a T-shirt printing business in a 3m x 2.8m storage unit in Kennards at Moore Park. Colour by Kaz was born.

Although a majority of the entertainment industry was shut down, Karen's first T-shirt printing contract was with Marvel for the crew shirts on the film set of Shang-Chi and



the Legend of the Ten Rings. Printing for this began on the day the first printer was installed. A slew of other contracts for movie crew T-shirts would follow and to date have included Thor, Mad Max, and Planet of the Apes.

Within a month the storage unit had been outgrown and a bigger premises was subsequently sought out and rented. It was a shopfront store on Liverpool Street in Darlinghurst, Sydney. This meant public access and allowed people to walk in off the street. The shop would remain there for about

two years. This has also been outgrown by the business and late last year, the move was made to Oxford Street.

Since moving to Oxford Street, business has improved immensely yet again. This is due in part to the location which has provided better street frontage, exposure, visibility and an increase in foot traffic. Business has continued to improve, mainly through word of mouth. As many purchases are made on the spot by passers-by, location and visibility have proven to be key.

To go along with moving to a more desirable location, printing equipment has been upgraded too. The upgrades have more than doubled printing capacity. At this stage, the store currently owns Sublimation, DTG and DTF printers, which covers an extensive range of printing.

Sublimation printing (dye sublimation) is a process that first prints text or images onto special transfer paper, then transfers that from the paper to another material (typically polyester or a polyester mix). The ink is then heated until it disintegrates (sublimates) into the fabric.

DTG Printing (Direct-to-Garment printing), also known as digital printing, has only been around for about 20 years. In that short amount of time, however, this printing technique has revolutionised the fashion world in ways that nobody expected.

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DTF Printing (Direct-to-Film) allows you to print a design on a film and transfer it directly to the intended surface, such as fabric. The key reason why DTF is gaining prominence is the freedom it gives you to choose almost any surface for printing.

These days Karen runs the shop 9-5 and will take on extra followspot work outside of hours. She now employs three people on a casual basis. Kolour by Kaz specialises in custom prints, with no minimum print requirement. Single custom prints, where you bring in your own design, can be done while you wait. Nowadays, the shop can print on just about anything, including and not limited to: T-shirts, hoodies, coffee mugs, cushion covers, pillowcases, tea towels, drink bottles, name tags, Xmas decorations, bags and coasters.

“Having the entertainment Industry background has been extremely helpful with my business right from the start, and getting movie contracts is a huge bonus,” says Karen. “I’ve also done print jobs for bands and corporate events and the support has been amazing from industry colleagues.”

While still very active in the industry, Karen has no plans on scaling back or slowing down Kolour By Kaz. The business has grown immensely and continues to do so. The future looks bright and busy, she has recently landed a tender to supply merchandise for Sydney World Pride.



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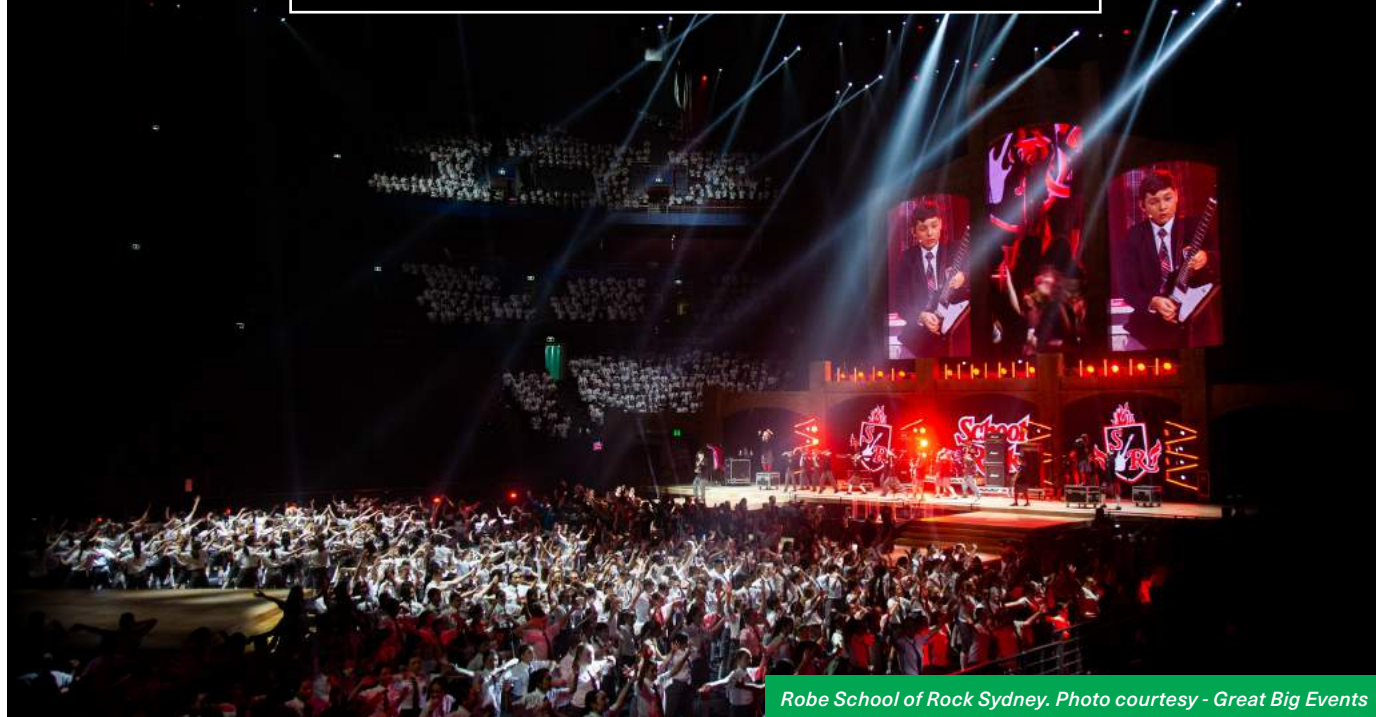
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ROSS

SCHOOL ROCKS!

WITH ROBE ROBOSPOTS



Robe School of Rock Sydney. Photo courtesy - Great Big Events

Sydney Catholic Schools presented four special performances of 'School of Rock - The Musical' in an arena spectacular based on the original Broadway show and staged at the 16,000-capacity Qudos Bank Arena in Sydney.

Lighting designer Mark Hammer created a stunning lighting design and found an ingenious Robe RoboSpot solution for his extensive follow spotting needs. Mark worked under the direction of Great Big Events, who produced the show on behalf of Sydney Catholic Schools.

The stage was designed with a 270-degree viewing angle, complete with a full choir at the back for some sections of the show, and a prominent 'B' stage in the middle of the arena floor for 'rock out' moments, so Mark needed multiple follow spots.

He thought it was a perfect time and scenario to specify four Robe RoboSpot systems to run 12 BMFL FollowSpot moving lights.

The 12 BMFL FollowSpots were paired with four RoboSpot BaseStations each running three fixtures, all supplied by Chameleon Touring Systems, and Mark was delighted with the results.

He often uses Robe products on his shows, but this was the first time he had spec'd the remote follow system, although he admits to being impressed with it since one of the early Australian demo sessions presented by distributor Jands back in 2018.

"Follow spotting was vital to this show and with a 19 / 20 metre trim height I needed really bright units, and lots of them, so this was a 'must-have' on the lighting plot," he explained.

Using RoboSpots was not only "significantly easier" for Mark operationally than calling 12 individual manually operated follow spots, but it was also hugely quicker and more practical for the Chameleon crew to rig the 12 BMFL fixtures and set up the four base stations, which were backstage to the rear of one of the arena's vomitory entrances.

The BMFLs were all front spots, positioned on the ends and at the centre of the advanced truss, which was above the audience just in front of the downstage edge of the main stage.

This allowed Mark to track the principals from multiple angles wherever they were as they moved around the stage and out in the arena to the B-stage. Having three spots on each person eliminated facial shadows and brought a palpable depth and precision to the lighting that made the actors pop out beautifully from all the background action, glowing and resonating in the high quality BMFL light output.

Mark retained overall intensity and colour control from the main lighting console with the RoboSpot operators taking care of the pan, tilt, zoom and iris parameters from their BaseStations.

While the operators were all initially unfamiliar with using the RoboSpot system, they were all experienced analogue follow spot operators who picked up the RoboSpotting quickly and easily.

"RoboSpot met my expectations and in fact went way beyond," noted Mark with a large grin, "Many creative things are unlocked by using this system that simply aren't possible when dealing with one flat beam of light."

He appreciated multiple other advantages like the BMFLs' good range of CT whites, which were mostly running at the warm end of the spectrum, and also the smooth movement.



Photo courtesy - Great Big Events

“RoboSpot met my expectations and in fact went way beyond.”



Photo by Chameleon crew



Photo courtesy - Great Big Events



Photo courtesy - Great Big Events

The main challenge with lighting the show, which follows the fortunes of wannabe rock star Dewey Finn posing as a substitute teacher at a prestigious prep school and transforming a class of straight-A students into a badass rock band, was the tight timeframe for getting the show lit and programmed.

The fact that setting up and running 12 follow spots was made so straightforward by utilising the RoboSpot system greatly assisted in this, leaving Mark with more time to concentrate on being creative, getting cues into the desk and other more time-consuming elements of a very pressurised tech period.

“It’s hassle-free to cue the system and I’ll definitely be using it again!” he concluded, adding a big THANK YOU to the “amazing” Chameleon crew, who were chiefed by Anthony Carlon.

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FROM BUDAPEST TO AUCKLAND

Robe Shines for George Ezra

George Ezra's lighting director Chris Taylor, and production manager Jake Venum, were very happy to see Robe on the lighting specs for the recent Australia and New Zealand legs of the popular UK singer-songwriter's 'Gold Rush Kid' tour.

Eleven Robe MegaPointes on the upstage truss have been present throughout the whole tour which kicked off in Spring in the UK and Ireland, then extended into a lengthy festival section as Ezra and his highly talented band delighted audiences across Europe.

The original show and lighting and set design by Cate Carter is being overseen and coordinated on the road by Chris Taylor, and the earlier sections of the tour have also featured two Robe RoboSpot systems running with two FORTE moving lights.

The Auckland show, staged at the Spark Arena, was an all-Robe rig (apart from the strobes and ten 2K fresnel 'specials' on stands) with all kit supplied by leading NZ rental specialist, Spot-Light Systems.

This was the only New Zealand date, preceded by a show in Dubai on the way there and followed up by the four gigs across Australia.

A total of 38 BMFL WashBeams on the rig in Auckland were distributed on two side trusses with the balance of fixtures along the floor at the back and on the front truss. They were used for front and cross-stage washes

and specials, and the ones on the deck for high impact effects, both integrating and contrasting to the high level MegaPointes on the upstage truss.

Five Robe LEDWash 600s a side were positioned on the downstage corners of the stage for front kickers, and all the lights worked hard throughout the show which was a lively and dynamic mix of new material and some of the chart-topping bangers that have helped rocket George Ezra to prominence.

One of the practical design modifications to the full show for this segment was running without a large upstage LED screen and a scenic LED-lined frame, two major aesthetic elements that were replaced with a printed backdrop from Showtex covered by a gauze to allow it to be front and back lit, appearing and disappearing through the set.

This meant a lot more work to ramp the drama and excitement was down to lighting as the bespoke video content had been directly related to the show narrative, and Chris Taylor created plenty of presence and atmosphere. Ezra is also renowned for his connection to his fans especially when playing live, and the

energy of the performance was ideally suited to this more utilitarian setting.

Chris considers MegaPointe "the best beam fixture" on the market currently, and it is a favourite of his for "flexibility, versatility and the sheer amount of air effects and different looks you can get from them". He and Jake both mention that MegaPointes are also readily available almost everywhere in the world.

Chris notes that the colour matching between the different ranges of Robe fixtures, even from different eras, is "excellent," giving great continuity.

Chris was super impressed with the Robe FORTEs as follow spots on the earlier part of the tour, and while they didn't have these in New Zealand (the Spark Arena's in house conventional spots were used) he was pleased they were back on the rider for Australia, albeit with BMFL WashBeams rather than FORTEs.

Kit for the Australian shows was supplied by MPH Productions for Melbourne, Sydney, and Brisbane, and Showscreens for Perth.

Chris programmed and operated lighting using a grandMA2 console.

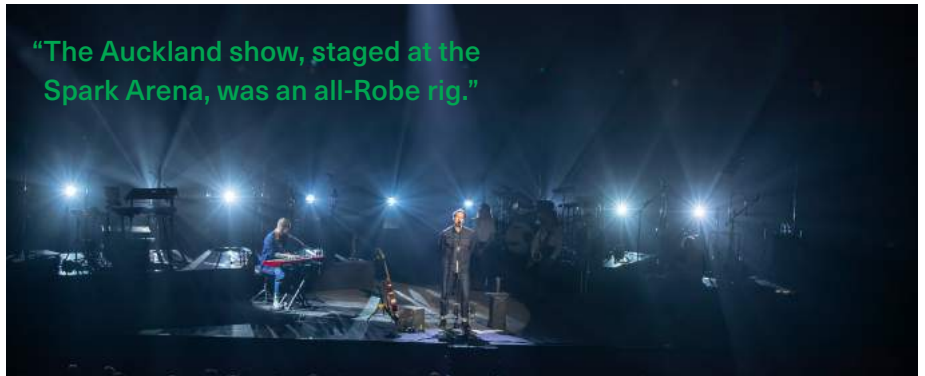


Jake ensured that the touring machine was slick and well organised for everyone involved, both from their touring party and all the local representatives and crew's perspective, and they were all excited about being properly able to travel again after two years of Covid.

Everyone involved was relishing the chance to work in Australia and New Zealand again. "The people are friendly and efficient," stated Jake, "the suppliers are very competent, the kit is



"The Auckland show, staged at the Spark Arena, was an all-Robe rig."



good and well maintained, production values are high, the food is delicious, and the weather is usually fantastic. It's good to be back after three years!"

Big things are on the horizon next year in the George Ezra camp, with an arena tour and another extensive festival run being lined up.



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SuperBikes 2022. Photo credit - Adam Blazevic



A SUMMER OF SPORT & EVENTS

The P.A. People Deliver Multiple Solutions, Home & Away

The P.A. People's Event Comms team's summer season started in November with a return trip to Philip Island to deliver two-way radio capability for the delayed 2022 SuperBikes championship. Following the successful delivery of both radios and a CCTV system for MotoGP in October, the Island is becoming a second home for the team.

The P.A. People are proud sponsors of both the Sydney Kings and the Sydney Flames, providing their Bose ShowMatch system and communications package for every game at Qudos Bank Arena for the past four seasons. While the Flames did not make the finals this year, the Kings have finished on top of the home and away season, and are looking to

defend their 2022 Championship over the coming weeks.

December saw the inaugural Noel Sydney Christmas Festival in the Botanic Gardens and surrounds managed by AGB Events. The Event Comms team provided the complete entertainment stage audio solution for the 16-day event for a wide range of artists, including the John Field house band, alongside David Campbell, Monica Trapaga, and Emma Pask. The stage system was augmented with systems for pre-show entertainment, sound-scaping in the Botanic Gardens and a number of activations along Macquarie St.

Hot on the heels of Noel Sydney was the first year of a renewed five-year contract for the City of Sydney New Years' Eve Fireworks communications and data services. Now in their eleventh year, The P.A. People provide

a comprehensive radio and communications package that supports the fireworks, projection, lighting and broadcast systems for the event. This year, after a five-year hiatus, The P.A. People also delivered centrally managed crowd control PA systems throughout the city centre.

Over the top of New Years' Eve, The P.A. People team also provided audio and LED screen support for the United Cup at Ken Rosewall Arena at Olympic Park for Tennis Australia, as well as a comms and data package for the Elevate Sydney Festival on the Cahill Expressway at Circular Quay, also for AGB Events. January ended with a small comms package and a couple of their



Sydney NYE 2022. Photo credit - City of Sydney, Daniel Tran



Sydney Kings. Photo credit - Hoops Capital



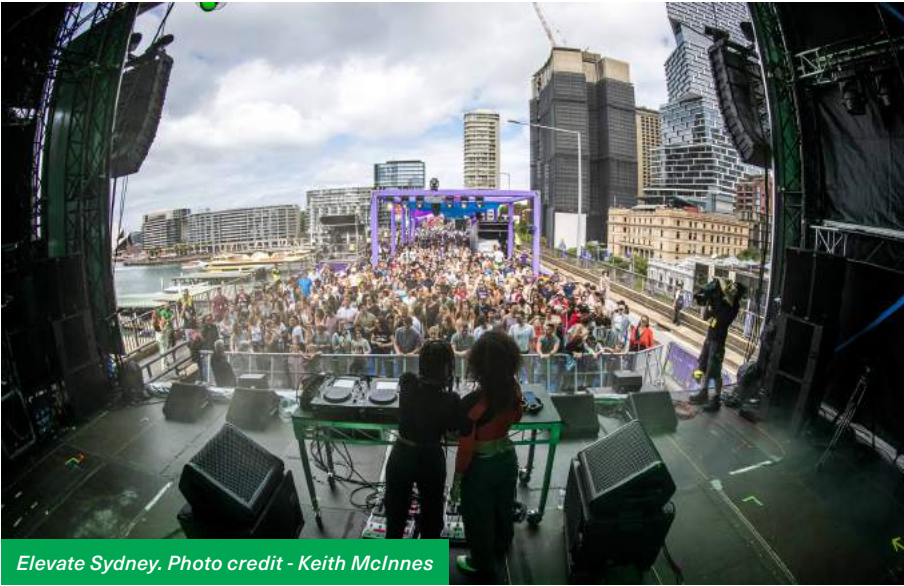
Hotel venue opening, Riyadh. Photo credit - Dominic Jones

crew jetting off to Riyadh, Saudi Arabia, for a venue opening ceremony in support of event producer Five Currents.

It has been a busy few months for the team, and in the midst of the event activity they also continued their support of Parramatta Council as they moved into their new home. The Event Comms team have provided the Council with AV support for every Council meeting since the demolition of their old Chambers in 2016, including a comprehensive remote access solution throughout the COVID-19 pandemic.

The P.A. People continues to provide a comprehensive range of support services to the events industry, the venue engineering sector, installations for audio, AV and performance lighting, theatre systems, and service and maintenance operations for a broad range of venues.

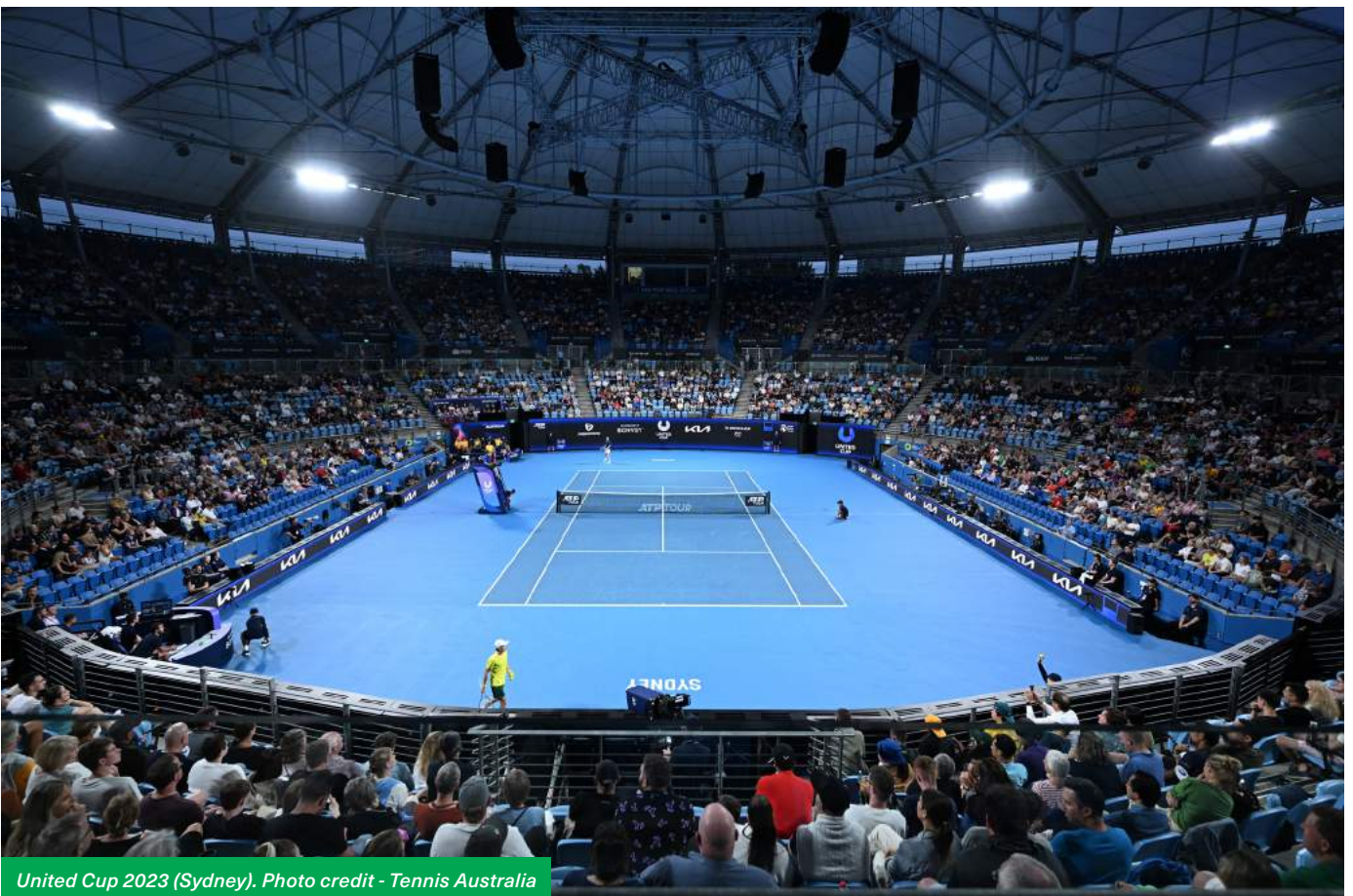
For more information visit papeople.com.au or contact events@papeople.com.au



Elevate Sydney. Photo credit - Keith McInnes



Sydney Flames. Photo credit - Hoops Capital



United Cup 2023 (Sydney). Photo credit - Tennis Australia

NEW



Absen PR 2.5

The PR 2.5 is Absen's new flagship virtual production (VP) LED solution. With VP becoming ever popular across filmmaking, broadcast, video production and gaming, the PR Series is designed as an all-in-one platform for both a VP backdrop and ceiling. Offering a high contrast ratio, the product offers a wide colour gamut, fast heat dissipation and provides a 16% reduction in power consumption compared with comparative solutions. With the customised lock system, users can quickly complete installations including hanging, stacking and other layouts.

Australia and New Zealand: Audio Visual Distributors www.avdistributors.com.au or +61 (0) 7 5561 7530

Barco ClickShare Conference CX-50

ClickShare CX-50 2nd generation brings dual screen support, allowing content to be shown on two room displays. Barco have also added native interoperability to fixed room system set-ups by enabling automatic switching between Room mode and Bring Your Own Meeting mode. This allows users to easily switch between the fixed room system setup and other videoconferencing solutions. Connectivity options are simplified, with a single USB-C cable between the Base Unit and room display to power the device and send video output to the display.

Australia and New Zealand: Barco Systems
www.barco.com or +61 (0)3 9646 5833



Blustream Dante Wall Switches

To enable easy collaboration within Dante audio systems, Blustream has introduced two new multi-input/output Dante conversion wall switches. The DA11ABL-WP is a multi-input/output wall plate to convert Bluetooth and analog audio within a digital Dante networked audio system. The DA22XLR-WP converts analog audio, with two input channels of balanced/unbalanced MIC audio with switchable 48V phantom power and two output channels of balanced and unbalanced audio.

Australia: Jands
www.jands.com.au or 02 9582 0909
New Zealand: Sound Group
soundgroup.co.nz or (09) 415 6680



Ayrton Domino Wash

Domino Wash is an IP65-rated wash fixture with a 210mm Fresnel lens. It is available in three flicker-free versions, S, TC and the entirely new ST or 'Stage & Theatre' version. The ST version is fitted with a new monochromatic LED source that delivers a light output of 45,000 lumens and a D65 white point that allows colour reproduction with a CRI greater than 80. The 'Stage' or 'S' version provides a cooler, metallic light with a record luminous flux of 52,000 lumens, a colour temperature of 7000K and a CRI of 70. The 'True Colour' or 'TC' version offers a colour rendering index greater than 95 with extremely high TM30 values and a colour temperature of 6000 Kelvin to deliver perfect colour rendering.

Australia: Show Technology Australia
www.showtech.com.au (02) 9748 1122
New Zealand: Show Technology New Zealand www.showtech.nz (09) 869 3293



Claypaky MINI-B AQUA

The MINI-B AQUA was created to meet the huge demand from lighting professionals for a weather resistant, lightweight, compact, agile mini-washlight. It is IP66 protection rated, making it suitable for all kinds of outdoor use. However, it is also ideal for indoor installation since it does not require the same levels of maintenance as ordinary IP20 fixtures thanks to the total protection of its internal components against dust.



Claypaky MINI-B SPOT

The MINI-B SPOT's light source is based on a 70W white LED engine, capable of delivering 4300 Lumens, but with a power consumption of only 150W. Claypaky has also developed a proprietary optical unit that optimises light intensity and light output. Mini-B Spot is suitable for the installation and cruise ship markets, where versatile, small fixtures with a big punch are sought after.



Claypaky VOLERO WAVE

An amazing LED bar with original and innovative features, made up of a system of eight moving heads, each one independently capable of a 220° tilt, thus producing never-seen-before three-dimensional volumetric projections. Each of these heads contains a brand-new mirror-based optical system combined with 40W RGBW LEDs. Their synchronised movement produces an impressive wave of light, all the more overwhelming the more Volero Wave units you seamlessly connect to each other.

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www.showtech.com.au (02) 9748 1122
New Zealand: Show Technology New Zealand
www.showtech.nz (09) 869 3293



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Meyer Sound MPS-488X

The MPS-488X is a new integrated power supply and signal distribution unit for multi-channel audio systems using the company's exclusive IntelligentDC technology. By delivering both balanced audio signals and 48V DC for loudspeakers powering over a single composite cable, IntelligentDC uniquely combines the sonic superiority of self-powered loudspeakers with the installation ease of low-voltage systems. Each MPS-488X supplies eight channels of power and balanced audio signals. The MPS-488X also incorporates a network connection as standard, with telemetry and control data accessed via an RJ45 connector on the rear panel. Critical data such as load status, current draw, fan speed, and temperature are reported for visual display and fault alerts in Meyer Sound's Nebra software for Mac and PC.

Australia and New Zealand:
meyersound.com

INTRODUCING THE MPS-488X



Xilica x Sennheiser Small Room Kit

Following on from the popular Xilica x Sennheiser Medium Room Kit and Large Room Kit, both featuring Xilica audio systems with a Sennheiser TeamConnect Ceiling 2 beamforming microphone array, the latest addition includes the newly released Sennheiser TeamConnect Ceiling Medium (TCCM). Comprising a Sennheiser TeamConnect Ceiling Medium, a Xilica Solaro QR1-UC PoE-powered digital signal processor, two Xilica Sonia C5 Category-cable based in-ceiling speakers, and a Xilica Sonia Amp PoE++ amplifier with integrated network switch, the Small Room Kit requires only a single network cable to the ceiling for the full in-room audio system.

Australia: Sennheiser
en-au.sennheiser.com or 1800 648 628
New Zealand: Sennheiser
en-nz.sennheiser.com or (09) 580 0489



NEW

KLANG KOS 5.3

KLANG's latest software version 5.3 introduces a flexible offline editor and simulator for its immersive in-ear monitor mixing engines. This enables users to prepare a show remotely without requiring access to KLANG processor hardware. Built into the KLANG:app, the offline editor emulates any existing KLANG processor from the smallest :vier to the flagship :konductor including network communication for DiGiCo SD and Quantum console integration, as well as to connect other KLANG:apps or the personal mixer :kontroller on a local network. The Offline Editor also offers full compatibility with DiGiCo consoles' offline editor, making it possible to set up the console remotely without having a console and KLANG processor on hand.

Australia and New Zealand: Group Technologies
www.gtast.com or +61 3 9354 9133



Biamp Loudspeakers



The Desono C-IC6LP and DX-IC6LP offer the shallowest, low-profile ceiling loudspeaker form factors on the market with just a 10cm mounting depth. Optimised for superior speech reproduction in conferencing environments, the C-IC6LP is a two-way 6.5" passive coaxial loudspeaker with either standard category cable or traditional speaker cable installation connection. Both the Desono C-IC6LP and DX-IC6-LP are identical in appearance and performance; the only difference is the C-IC6 includes RJ45 jacks (for connection to the Biamp AMP-450BP) and is low-impedance only (no transformer). The DX-IC6LP includes a switchable 60W transformer and low-z tap and omits the RJ45 jacks.



The Biamp DC220T is a 61cm x 61cm lay-in tile ceiling loudspeaker that provides wide coverage and higher output, ideal for high ceiling applications. The Biamp CM10TB is a one-way 5.5" in-ceiling back-can loudspeaker that delivers clear audio for speech reinforcement applications. Designed with the installer in mind, the CM10TB can be blind-mounted from below the ceiling, while the grille is a standard push-fit for install and removal, and it is compatible with Desono accessories including the new construction bracket, trim ring, and 122cm tile rail kit.



For even greater system integration flexibility when designing end-to-end Vocol voice communication systems, newly enhanced commercial horn and surface mount loudspeakers are now available worldwide thanks to the inclusion of 70V taps. The loudspeakers are ideal for warehouse applications, such as paging, intercom, and background music in production lines, mechanical rooms, and break rooms, as well as retail and hospitality or gymnasium venues.



Biamp Voltera Power Amplifiers

The Voltera family includes four models, two of which are two-channel analog amplifiers delivering a total of 300 or 600 watts that can be shared as desired per channel, and two that are four-channel analog amplifiers delivering a total of 300 or 600 watts, of which up to 50 percent can be delivered by any channel. Simple, intuitive mode switches enable fast deployment of any mix of Lo-Z/Hi-Z loudspeakers. Voltera amplifiers do not require software configuration, making them fast and easy to use with passive loudspeakers that do not need equalisation.

Australia: Jands jands.com.au or (02) 9582 0909
New Zealand: Jands NZ jands.nz or 021 674 601



Elation KL Panel XL IP

Elation's full-colour-spectrum soft light is now available in an IP65 version, the KL Panel XL IP. The fixture's IP65 design means the KL Panel XL IP can be used in a wider range of applications and locations. Suitable for use in both indoor and outdoor settings, it is an ideal soft light solution for on-location applications. Its weatherproof design allows it to function properly in harsh environments and adverse conditions, eliminating the need for frequent cleaning and maintenance, and saving both time and cost.

Australia and New Zealand: ULA Group
www.ulagroup.com or AU 1300 852 476
/ NZ +64 9 218 6532

GEAR

WolfVision Cynap Videobar

The new WolfVision Cynap Videobar web conferencing and collaboration system for meeting rooms combines Cynap BYOD wireless presentation technology together with a 4K AI camera, beamforming array microphone, plus built-in high-quality speakers from leading German audio specialist Fohhn. A unique software tool is also available to optimise the sound for individual room acoustics. This high-performance, all-in-one meeting room solution offers plug-and-play integration and is suitable for up to 10 people in small or medium-sized hybrid meeting rooms and huddle spaces.

Australia: Amber Technology www.ambertech.com.au or 1800 251 367
New Zealand: Amber Technology www.amber.co.nz or (09) 443 0753





CREATIVE MISUSE

Some of the best sounds ever recorded have been the direct result of the creative misuse of audio gear, either intentionally or by accident. Whether it was Geoff Emerick daisy-chaining two preamps together during Beatles sessions to produce unholy distortion, Phil Collins bashing his drums while the talkback mic was open on the SSL console, or even Cher insisting that her AutoTune settings be left to morph her voice into a cyborg, thus creating a new sound and a smash hit, there have been countless examples of cool sounds created in this way littered throughout the history of popular music.

So this issue, I thought we should discuss some of the myriad ways sounds are created using gear in unconventional, incorrect or even downright dubious ways to create something crazy, something cool, something unexpected. I might even try conjuring a sound off the top of my head while I'm writing, to illustrate a particular point: that there's plenty of ideas out there that remain unmined and unexplored. This is what good sound production is often about: adventure and experimentation, remembering that not everything has been discovered. Not by a long shot! Not by you, at least.

So, in no particular order, here's a random collection of techniques I've developed in isolation over the years whilst trying to solve problems or think outside the square, alongside others that have been shared with me by legends of the industry over a cup of tea or an SSL.

One of the most hilarious (and ironic) examples of creative misuse ever told to me was by legendary engineer and producer Geoff Emerick

over breakfast one morning before we were due to talk on stage at a trade show about recording The Beatles. While helping ourselves to far too many serves of bacon and eggs from the breakfast buffet, Geoff imparted the tale of recording 'Tomorrow Never Knows' on the very first morning of his new role as head engineer for The Beatles. He had done countless sessions with them beforehand, since their very first session in fact, but never as the head engineer.

Geoff placed a couple of U47 valve mics much closer to Ringo's drums than had ever been kosher before, dealing with the subsequent dynamics by slamming Abbey Road's Altec compressors harder than usual. This captured a far wilder, more in-your-face drum sound that amplified the excitement levels of Ringo's already intense performance. We all do this now, of course!

After the first take Ringo quizzed Geoff by asking him; "What the hell have you done to the drums?" Thinking he was about to be admonished for ballsing up his very first recording session, Geoff attempted to explain what he was trying to capture, only to be interrupted by Ringo who merely wanted to congratulate Geoff for capturing the best drum sound he had ever heard!

When the administration staff of Abbey Road heard about this 'new technique', however, Geoff was marched upstairs into the office and roundly criticised for potentially 'damaging the equipment'. Now of course, the famous studio dines out on these stories daily, thriving off the legacy that Geoff Emerick and his peers established.

Compressors

Compressors feature as a recurring theme in the creative misuse of equipment stakes. The aforementioned 'Phil Collins drum sound' is arguably one of the most famous of these, filed under the sub-category: 'Happy Accidents.'

The story goes that while Hugh Padgham and his assistant Nick Launay were tracking drums with Phil Collins for his hit single 'In the Air Tonight', they all stopped momentarily to discuss the drum fills. After a brief chat, and before the talkback mic switch on the SSL console could be unlatched again, Phil let rip with some version of the now iconic drum fill, whereupon the talkback mic compressor on the SSL console initially got slammed, then fought back with huge amounts of compression. Hugh Padgham was so awestruck by the sound of this happy accident that he had the studio techs find a way to patch signal into that compressor, and the rest is history.

(Incidentally, SSL now make this 'talkback compressor' available on some of their newer consoles, and even plug-ins, as a 'cool feature'. Of course, it took a producer, not a console designer, to make this concept cool!)

Technically speaking, compressors are used to control levels, often as transparently as possible, at least from a design standpoint. But many engineers look for the opposite response. We look for distortion, scale, attitude and tone; transparency is often our last concern, especially in the modern world of uber clean digital systems.

We also use compressors to punch holes in other sounds with key inputs, duck reverbs and change the dynamic characteristics of synth pads, even create new instruments altogether out of pads triggered by drums, even when those drums themselves are muted. Want to cut the drums from your track but feel like this shift is just a bit too dramatic for your song arrangement? Try keeping another sound going that pumps in sympathy and time with the original drums, effectively creating a 'ghost rhythm' of the original beat.

Distortion

Distortion is probably the other main characteristic of a recorded sound that's been captured countless times by creatively misusing equipment or by happy accident.

Preamps cranked way too hot and then padded back down with a fader or compressor etc is the obvious one, daisy chaining preamps (mic preamp – line level – mic preamp – line level) is also now another go-to approach for hyper fuzz guitars etc. Just keep a fire extinguisher handy if you're doing this! Some gear can get hot as a result...

Distortion is one of those things, however, that many of us try to avoid, some of us to a truly masterful degree.

Maybe it's time you lived a little, cranked an extra 45dB of gain into your favourite preamp and listened to what that does to your vocal, your compressor down the chain, your room mics, that guitar sound. You might make a discovery that sets you on another recording path for the next decade. I did.

Mistakes, Experiments, Trial & Magnificent Error

Try feeding other sounds to your wildest delay on an auxiliary send and see what effect it has on things you originally had no intention of feeding it. Listen through the song; you might find a moment where something magical occurs. Better still, build a crazy aux send out of stuff you normally never think to chain together: a compressor, a backwards delay, a phaser and a widener. Now send sounds to it and see what happens. Sometimes it pays to have no idea what will come of a certain sonic chain.

Flip recorded tracks backwards and throw them back into the track without necessarily trying to arrange them or place them in time. Some of the coolest outcomes occur here without you needing to plan or contrive anything; it's simply about listening out for a serendipitous moment in the arrangement.

Look for melodic palindromes, things that are the same backwards or forwards, and where they repeat (or even if they don't) make a backwards copy of the sound and pan it away from the original. Place it later in the timeline so it acts like a cool backwards echo... or just lay it right over the original track as a weird double. The possibilities are endless here.

Try grouping together a bunch of things in a track, and key-input a compressor across that group master so all of them are now under the influence of that gain reduction, off the back of a kick drum or a rhythm guitar etc. Now just listen to the track again with half the song pumping weirdly in unexpected ways. Don't like it? Okay then. What does it sound like if you simply change the key input to something else?

A New Sound – For My Next Mix Perhaps

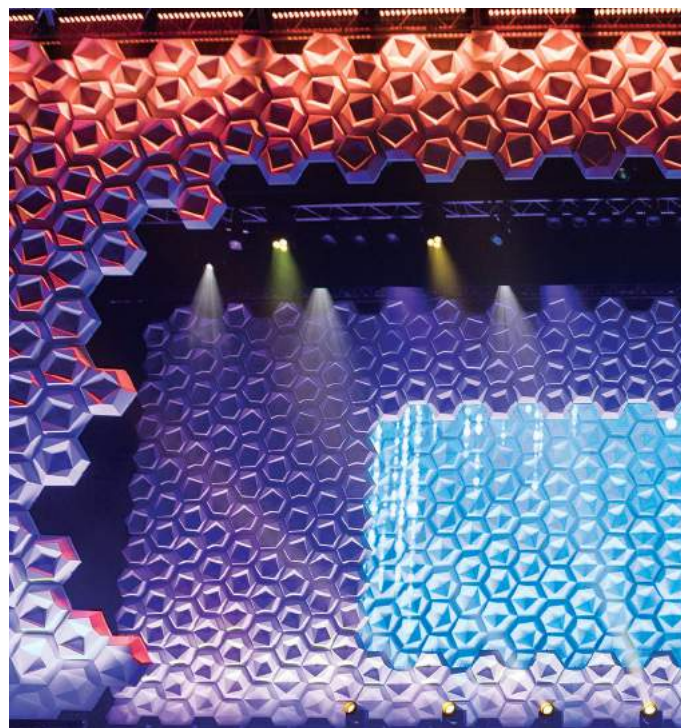
To my plan of inventing a sound as I write.

I imagine getting a backing vocal or two and feeding both these sounds to three aux sends each (I'm gonna do this because the tracking is finished and I've suddenly decided the BVs sound ho-hum). Each auxiliary will have a pitch shifter and pitch controller on the insert chain, followed by a chorus and a long reverb of some description set to 100% wet.

What I want to achieve here is a sense of BV harmonies (thirds, fifths, octaves... whatever) behind the main harmonies acting as distant 'harmonic cellophane' to the background vocals (backgrounds to the background, as it were). All of them will have different variations on the pitch control and chorus setting, and I suspect the sound I'll get back will be harmonic, phasey and fizzy... and distant. I want a sense of harmony, but nothing solid or dense... a whisper of a harmonic reverb tail only.... might work. Might suck.

Now it's your turn. Go into the studio wherever you work: do something you never think to do, or would normally never do, and just listen to the outcome. Importantly, don't give up the hunt in five minutes. Be patient... and persistent. If you hit on something, write to me (or the mag) and let us all know what you've discovered. And if someone says: "Oh actually that was done by Fred 20 years ago on the album Blah Blah Blah... who cares?! You don't have to own it, just like it!

Andy Stewart owns and operates The Mill in Victoria. He's always trying to get studio professionals to think outside the box, beyond their comfort zone. Are you up for the challenge?



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Rotorua, New Zealand

LSC Control Systems innovate to counter corrosion at upgraded Sir Howard Morrison Centre

Rotorua is renowned for its rotten egg smell, stemming from the high levels of hydrogen sulphide (H₂S) concentrations emitted from local geothermal vents. But the smell isn't the only issue. H₂S also causes the rapid corrosion of certain metals, in particular copper, creating headaches for the technical team responsible for the upgrade of the Sir Howard Morrison Centre in Rotorua.

Having asked around overseas, Kevin Greene, Technical Design & Delivery Lead at the Centre, and consultants Shand Shelton, approached LSC for a possible solution.

The Australian-based designers and manufacturers of data distribution, power and lighting control systems, LSC, rose to the challenge.

Jeff Morgan, LSC's NZ Regional Manager, recalls, "We worked with Shand Shelton using their technical brief to select the appropriate product. One of the key feature requests was the ability for the dimmer racks to be flexible and allow for direct power of LED fixtures, as well as dimming conventional loads. The client also wanted the ability to change the configuration remotely. The GENVI dimmers were the obvious choice due to their TruPower relay bypass system, PTFD dimming, and the ability to be controlled remotely with HOUSTON X. We supplied a total of 40 GENVI units, in a mixture of rackmount and wall-mount variants, replacing all the old dimmers in the Black Box Theatre and the Sir Owen Glenn Theatre."





in November to commission the dimmers, data distribution and LSC's proprietary monitoring and remote configuration software HOUSTON X, "Although the software is used all over the world, this is a first for New Zealand. The beauty of it is you can talk to the dimmers from the office, change the patching and channel modes over the network, to whatever a touring company or the in-house production requires in either theatre space."

Kevin and his lighting technicians were very appreciative, "Anything that saves techs time at the moment is gratefully received. It looks like the New Zealand theatre sector is going gangbusters, same as in Australia, with techs travelling back-to-back from event to event due to staff shortages. It's good to make their lives easier."

LSC Control Systems are flat out too, "This is the busiest we've known it in many years. Just like everyone else, COVID was a major disruption for us, but the recovery is quicker than we anticipated. For the last six months we have been inundated with orders. We design and manufacture all of our products in Australia, giving us far less exposure to shut-downs in China, so we are still able to manufacture our entire product range. If there are shortages of any components, our in-house R&D team quickly find an alternate solution."

Kevin provided LSC and their R&D team with the requirements of the conformal coating required to shield and protect the circuit boards from the H2S, "It was not just a question of the gear surviving the tough environment," continues Jeff, "everything also had to be fit for purpose and one of the knock-on effects of conformal coating is the potential for overheating. We did a lot of testing." LSC's

manufacturing department made four test PCBs and sent them over for corrosion testing., "The environment is so harsh you can expect to see decay within a month. Kevin made quadruple-y sure and waited four months before making a decision to go ahead."

Jeff and Richie Mickan (LSC's Technical Product Manager) travelled over from Australia



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by Jason Kelly

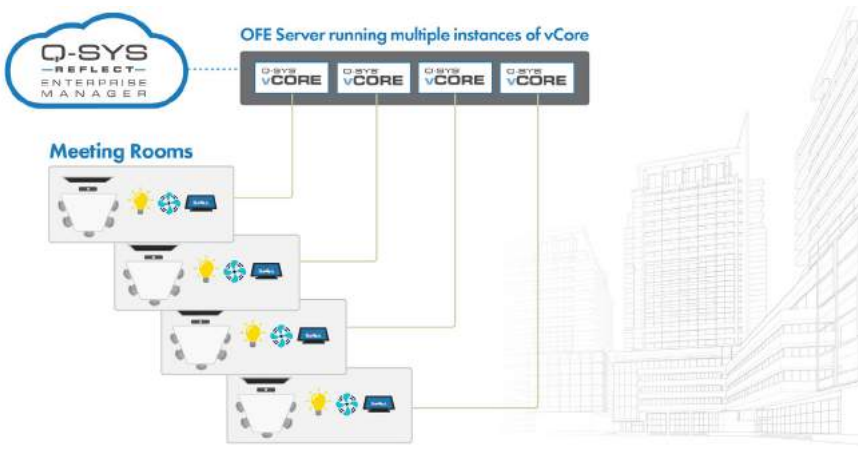
WHEN TO VIRTUALISE CONTROL



If you haven't already heard, Q-SYS recently released the first fully virtualised subset of Q-SYS OS functionality in a fully software-based format. With the new Q-SYS vCore and accompanying Control feature license for vCore, you can drive Q-SYS Control functionality directly from your own PC or server. But that begs the question; "When is Q-SYS virtualised control the right solution for your application?"

Existing Meeting Room

Let's say you have a meeting room that already has standalone UC&C hardware, but users still want control of environmental devices such as the displays or lighting. Or maybe there's a legacy audio DSP that also needs to be controlled. You can deploy Q-SYS vCore in either of these scenarios to tie all these disparate devices together in a simple user control interface (UCI). In this example, vCore is installed as a hypervisor living on the same PC that is running Zoom Rooms.



Whether it's video displays, IP occupancy sensors, lighting control, or more platform-specific user control enhancements, Q-SYS vCore + Control feature license can deliver the control and automation that you need. And given that this a virtualised control solution, its simple to scale, resulting in a consistent user experience across an organisation.

This diagram shows one customer-provided server running multiple instances of vCore, each instance managing control for one space. These are all tied to Q-SYS Reflect Enterprise Manager for remote monitoring and management of all virtual control instances on a single pane of glass.

Beyond the Meeting Space

It isn't just for Enterprise applications. We recently had a K-12 education customer that didn't need a full AV system in their classrooms, but still wanted to provide instructors with a single touchscreen to control room audio and their projectors. They simply installed vCore on a PC in each classroom, designed an intuitive user control interface and deployed to a Q-SYS touchscreen in the room; an experience they duplicated across all their classrooms.

We also see this as a good fit for adding control to digital signage applications that don't have additional DSP processing needs. You can control a fleet of network-based digital signage players and displays from a single Q-SYS touchscreen (remember... if it's IP-based, chances are that Q-SYS can control it!).

The common factor in all these examples is that none of them require additional DSP processing or video distribution, but still require user control and/or automation. We see Q-SYS vCore + Control as a way to extend Q-SYS capabilities into less complicated spaces where user experience is just as important as those larger, technology-dependent spaces.

If you're already familiar with Q-SYS, you know that Q-SYS is built around a singular software platform, and vCore is no different. Should your needs change in the future, you can deploy hardware-based Q-SYS Cores to add Q-SYS audio and video processing capabilities while simply porting over the control programming you already had in place.



RTI Co-founder and CTO Kevin Marty cuts the 30th birthday cake at ISE 2023



RTI Control Celebrates 30 years in Automation

The three core objectives of a control system are:

1. Integrate components and systems into a single, unified user interface (UI)
2. Simplify user operation by providing only the UI functions necessary to operate the system
3. Automate complex functions with single button presses, schedules, and background automation

Technology changes but the objectives of the control system remain constant and essential for all but the most basic of systems.

Privately owned and headquartered in Minnesota USA, RTI (Remote Technologies Incorporated) has just celebrated 30 years of control system manufacturing. Since entering the market in 1992 as an OEM manufacturer

and launching their first RF remote control and processor a few years later, RTI has evolved into a powerful control platform spanning residential, commercial, hospitality and education.

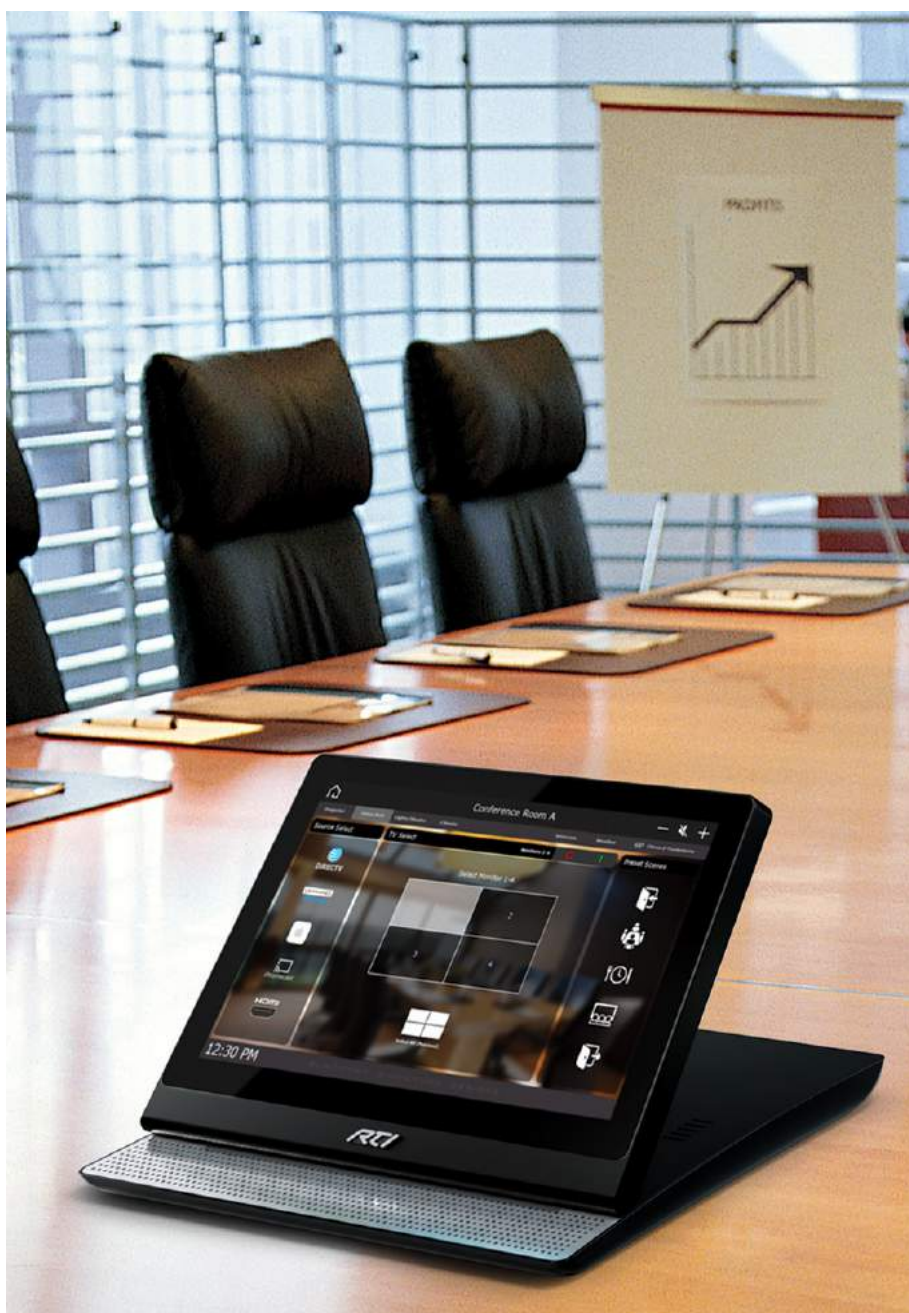


RTI have long since been a 'home control company', and it's this versatility that is RTI's core strength, as well as making them a great fit for Amber Technology. Commercially, in Australia, we see RTI routinely deployed in hotels, clubs, bars, pubs, function rooms, restaurants, boardrooms, meeting and collaboration spaces, school gyms, auditoriums, and classrooms.

There are seven reasons to choose RTI control for your commercial projects:

- 1 Excellent availability across the product range. RTI do an amazing job managing their supply chain
- 2 Drivers available for most of the leading audio DSP and lighting automation systems – essential in the commercial AV world
- 3 Powerful software that puts the programmer in control. RTI's award winning Integration Designer 11 (ID11) software offers fully flexible/customisable UI and logic. The graphics library is vast and provides stylish templates to work from. You can also add your own devices outside of the libraries offered by RTI and their developer partners
- 4 Powerful as it is, Integration Designer 11 is easy to learn and master (no coding required)
- 5 RTI offers their own supporting range of high quality, sensibly-priced AV signal switching, distribution, HDBaseT and Video-over-IP solutions
- 6 Works equally well in residential and commercial applications giving integrators the freedom to diversify
- 7 No hard sell distribution tactics

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SUBSCRIBE AND WIN WITH JANDS!

Celebrating 53 years of Jands 'Setting the Stage', every subscriber to the print edition of CX Magazine from October 2022 to September 2023 goes into a monthly prize draw* to win a prize from Jands, culminating in the huge Grand Prize draw to win a \$17,500 L-Acoustics Home Stereo System in October 2023!

Every edition of CX through October 2023 will feature a centrefold drawing from Jands' past, present, and future. The Grand Prize winner will also get a custom printed copy of all 11 centrefolds, and a lifetime subscription to CX!

The Prizes

March 2023 Shure MV7 Silver + Shure SRH840As (RRP \$748)

April 2023 Biamp Vidi250 (RRP \$1,315)

May 2023 Furman AC-210AE Power Conditioner (RRP \$445)

June 2023 KRK GoAux 4 (RRP \$779)

July 2023 Pioneer DJ PLX500 Black (RRP \$819)

August 2023 Shure AONIC 5s Clear (RRP \$879)

September 2023 Electro-Voice EVERSE 8 (RRP \$1907.40)



GRAND PRIZE!

L-Acoustics X4i 2.1 Home Stereo System
2 x LAC-X4i loudspeakers and 2 x LAC-XU4i brackets, 1 x LAC-SYVA-SUB subwoofer, and 1 x LAC-LA2Xi amplifier and processor **RRP \$17,540**

PLUS 11 x printed Jands Centrefolds and a lifetime subscription to CX!



Scan to enter







JANDS
Setting The Stage for
53
YEARS

The Eric Robinson Memorial Museum

In a huge space at the rear of the second storey of Jands HQ in Mascot, NSW, there's a new multipurpose space referred to as the Eric Robinson Memorial Town Hall, named for one of the co-founders of Jands. It's appropriately named, as it's the space once occupied by Jands Production Services (now JPJ), where Eric ruled until his passing in 2015.

The Town Hall is now fitted out with the latest in conferencing gear in the form of Shure MXA910 Ceiling Array microphones and Dante-networked ceiling speakers that create an amazing voice lift environment. Big projection screens are automated, and PTZ cameras focus on those presenting automatically. It's a beautiful set-up that Jands use for tech training, staff meetings, and more.

At the rear of the Town Hall sits tech from another era entirely, in the form of the Jands Museum. This is an amazing collection of gear lovingly salvaged, rescued, and

otherwise acquired by Jands staff, that represents their manufactured output from the late 1960s right up until the 2020s, when production ceased.

Jands co-founder and current Director David Mulholland has been one of the driving forces behind the museum's collection. "I started quite a while ago, watching online auction sites for old Jands equipment to come up," he explains. "We had a reasonable collection stored in a separate building here in Mascot, but not many of either the very early or more recent products. When JPJ moved out of

the space, we decided to repurpose it as the Town Hall. Building the collection into a dedicated museum in the space made sense, as this is where a lot of people will come when they visit the company."

Some of the very earliest Jands products are displayed in the case pictured left. The twin strobe at the top was designed and sold by Bruce Jackson & Philip Storey when the company traded as J and S Research Electronics. Next down is a colour organ, a power amplifier, then a Strand Electric dimmer that Jands designed and made the electronics for. "Jackson & Storey won the contract shortly before we purchased their business and had built several batches before we took over," recalls David. "We went on to build hundreds at a time, and it helped establish our manufacturing business. We couldn't afford a specialised wave soldering machine to solder the circuit boards, so we bought a Sunbeam electric frying pan, filled it with solder, and dipped them in that to speed up production. When a tax inspector came out to audit our books his eyes lit up when he saw we'd claimed the frying pan as a tax deductible expense. He thought we were trying it on, but ended up having a laugh when he saw what we were actually doing."

Other highlights in the collection include Jands' first computerised lighting board, the Aurora, designed by now-billionaire WiseTech Global CEO Richard White, who joined Jands in 1982 as head of R & D when his business at the time, Rock Industries, sold out to Jands. There's also one of five massive 12-send foldback desks, standard in Jands' concert sound systems through the 80s.

Jands are very keen to acquire examples of products they don't have, and have given CX a 'Wanted' list. "While our PA speakers are too big to fit in the space, we plan to add some photos showing the progression from columns to four-way systems and composite boxes," David elaborates. "Interesting things come up but can be difficult to secure. For example, there's one of our JL72 lighting consoles in Adelaide. It's a very large 72 channel, two pre-set board with A/B switching and an external matrix panel for patching scenes and chases. I was told that the venue is government owned and there's no mechanism to allow them to sell it, but they are allowed to throw it out. We're also keen to find one of the smallest products we made; an SM 1 DI box; we have an SM 2, but not its predecessor. There are a lot of other units we'd like to add to our collection - I'm sure they're out there somewhere!"



JANDS' MOST WANTED

If seen in the wild, contact David Mulholland via email dmulholland@jands.com.au



Single Strobe

Jands 'Party' strobe

1968-69



Chaser

3 Channel Chaser

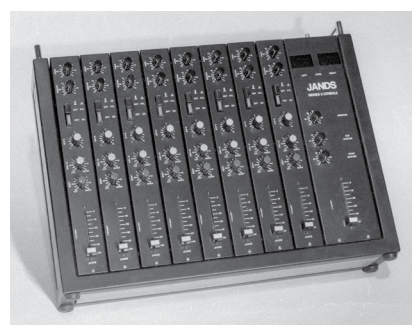
1968-69



Power Brick

100w Power amp module
(Storey, Macpherson & Jackson)

1968-69



JM 3 - Retail Audio Console

Jands Series 3 Console. 8 inputs with 2 ch eq, Ch on/off, PFL, Aux and Echo sends. Stereo Output, Headphone monitoring

Mid - Late 1970s



PA Mixer / Amplifier

Jands 4 channel 100w PA Amplifier / Mixer

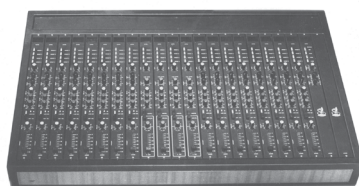
1968-69



JM 1 - Retail Audio Console

Jands Series 1 Console. 6 inputs with 2 ch eq, Aux send. Stereo Output, Headphone monitoring

1972



JM 4 - Pro Retail Audio Console

Jands JM 4 Console. 16-254 inputs with 3 ch eq, Ch on/off, PFL, Aux and Echo sends. Stereo Output, Headphone monitoring

Mid - Late 1970s



JM 8 Pro Audio Console

Jands JM 8 Audio Console. 32 inputs, 4 groups, 4 band Parametric EQ, 4 x Aux / FX sends

1982



JX 3 Crossovers

Jands JX 3 2 Band, 3 Band & Stereo 3 Band crossovers

1973



JX 5 Crossover

Jands JX 5 4 Band Crossover

1981



JX 7 Stereo Crossover

Jands JX 7 Stereo 3 Band Crossover

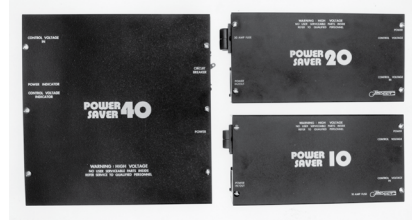
1991



SM 1 DI Box

Jands SM 1 DI Box. Battery powered

1982



Powersaver Dimmers

Jands 10A, 20A, 40A Powersaver Dimmers

1984



Ezicom E400 Family

Jands Ezicom E400 & E200 Talkback Master Stations, E300 & E100 Substations

1992

KATIE MURPHY

PANTHER, 2100-LFC, and the Future of Loudspeaker Design

Meyer Sound's Engineering Director - Acoustical and Mechanical Katie Murphy has been with the San Francisco-based manufacturer for just over six years now, and in that time has presided over some major designs and new product releases, including the record-selling PANTHER large-format linear line array loudspeaker.

Proudly flanking their newest release, the 2100-LFC low-frequency control element (which most of us would call a subwoofer and was designed to complement PANTHER and all of Meyer Sound's line arrays), Katie sat down with me to talk loudspeaker design, advances in technology, and why packing the truck should be the first thing you think about.

So, what career path had led her into the dark art of loudspeaker design? "I was always into my music, and I went to the University of Southern California to study electrical engineering," explains Katie. "While I was studying, I was working on the side as an audio assistant, then technician, for the school's performance venues, one of which is Bovard Auditorium, which had recently gotten a new Meyer Sound system. "Along with the electrical engineering major, I got a minor in music recording. I always knew that I wanted to use my engineering degree for something that was going to get me back to music. Then an opportunity came up at Meyer Sound, and here I am!"

As a sane and sensible electrical engineer, does Katie also see loudspeaker design as a realm that is part science and part magic? "Loudspeaker design can seem like wizardry until you are able to understand some of the ways that sound is unpredictable," observes Katie. "What I've learned is that sometimes sound is unpredictable in a predictable manner. I was lucky to start my career at Meyer Sound in acoustic testing. We were asking ourselves 'how do we create a blind test that is valid and tests the unit for the performance that matters?' When you start with that, you gain an understanding that 'one plus one does not necessarily equal two' in a product. You have to design the product for the performance you need in the field and work your way back."

As this magazine goes to print, this author is likely standing in front of 212 elements of Katie's work in the form of PANTHER as the huge Ed Sheeran "+ - = ÷ x" ("Mathematics")

Tour stops in Melbourne. UK production firm Major Tom adopted PANTHER for the tour, with the PA making its debut in Dublin in April 2022. Both Major Tom and Meyer Sound are

serious about reducing their environmental footprint, and this thinking has been crucial to the development of both PANTHER and the 2100-LFC.



“One of the first things we think of when designing a touring product is the truck pack,” outlines Katie. “Andy Davies, our Senior Product Manager, is very good at reminding the team, anytime we start to talk about how to size something, how many can go on a caster, how many caster stacks can go in a truck. This really matters; this is no longer one of the considerations that are lower down the list of priorities. We started designing PANTHER and the 2100-LFC with an exact number that needed to fit on one truck. And we’ve achieved that; the recent Michael Bubl  tour had the entire Meyer Sound PA in one truck.”

The environmental and economic imperative of fewer trucks on tours is becoming more important as costs rise and artists and their management become more aware of their carbon footprint. Meyer Sound is meeting these 21st century challenges through design-based solutions. “What we’re trying to do is take the previous generation of products and make them smaller, fit in both European and American trucks, gain more power while being more efficient, and improve sonic performance” states Katie. “There are two ways to achieve this; pick a performance class above and size down, or pick something you already have and make it smaller. For example, when we designed the 2100-LFC, we started by looking at the 1100-LFC. The 1100-LFC is a powerhouse and helped set the standard for a

generation of products. We said, let’s take that as a starting point, make it more compact and lighter, with a new amp and new drivers. Now we have a product that you can use where you could have used an 1100-LFC, works with every Meyer Sound system both existing and future-facing, and is in the same performance class.”

With both PANTHER and the 2100-LFC achieving SPL outputs previously only possible with larger, heavier loudspeakers, where are the weight and power efficiencies coming from? “Some of the biggest advances in technology recently have been in materials,” divulges Katie. “We’re sourcing materials that weigh less but offer the same performance and reliability, which allow us to make things smaller but still get the same, if not more, power. We’re now using aluminium where we once used steel, in both the rigging and internal structure. We have found we can use thinner wood that our structural engineers confirm is just as strong.”

Another weight saver has been the adoption of Milan AVB signal distribution, and the change from analog to digital amplifier technology. “The transformer of a LEO line array element weighs more than the entire amplifier chassis of a PANTHER,” confirms Katie. “We’ve also been able to improve our driver materials. Between the magnets and the different pieces of metal that go into a magnetic structure, if

you reduce the weight of every single piece a little by using cutting-edge tech, the whole comes out much lighter.”

Both PANTHER and the 2100-LFC join the Meyer Sound Milan AVB environment that is connected and monitored via their new software platform, Nebra. “When we’re developing a new product, we’re not just looking at releasing that one product, we’re thinking of what ecosystem is best for it to fit in,” Katie elucidates. “What are our users going to use with it? We want to be future-facing and make sure that all of the standards we set are going to be achievable for the next product.”

Standing in the middle of ISE with 40,000 other AV professionals, the difficulties the industry faced over the last three years feel like they are disappearing into history. “Coming out of the pandemic, the engineering team and Meyer Sound as a whole are working beautifully,” concludes Katie. “We’re all coming together to ensure we’re designing solutions, not just a box. We don’t want to release a box every year just for the heck of it; the industry is now in a place where that no longer makes sense. We’re proud of the fact that we’re introducing a product that the market wants and has been asking for, taking feedback, and then incorporating that into our next product. We feel good about the way we’re doing things.”





Q-SYS AT ISE

CONTROLLING THE MESSAGE

For those exhibiting at the ISE tradeshow, there's an award for best stand design up for grabs. It's handled and judged by EXHIBITOR magazine and a jury of "highly esteemed designers and marketers, who have no connection to the show and its exhibitors." Epson took out the gong in 2023 and respectfully, the judges got it wrong. Yes, the Epson stand had great art, immersive projection, and was beautifully made, but the best stand at ISE, hands down and by several miles, was QSC's Q-SYS experience.

I'd never thought I'd be penning a piece praising a trade show stand, but here we are. On approaching the stand, which was quite monolithic, you saw; not much really. A big white wall, a reception desk, a café to one side, a rope line, and a door. Not a single product in sight, but many QSC staff. In order to find out what was behind the door, you had to book in for a tour.

QSC's Senior Digital Marketing & Global Communications Manager Kristine Fowler told me as I booked in that they'd "taken a risk and done something really different." It was worth the risk. This was the single best

piece of live product promotion and technical communication I've ever seen.

Our small group was ushered through a door into a room around two meters by two metres. On the wall were two vertical displays flanking the next door. Various touch panels, a camera, and loudspeakers were also installed; all QSC, of course. When our entry door was closed, a contact closure sent a message to a processor somewhere, and we were off. The lights dimmed and changed colour, the displays sprang to life, and right there virtually in front of us were the legends themselves, Patrick Heyn, Vice President of Marketing at QSC

and Nathan Makaryk, QSC's Senior Training Manager. Or Pat and Nat, as they're commonly referred to.

I've spilled several litres of ink over the years raving about the brilliance of Pat and Nat's technical communication. They met at college and did improv and stand-up comedy together. Hiring two people with chemistry and skills like this to be the face and voice of products that can be spectacularly dull (to some, anyway) is just as brilliant as QSC's core engineering skills.

It was explained to us that we were going to go on a tour through how QSC's Q-SYS environment is actually implemented and used in the real world, progressing through a series of functioning rooms built to simulate various use cases; meeting room, education, huddle space, tech support. I was invited to enter my name and company name on a touch panel next to me. Others were invited to use another touch panel to alter the colour and brightness of the lighting. When it was time to go through the next door, a computer-generated voice used the text I'd entered to announce "Jason from CX is ready for the meeting now" and we were ushered through.

The next space was a standard corporate meeting room, with an actual Q-SYS product expert in it to talk us through. There were table mics, screens, loudspeakers; exactly what you'd expect. A simulated Teams call ran as a video. It included a demo of Microsoft's new 'Spatial Audio' feature in Teams that promises "immersive meetings"; a rather grand term, considering it's just left-right panning of the audio relative to where someone's video feed is displayed on the screen. Calm down, Microsoft marketing. Then another interesting touch; one of the table mics wasn't working, so our host logged a request for AV support via a

single touch on a touch panel, prompting us to "remember that for later."

We exit to the next room and BAM! The human espresso machine that is Nathan Makaryk is there in person, delivering with all 10,000 Watts of his power. It's a simulation of two huddle rooms, and all the ways Q-SYS can handle collaboration cheaply and easily. This also included a brilliant demonstration of automatic configuration as Nat deployed an 'air wall' by stretching a retractable nylon crowd barrier strap into a bracket with another contact closure in it, triggering actions from Q-SYS.

Nat's a hard act follow, and we then went in to an education simulation. This was the most complicated set-up, AV-wise, and featured a high channel count Dante implementation in an auditorium style system that could be switched from lecture mode to full manual operation by production staff, including camera control and audio desk.

The pièce de resistance was the final stop; the nerve centre. Here, another Q-SYS expert played the part of our humble hero, the AV technician, presiding over all the control and monitoring aspects of the whole stand's Q-SYS system on multiple screens. Due to everything that was going on in the stand, this was legitimately the size of a small corporate office.

We were asked to recall the cry for tech support help from the first room. And there it was, in a custom GUI on a screen, pre-populated with four replies that the tech could press to instantly send a message to the touch screen, there were three stock replies along the lines of "We'll be right there" and "We're rebooting the device remotely, please wait for 30 seconds", and right there at the bottom right of the screen, which they didn't bring attention to, was "Have you tried turning it off and on again?" Brilliant!



Actual Nat in the Huddle Spaces



Virtual Pat and Nat



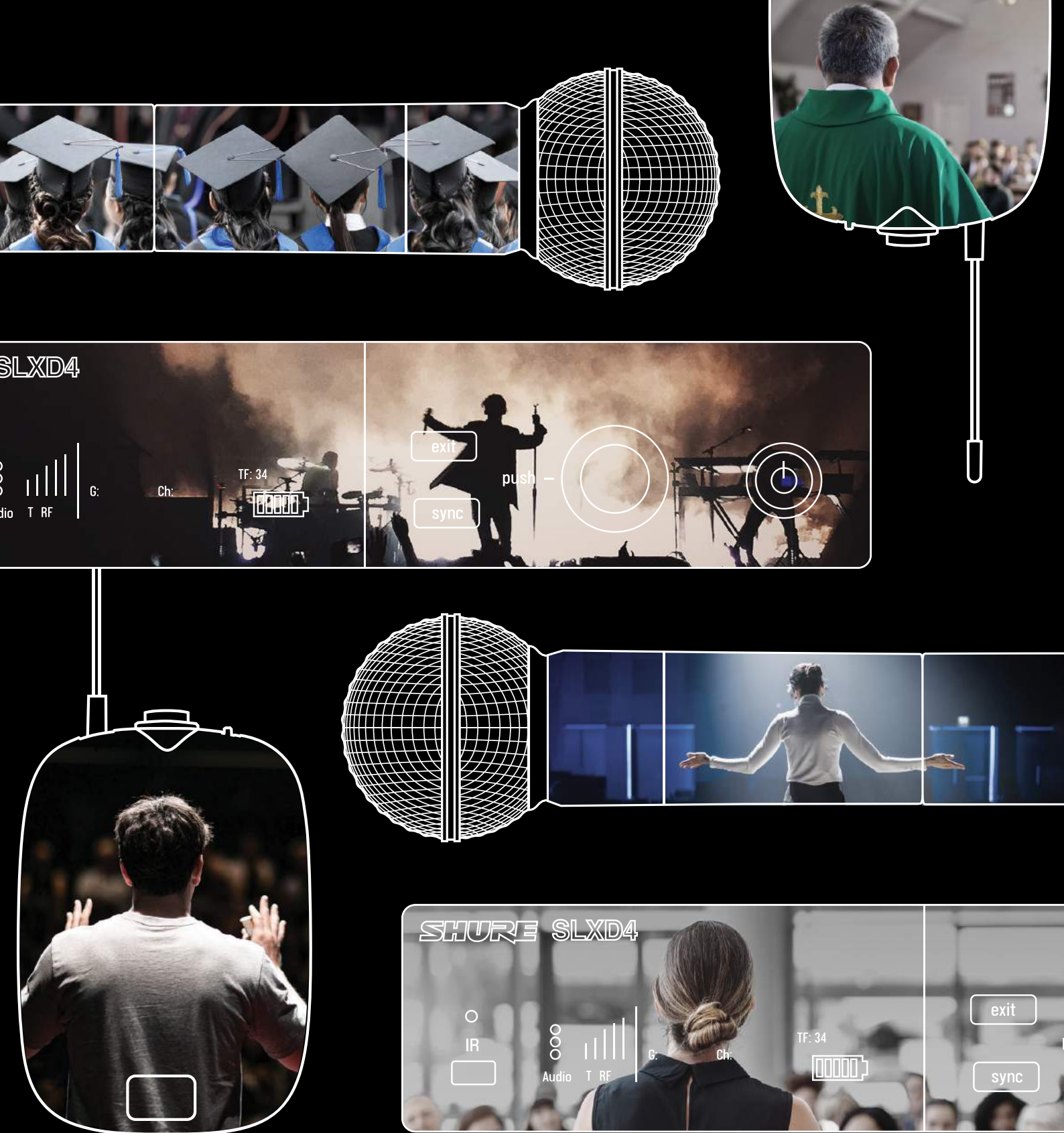
Our AV Hero and Kristine Fowler



The Education Space



Full manual control in the Education Space



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ISE 2023

BARCELONA, SPAIN



EVERYTHING, EVERYWHERE, ALL AT ONCE

After a three year forced hiatus from ISE, and my first year at the show's new location, I am happy to report that the 2023 edition did not disappoint. Attendance was massive and high-quality, the representation and quality of exhibitors excellent, and the overall experience of visiting both the show and the city world-class.

ISE has now cemented itself as the premiere trade show for much of our industry. Video, audio, integration, and control are all totally covered. Next year, the show is adding a hall that's half-dark and smoke isolated, so hopefully the lighting industry will turn up in force. That's really the only thing keeping ISE from being the one-stop-shop for everyone, from live production to system integration. Chuck in a few more microphone manufacturers and some studio gear and we'll have a full house.

There's always a lot of talk on the stands of which other shows we'll either be going to

or exhibiting at. Most people are now calling time on PL+S in Frankfurt, and putting most other shows into the 'regional' or 'specialist' categories. I, for one, would be quite happy to make ISE the only show I go to all year, on the provision that they can expand the lighting and staging sections.

While there weren't many major product releases, there was enough to pique your interest on most stands. Technology standouts for me were Brompton's Tessera G1 LED receiver and the profusion of MicroLED. Having only seen a MicroLED screen for the first time in August 2022, I was pretty surprised to see almost every LED manufacturer now cranking out their own version.

I also got to experience the German audio phenomenon that is Holoplot, and their X1 Matrix Array in their demo room. The hype was lived up to. Their 3D audio beamforming and wavefield synthesis that steers sound both vertically and horizontally is not only capable of some brain-melting effects and applications, it also just sounds great as a standard PA.

The biggest impact of the show was more conceptual than product oriented. The much-touted AV 'convergence' of the 2010s is now just everyday reality, so much so that no-one even uses the word. What we're seeing is the

first real changes to how companies approach business and product development as a result, a trend that accelerated greatly due to the pandemic.

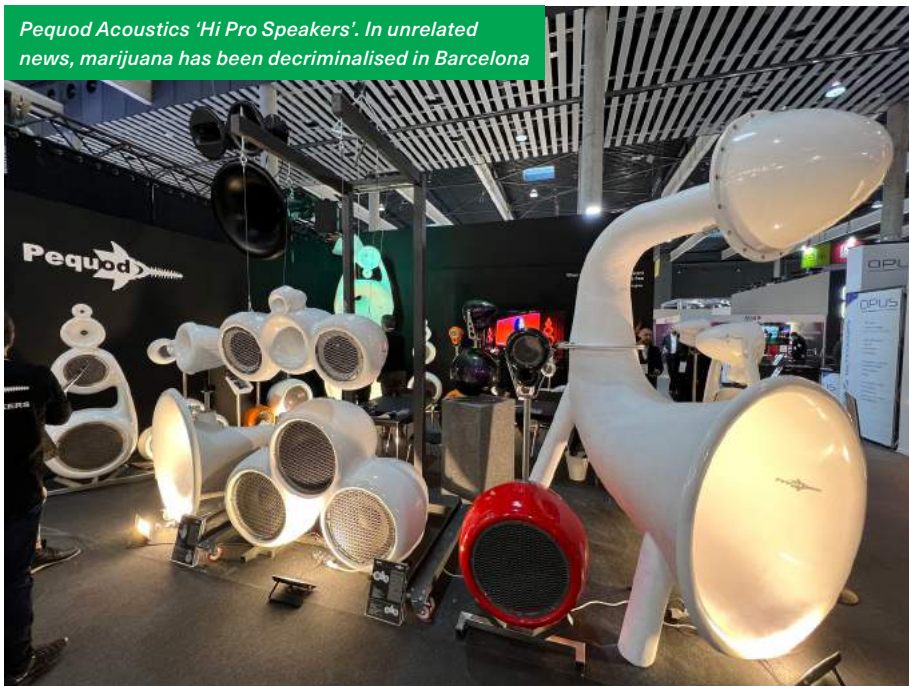
The subscription and software-as-a-service business models from the IT end of the show are permeating into the worlds of hardware. 'AV as a service' was a concept being seriously discussed. While no-one's cracked the model yet, the rewards will be great for those who do. Tech giants like Google and Zoom are already creeping into domains that are traditionally the remit of the system integrator and AV provider; their business models will come with them.

On The Ground

The size of ISE is staggering. Even attending on all four days, every hour the show is open, it's not actually possible to absorb absolutely everything. We pick our must-sees, cement our existing relationships, and hope that happy accident leads to those random discoveries that make coming to such a big show worth it.

Despite there being approximately 100 less exhibitors than when ISE was at its peak in Amsterdam pre-COVID, it feels much bigger due to the long, spread out, linear nature of the Gran Fira Barcelona. It takes an epic effort to get from Hall 2 to the far-flung audio demo

Pequod Acoustics 'Hi Pro Speakers'. In unrelated news, marijuana has been decriminalised in Barcelona



rooms of Hall 8, and each Hall in between is the size of InfoComm in Las Vegas, or, in Australian terms, twice the size of Integrate.

On Day 1, the show opened with a huge bang as crowds surged into the entrance. Wait times just to get in the door went up to 30 minutes. A rave soundtrack gave it a festival feel and pent-up demand was palpable. Throughout the day the crowd was solid, engaged, and big enough to make doing things like getting food or drink difficult. This show is so big and busy, King Felipe VI of Spain did an official walk-through, and not only was I not affected in any way, I didn't even notice, and neither did anyone else I talked to.

Official figures put the attendance on Day 1 at around 33,000. Day 2 surprised everyone by being even busier – 44,000 attended. Wait times to get in at the main south entrance went up to an hour. Physically getting around the show was like being at a slow-moving music festival. This was really the only criticism anyone had of the show; they need to get better at handling big crowds, and have vowed to do so next year.

Everything, Everywhere, All At Once

As a technical journalist covering these events, it's your job to find a common theme or overall 'vibe of the thing' to communicate. In a show that covers everything from HVAC to room booking to lighting to AoIP and everything else that plugs in and does something, that's challenging. It eluded me for most of the first day. Then I spent some unstructured time in an area I wouldn't normally be; the big end of corporate software land. In particular, Google and Zoom.

The past three pandemic years produced an environment that fosters innovation in a way not dissimilar to that of a world war; a vast global experiment that everyone was forced to participate in, like it or not. Innovation was not optional; it was adapt or die. What we are now seeing after the chaos has (mostly) passed is the results of what was experienced and learnt.

The world was forced to adopt anywhere, anytime, browser-based BYOD video conferencing and remote working en masse. While the IT world had been spruiking it for years (I recall doing my first Webex meeting back in the late 2000s), it wasn't widely adopted. That has obviously changed.

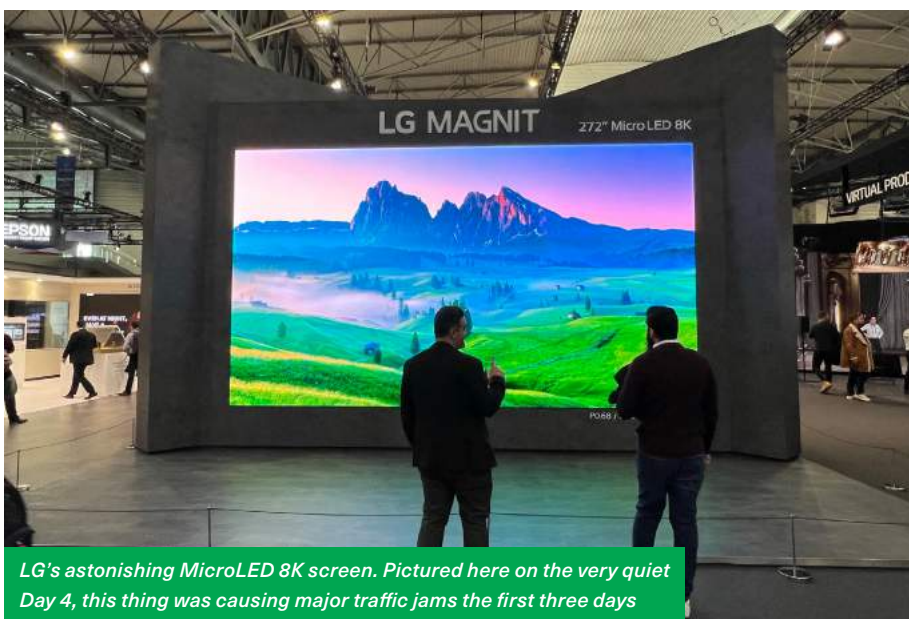
But what wasn't apparent until now is all of the opportunities and markets that companies were exposed to for the first time, which is now guiding their products and plans. Take for instance, Zoom. It's not just the 'less corporate' VC platform that you were more likely to have Friday night drinks with your friends in lockdown than Microsoft Teams. Zoom got a taste of what's possible. They are now offering digital signage, room booking, a Slack-like social platform for work, and a Microsoft-like organisational backbone.



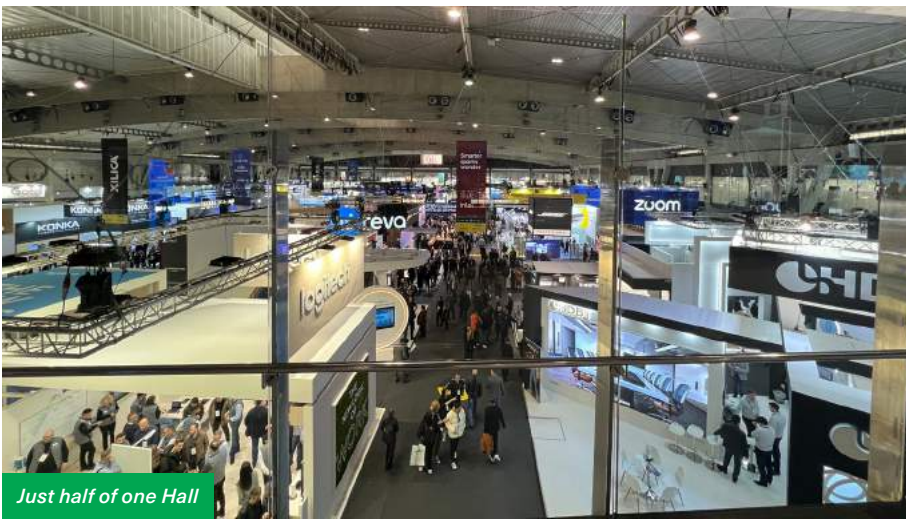
Hospitality Barcelona-style



Possibly the worst job at ISE



LG's astonishing MicroLED 8K screen. Pictured here on the very quiet Day 4, this thing was causing major traffic jams the first three days



Just half of one Hall

Google, while ubiquitous, didn't get as much of the pandemic pie. But witness Google Meet leveraging integration with Appspace, a company that started out as digital signage management platform, but now offers room booking, content management, a social stream in the workplace, and a type of broadcasting.

I sat in on the Appspace demo on Google's stand. Any device (screen, computer, tablet, phone) can run the platform and be incorporated, managed, broadcast to, and used. We're in new territory now, where VC, social media, chat, wayfinding, content, training, remote control and even EWIS are all on the one platform, across any device, anywhere in the world, all as software-as-a-service.



Appspaces's Thomas Philipart de Foy demonstrating on Google's stand

Physically, ISE is laid out from the most to least physically and philosophically flexible parts of the industry. The first companies you encounter on the way in (Google, Appspace, Zoom) are doing things we don't even have words for yet. As you progress through Halls 3, 5, 6, and 7, everything becomes more solid and familiar, until you end up in the world of loudspeakers and lighting fixtures, which, despite now receiving their control and commands via network, are still designed to concepts laid out a century ago. Yes, there is better, faster, cheaper, but the innovation that really makes ISE exciting is going to take a lot longer to get to the other end of the building. Which due to the distance, so was I.



ISE STANDOUT

Brompton Technology's Tessera G1

Brompton Technology has unveiled the world's first LED panel receiver card capable of delivering 1 million pixels, RGBW and 1,000 fps. And you've gotta love the fact the 'W' in RGBW stands for 'Whatever'.

One of the standout bits of tech at ISE isn't even in a product yet. We had the pleasure of being introduced to the new Tessera G1 LED receiver card by Brompton's Product Lead, Cesar Caceres. The term 'game changer' gets thrown around a lot, but the capabilities of this card are going to completely revolutionise LED panel performance.

Almost every single LED manufacturer at ISE (and pretty much all of them were there) had a working virtual production studio set-up on their stand; even LG were getting in on the act. And every other LED manufacturer had some version of a MicroLED screen, with pitches getting as low as .6mm. They are of course still incredibly expensive, but pricing will come down as more products come to market. The missing piece of the puzzle in all of this is the receiver cards and processing, and Brompton is taking care of that.

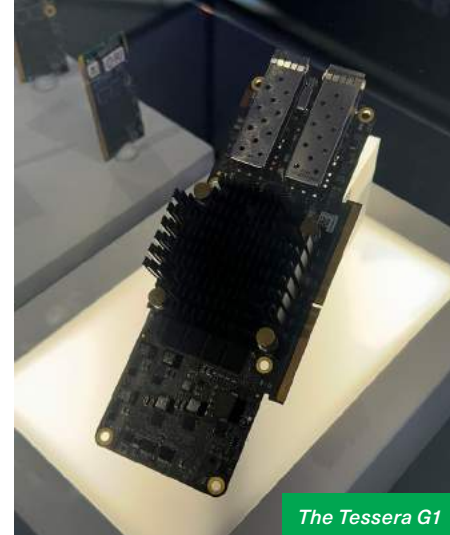
The G1 is the first receiver card to support 10Gb fibre connections direct to the panel. It is also capable of supporting a staggering one million pixel capacity for a new generation of ultra-fine pixel pitch panels, or up to 1,000 fps (frames per second). All this is made possible by a monumental 20x increase in computing power compared to the existing top performer, the Tessera R2+ receiver card, making the G1 a game-changer for the industry.

This latest innovation is a major advance in the company's mission to push the boundaries of what is possible with LED video processing technology. With the G1 receiver card, users can expect a whole new level of exceptionally realistic visual performance, making it a must-have for content creators in the future.

Cesar emphasises that the company's Tessera R2+ receiver card is still optimally positioned to deliver exceptional performance for a vast majority of LED fixtures. In fact, thousands of projects worldwide will continue to use LED panels integrated with R2+ cards with great success. The G1 is the choice for next-generation panels.

"We are definitely not forsaking the R2+ card and all its impressive capabilities," Cesar explains. "We are simply recognising the rapid advancements of LED video technology. As a company, we are proactively positioning ourselves to meet and exceed the future demands of our industry."

Already in talks with panel manufacturers, Brompton is working to integrate the new receiver card as the driving force behind the next-generation of LED screens. Cesar notes that the benefits are not only about the substantial increase in pixels that can be processed thanks to the new card, but that it will also facilitate the integration of additional



The Tessera G1

calibrated channels, which Brompton defines as RGBW, Red, Green Blue and 'Whatever'.

"As with all our systems, we offer flexibility by keeping the possibilities open for the extra emitters. One of the most useful colours we anticipate panel manufacturers wanting to incorporate is white," continues Cesar. "When the colours red, green, and blue are used to represent 'white', the light spectrum they produce may not always look natural and align with the viewer's expectations. Adding a white channel provides an improved spectral output for the panels. And the G1 has the necessary power to cope with the complex algorithms necessary to maintain colour-accurate calibration and control with extra emitters. Also, the only way to achieve colour accuracy from panels with the new RGBW emitters is by calibrating them, and our unique Dynamic Calibration system was designed to enable this possibility."

When it comes to in-camera visual effects, LED panels often contribute to lighting the scene, so having additional light emitters in the LED panel represents a significant leap in colour-rendering accuracy on skin tones and foreground elements blending with virtual environments. "In future, if you want a panel that features an extra emitter, or one that boasts an ultra-fine pixel pitch, the G1 receiver card will be the ideal solution," Cesar adds.

Another pioneering feature of the G1 receiver card is its capability to support a 10 gigabit connection, thus providing tenfold the bandwidth of the current R2+ card and positioning the G1 as a 'future-proof' solution.

"What Brompton has created with the G1 is not only poised to impact the live events and virtual production sectors, but it also has the power to influence other industries," Cesar concludes. "For example, by adding a white emitter, it will be possible to create realistic lighting with a much more potent source. The ultra-fine pixel pitch panels the card is capable of supporting make it suitable for use in 360-degree simulators, or even research centres. The opportunities and applications are virtually limitless, and we are thrilled to be a part of driving the advancement of LED technology, which will lead to incredibly realistic visual experiences in the future."



Fohhn gets Squared Away

ISE is a great place to cement long-distance relationships, and that's what CX, Audio Brands Australia and German loudspeaker manufacturer and beam steering specialist Fohhn were all about on their elegant and very well-watered stand.



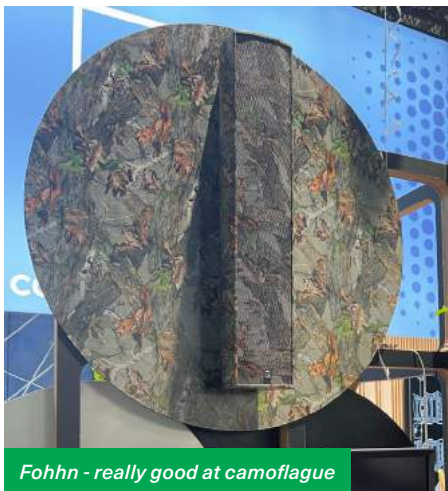
L to R Fohhn's Uli Haug and Christian Bollinger, ABA's Don McConnell, and Fohhn's Samuel Hartmann

Audio Brands Australia recently took distributorship of the brand in Australia, after a long stint at CMI Music and Audio. Responsibility within Fohhn for the Australian market has also changed, with Sam Hartmann taking over from Christian Bollinger, who many CX readers would have met at CMI events over the years.

Lucky Sam also got to commission a recent large-scale installation of Fohhn at Melbourne's Federation Square, one of the last projects delivered under CMI. With a beam steered PA now installed on the main stage and multiple units throughout Fed Square's walkways and public spaces, how did Samuel tackle the notorious horrible and reflective acoustic?

"Beam steering is the answer," confesses Sam. "It allows you to precisely adapt the beam of sound to the area you require it and keep it away from where you don't. We also had to keep in mind that the main stage PA is facing a slope made of hard pavers that is uneven. With beam steering loudspeakers that have real-time adjustment, you can go on-site, take the beam, and put it in the right position. The other aspect that was perfect for Fed Square is the integration that makes the speakers almost invisible; that's a unique combination."

Audio Brands Australia's Director Don McConnell is finding Fohhn fits beautifully into ABA's now extensive range of solutions. "We get approached by a lot of integrators and consultants for solutions that are unique, acoustically challenged, or with speakers that must be hidden," explains Don. "It's been a bit of a gap in our range and Fohhn fills it perfectly. It's a big range of high-quality gear with great factory support. We'll take it as far as it can go."



Fohhn - really good at camoflage



Fohhn's Sam Hartmann with the surprisingly powerful and gorgeous sounding Media Scale-1 loudspeaker



INFILED GOES LARGE

At the European HQ of the Sino-Australian Success Story

The relocation of ISE to Barcelona from Amsterdam suits LED manufacturers INFiLED very well; their European office and showroom just happens to be in a beautifully renovated 19th century building in the heart of town.

As such, the INFiLED/VuePix Group took full advantage of the location, building a massive and incredibly impressive stand showcasing their wares, and were in full force, with both CEO Michael Hao, who runs things from headquarters in Shenzhen, and co-founder and Managing Director Cuono 'Con' Biviano working the stand and taking care of international customers.

On the Stand

CX readers also know Con as the CEO and Managing Director of ULA Group, and I caught up with both Con and ULA's Victorian General Manager on the INFiLED stand. In chatting with Con about upcoming INFiLED installations, he divulged he was travelling after Barcelona to visit several key installations in progress, and the European and Middle East-hopping itinerary he outlined to me would make a travel agent faint.

The stand itself was divided into ten different 'installations' that covered markets including

control rooms, xR & virtual production, rental, retail, corporate and DooH (Digital out of Home). The stand's LED mesh ceiling created from INFiLED's TITAN-X panels was particularly stunning. TITAN-X features a high transparency rate of 70% and a pixel pitch of 8.3mm, offering outstanding display performance for state-of-the-art stage visual effects. Each cabinet offers extensive load capacity and advanced overall stability due to its unique rear triangular foldable wind bracing system which can resist wind speeds of 20m/sec for outdoor events, while the screen can reach heights of up to 24 metres.



The extra-large 1200x1200mm cabinets feature a unique design with innovative lifting from the dolly that quickens installation time. The foldable bracing design of each cabinet saves on storage space and even with extra accessories, the cabinets can still be transported in their dollies. Featuring a high brightness of 5000nits and IP65 protection, it's a reliable and robust choice under any light and weather conditions. The TITAN-X can be customized and assembled at angles of ±15 degrees, giving it the ability to adapt

to the unlimited stage and creative design requirements, such as a curve effect.

Taking up their new tagline 'Screen Your Dreams', the stand also featured the new WP Series. The new flagship indoor product boasts 4K resolution, 4-in-1 technology, and a pixel pitch of just 0.9mm. This high-end solution is designed for corporate, control rooms and any other install that needs reliable and high-performing technology. The WP LED series cabinets can be flat, curved, or cornered for a

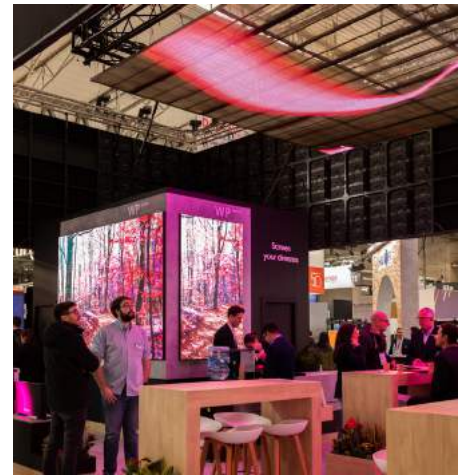
variety of installation requirements, offering a standard 16:9 aspect ratio, a high refresh rate of 3840Hz, and outstanding 14-bit grayscale.

Featuring an advanced operations control system with multi-user management capabilities, dual-processor, and built-in redundant power supplies, WP Series is designed for 24/7 non-stop operation. Front-end maintenance can be carried out without dismantling, and WP meets the strict requirements of EMC class B certification.

For outdoor applications, INFiLED were showing off MV Series, which features IP65 protection, high brightness of 5.000nits, high refresh rate of 3840Hz, as well as front and rear serviceability. This product series offers limitless customisable options and offers curved, cornered, and mesh options.



Woohah's Arosh Fernando, ULA Group's Paul Rumble, and Cuono Biviano, Co-founder and MD of the INFiLED/VuePix group





In The Showroom

Most importantly, INFiLED were hosting us at their Barcelona showroom for music, tapas, and drinks. After meeting on the stand at the close of the show, we were escorted to a bus pick-up, and filled a full size coach. A short and pleasant drive through town to Avinguda Diagonal 361t, and we disembarked and walked down to the basement level and into the showroom.

The INFiLED team have done a fantastic job showcasing their products in Barcelona, as the photos attest. Con, Michael, and the team really know how to do hospitality, and the evening was a fantastic showcase of what the brand is capable of, as well as a great networking opportunity.

INFiLED is now rolling out its xR and virtual production solutions in six different showrooms across the globe. They each integrate a complete studio set, powered by leading industry brands like disguise, Canon, ARRI, Ncam, and Brompton, to create a first-rate technological ecosystem. The studio setup in the Barcelona Showroom is the first of a global rollout. Dubai, Los Angeles, Shenzhen, Malaysia, and Tokyo will follow later this year.

"We were very excited and proud to host many of our key partners and guests, both from Australia, New Zealand and around the world, at our European Sales Headquarters, and welcome them to our new showroom downtown in Barcelona," says Cuono Biviano. "Our network has grown exponentially over the past decade, and we are working on many amazing LED projects and productions globally. So it is really important for us to bring key designers, system integrators, and rental partners together. With ISE being held in Barcelona now, it provides the perfect opportunity to do that in the same location."



Scene Change's Anthony Pellizzari with CX's Jason Allen

POWERSOFT



Waiting...



Et Viola!



Here we go...

The first big reveal of the show, PowerSoft's Luca Giorgi and Claudio Lastrucci literally lifted the veil from their new integrated amp and DSP platform, UNICA. There are six models; three with 8 channels and three with four. In Italian, Unica means both 'unique' and 'single', riffing on the fact these are 1RU, all-in-one solutions that are unique in the market.

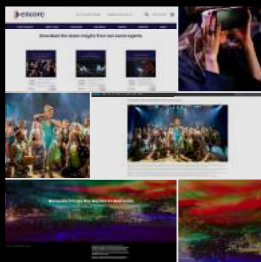
The UNICA range comprises three four-channel (UNICA 9K4, 12K4 and 16K4, with 9,000W, 12,000W and 16,000W respectively) and three eight-channel models (UNICA 2K8, 4K8 and 8K8, with 2,000W, 4,000W and 8,000W).

Featuring high power density, top-shelf sound quality and class-leading efficiency, and backed by no less than five new patents and four existing ones, UNICA represents the third and latest generation of Powersoft amplifier platforms, designed to meet the requirements of any size of installation within a single product family.



PowerSoft's Luca Giorgi and Claudio Lastrucci with Unica

Creative Services for the AV and Entertainment Technology Industries.



Specialist Content Creation



Integrated Print & Digital Media



Marketing & Business Development



Professional Event Services

VCS Creative understands your products and services because we've used them professionally. We are AV, sound, lighting, video, comms, and staging professionals working as content creators and AV and entertainment technology business specialists. You don't have to explain your products to us; we know how to sell them to your potential customers.

AMX



AMX's Rob Norton with VARIA

AMX Varia Touch Panels are six models of professional-grade panels that can be customised instantly with the use of what AMX are calling 'personas'. Varia personas are pre-loaded apps that define the entire panel experience, and take it over. Personas include Web Kiosk, Zoom Rooms Controller, AMX Book Room Scheduling, and AMX G5 Control. What's interesting about this is they can run a browser, which means you can actually use them for third-party control systems like Utelogy.

Varia panels offer wall, glass, and VESA-mount capabilities, as well as optional tabletop mounting accessories. Varia panels include advanced security protocols, and an integrated wizard streamlines initial setup. CloudworX Manager ensures seamless future support through mass configuration and updates.

AMX's N2600 Series of 4K encoders,

decoders, and wallplates are cost-effective and robust AVoIP solutions that deliver high-quality, low-latency 4K60 4:4:4 streaming that is ideal for live video and detailed content in classrooms, meeting spaces, courtrooms, bars and a wide range of streaming applications. Loaded with features that define performance, reliability, and security, the N2600 Series

includes full-bandwidth USB 2.0 signal transport, video preview images, high-security network support and much more. High-compatibility, low-bandwidth 1080p H.264 support, dual-stream encoding, and global wallplate options further ensure an extremely affordable, world-class streaming experience.



N2600 Series wallplates

Finally.

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client livestreaming.

BetterCast

Visit bettercast.io and sign up for free now.



Biamp's Chris Barrow with Voltera

BIAMP

Biamp's new Voltera amps were apparently designed by ex-Lab Gruppen staff.

Not exactly designed to power line arrays, the Voltera family includes four models. "Engineered for plug-and-play simplicity with no software configuration, our Voltera power amplifiers are compatible across all DSP architectures, making them an ideal choice for integrators across a wide range of applications," said Joe Andrusis, Executive Vice President of Corporate Development at Biamp. "As with all of our products, we designed them to make installation and use as simple as possible. The sleek, compact design and environmentally friendly power consumption of the Voltera family means that they can be mounted under a table, on a credenza, in plenum, or on a rack, giving integrators extreme installation flexibility."



NAS's Shane Bailey with d&b's XSL line array, in cross-section

The German PA manufacturer was showcasing the XSL line array in a jaunty cross-section display.

The XSL is the smallest and latest release in the SL Series. The XSL System comprises installation specific and mobile touring variants. XSLi for permanent installations, is ideally suited to venues with a high dependency on the clarity of spoken word, together with the need for high power, full spectrum performance. The XSL mobile version addresses the needs of the broadest range of touring applications. Both XSL and XSLi can be deployed as a stand-alone, self-contained package, or as a delay, or fill system to accompany its GSL and KSL siblings.

Also on the stand and in the flesh was the 5D, a Class D installation amplifier with flexible power distribution across its four output channels. It uses DSP to incorporate loudspeaker-specific configurations for smaller loudspeakers from E-Series, xS-Series, xC- and T-Series, as well as equalisation and delay functions. A linear setup is available, allowing the amplifier to be used as a linear installation power amplifier.



d&b 5D

D&B AUDIOTECHNIK



RTI at ISE

RTI

Celebrating their 30th birthday at ISE, we had a lovely chat with the team.

While their origins are in residential, RTI control systems are being used more and more in the commercial field. So much so that they've upgraded their website to offer both a commercial and residential portal on arrival on their home page. You don't want to scare off professional integrators!

Sometimes it all gets too much...



The *Support Act Wellbeing Helpline* is a free, confidential counselling service that is available to anyone working in Australian music who needs to talk to someone about any aspect of their wellbeing.



THE SUPPORT ACT WELLBEING HELPLINE IS MADE POSSIBLE WITH THE SUPPORT OF:



EAW

The new KF210 2-Way 2 X 10" Line Array features a max SPL of 141dB, three-point rigging and built-in weather protection.

Despite its small form, there is no sacrificing output for size with the KF210. This newest solution is physically and acoustically sized to support most events while requiring the fewest resources to deploy. Weighing in at only 27kgs, this line array solution is an ideal option for small crews operating out of medium to large outdoor festivals, corporate events,

houses of worship, performing arts centres or theatres. Featuring dual, symmetrically placed 10-inch woofers, 90 degrees of horizontal bandwidth and a 3" voice coil compression driver mounted to EAW's patented Isophasic Waveguide, the KF210 can master challenging acoustic spaces with accurate pattern control.



EAW's James Bamlett with the KF210



PTZOptic's Geoffrey Robinson with the Link 4K

PTZ OPTICS

Dante AV-H Cameras are here! PTZOptic's Link 4K camera patches in Dante Controller just like audio, but distinguishes video channels with a little video logo.

It couldn't be simpler. Providing simple set up and manageability while offering the latest in auto-tracking capabilities, the Link 4K fits easily into any Dante AV-H workflow. The Link 4K features auto-tracking, 4K at 60fps (Dante supports up to 1080p 60fps), and all-in-one SDI, HDMI, USB, and IP Output.

Recently added to the Amber Technology range of solutions, LEA Professional (pronounced El-ee-ay; it stands for Loud Enough Audio) produce smart amplifiers with a built-in Amazon Web Services (AWS) IoT Core.

They are cloud connected, offer hundreds of loudspeaker tuning presets, and have excellent third party control integration via Open API Protocols using Websockets and TCP. These amps are the future!



LEA Professional's Scott Robbins

LEA PROFESSIONAL



Bosch's Christian Glück with the Dynacord V600:4

DYNACORD

Dynacord's V600:4 is the first member of a new amplifier line for small to mid-sized installations in education, hospitality, retail, houses of worship and more. The four-channel power amplifier has a total power of 600 Watts, and is designed to be robust, extremely versatile, quick to install, and run trouble-free, even under demanding power conditions.

With a compact 1RU form factor requiring minimal rack space, the V600:4 is fully equipped with best-in-class features and innovative new Dynacord technologies. It offers building owners an optimal combination of real professional performance and resource-efficient power consumption, all at a very attractive price point.

BLUSTREAM

Blustream's Martyn Shirley is holding here a product so new we didn't actually get it's name. It was invented for the best possible reason; helping out a neighbour.

This ingenious device takes the eARC out from your TV, de-embeds the audio, sends it to a dedicated Bluetooth transmitter, then puts it back into the eARC output to go back to your audio system. It was created to help out the couple next door, one of whom is hard of hearing and wants to connect Bluetooth enabled hearing aids, so they can watch telly without arguing over the volume or subtitles!



Blustream's Marytn Shirley

Are you concerned about your mate's mental health?

FACT: Most Australian tech crew and roadies have attempted or considered suicide¹!

Support those around you and register for free mental health training



www.entertainmentassist.org.au

Supporting the mental health of Australian entertainment industry workers

¹Passion, Pride, Pitfalls Dec 2014

RCF

Sharing the same cabinet as the recently released RCF ART 9 Series, the COMPACT A Series is a lightweight, high-performance, multi-purpose two-way full-range speaker for fixed installation. COMPACT A's sound quality, compactness, elegant design, and accurate finishing make it the perfect choice for any environment, from nightclubs to corporate spaces.

COMPACT C Series comprises two-way point source speakers for near and mid-distance applications, combining a compact wood cabinet with high output for accurate speech and music reproduction. Constructed from solid birch plywood cabinets with neodymium transducers and a 100° x 50° rotatable constant directivity horn, the speaker can be installed either horizontally or vertically, with optional mounting accessories for walls or ceiling.

RCF BUSINESS MUSIC offers a complete range of products to create audio systems for background and foreground music in public spaces. High audio quality and flexible architecture allows the distribution of different audio programs in multiple environments, each with their own specific acoustic requirements. From small to large systems, the range provides uncompromised sound quality, full processing features, exceptional power, easy configuration, and high scalability.



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LISTEN

ListenIR from Listen Technologies transmits clear, focused sound via infrared light directly to the listener without amplifying ambient noise.

ListenIR systems include a multi-channel transmitter, iDSP software, receivers, and ear speakers, headphones, or earbuds. Venue audio from an AV system, speaker/presenter microphone, or sound system is routed to a transmitter. The transmitter receives and amplifies the incoming audio signal and broadcasts it via infrared light to associated receivers that users wear on lanyards around their necks. Listeners can hear the audio transmitted to the receiver with headphones or earbuds attached to the receiver. They also can use an integrated neck loop lanyard to listen through a t-coil-equipped hearing aid or cochlear implant. What's really cool about the transmitters is that you can wander between different transmitters and pick up different audio, as per the designer's wishes. It swaps over seamlessly too!



Listen's Sam Nord with ListenIR

SENNHEISER

Sennheiser's TeamConnect Ceiling Medium (TCC M) is their new ceiling microphone for mid-sized meeting rooms and lecture or collaboration spaces.

TCC M delivers all the innovation and features of the award-winning TeamConnect Ceiling 2 (TCC 2) to a new segment of the meeting space market. With a coverage area of up to 40m², customers can now bring the power of TCC 2 to their mid-sized meeting space, with a sleek design and at an attractive price-point.



Sennheiser's Jason Grbevski with the TeamConnect Ceiling Medium



NAS's Brad Kivela with the Mighty Mite

SOUNDTUBE

The only pendant speaker that dares to play Steely Dan at trade shows!

The UL-approved and patented Mighty Mite is the only full-range pendant speaker with a built-in subwoofer, eliminating the need to install a

separate subwoofer and subwoofer amplifier. Mighty Mite's redefined aesthetics give designers options for the pendant category they haven't seen before. The sleek ultra-modern look and feel fits comfortably in any décor where design is as essential as sound quality. And it sounds fantastic!

AMPETRONIC



Ampetronic's Jonathon Hoskin with the W5-2

Ampetronic has added a multi-loop driver to its wall-mounted hearing loop solutions.

The W5-2 features 5A RMS output per channel and is designed to provide a cost-effective solution for smaller spaces that require a wall-mounted, multi-loop solution. The voltage headroom per channel is 7.8V RMS. Class D operation ensures increased efficiency and lower power consumption, contributing to low running and maintenance costs. Built-in test tones also facilitate the commissioning process. Two line/mic selectable inputs are available together with a 100V input to allow users to connect the amplifiers to a 100V line system directly. 24V phantom power is also selectable for the mic inputs.

Among a huge amount of new product on FBT's stand, Canto Series stood out. With molded enclosures to avoid undesired resonance, the range includes terminal block In and Thru connectors and new custom coaxial transducers.

Completely designed in FBT's R&D laboratories, the passive Canto series is also available with 70/100V line transformers for multiple applications in fixed installations. A dedicated installation bracket is included for easy mounting and multi-angle adjustment capability. CANTO 8CA, CANTO 8C, CANTO 5CA and CANTO 5CT models are made of sturdy gas-injected polypropylene, while CANTO 3 is made of ABS. All models are available in black and white.



Audio Brands Australia's Don McConnell with FBT Canto Series

FBT

The Martin Rush MH 6 Wash



A quick look back

The Rush MH 6 wash was a lighting fixture offered by Martin as part of the Rush family of lighting fixtures and effects. It is a compact, LED, moving head wash light with RGBW (Red/ Green/ Blue/ White) colour mixing powered by 12 x 10W RGBW LEDs. With a reputation for being a durable, lightweight and great value fixture, it offered a 1:6 zoom ratio (10° – 60°) and a 2,000 lumen output.

The MH 6 evolved from the Rush Par 2 RGBW Zoom. As the name suggests, this was basically an LED par with a zoom range. The Rush Par 2 RGBW Zoom was popular and was a top seller for the Martin Rush family for a number of years. The MH 6 added pan and tilt capabilities to the Par 2, essentially making the MH 6 a moving LED par with zoom. The pan and tilt range for the MH 6 was very respectable, with a pan range of 540 degrees and a tilt range of 200 degrees.

The Rush range is produced by Martin. Some of Martin's best-known products include the Encore range, Viper range, the Quantum range, the MAC 101 and the MAC Aura. From their website - 'Martin Rush series is a range of affordable dynamic lighting and effect fixtures designed to set the scene and enhance your guest experience'. With the Rush range, Martin aims to produce high quality lights and effects while making them affordable too. With that being said, some of the compromises taken

to achieve this will often include things such as size, features, general refinement and light output.

The closest comparison in the Martin range for the Rush MH 6 was the Martin MAC Aura. Funnily enough, both lights are made by the same parent company.

The MAC Aura (and MAC Aura XB) are some of the best-selling compact wash lights Martin has ever produced, in fact some of the best-selling lights, period. To this day, the MAC Aura XB is the benchmark for a quality, compact moving head LED wash light.

Martin Rush MH 6	MAC Aura XB
2,000 lumen output	6,000 lumen output
10 - 60 degree zoom range	9 - 59.1 degree zoom range
12 x 10W Osram Ostar RGBW LEDs	19 x 15W RGBW LEDs
7.1kg	6.5kg
155W	350W
L: 290mm x W: 189mm x H: 360mm	L: 302mm x W: 163mm x H: 390mm
DMX Channels: 14	DMX Channels 14, 25
Pan and Tilt range: 540 200	Pan and Tilt Range: 540 232

Both lights are reasonably similar, the one difference that jumps off the page is the fact that the Aura is about three times brighter than the MH 6.

There are no serviceable parts in the MH 6. It does not need to be opened up for service and maintenance like most other moving head fixtures. This helped keep the light as compact as it was. The one thing you had to do was make sure the fans were clean and clear of any dust and debris. Depending on how you used the lights, you would probably only have to do this once or twice a year.

Lights that were often packed in and out of road cases would often see pan and tilt motors wear out faster than lights that lived on venue trusses full time. LED and motherboard issues would also spell a trip to the repair shop. On the whole, they were very reliable fixtures so long as the fans were kept clean and adequate ventilation was allowed for when using them.

The MH 6 was one of the top selling lights from the Rush family when it was on sale. The MH 6 was initially released in late 2015. It has since been discontinued and only second-hand models can be purchased. Superseding it was the Martin Rush MH 7, an all-in-one hybrid light featuring a beam, spot and wash in one.

One drawback to consider when buying an MH 6 is the output. 2,000 lumens, although respectable, is on the lower side. It might be worth considering what you are putting it

with to make sure it can keep up. Dropping it amongst the higher end offerings of the Martin line up could see it struggle but it should do just fine with lights in the same price bracket and of the same era. Keep in mind too, that lights are only getting brighter.

The MH 6 had adjustable white balance. It also featured four different dimming curve options. Both were very handy features to have, especially when lighting to camera.

The MH 6 was compatible with both 3 pin and 5 pin DMX. It took a DMX footprint of 14 channels. There was no basic/extended mode. They were powered via powerCON. They have powerCON input and output, meaning you could daisy chain them together if you had the right cabling. They drew 155W, or 0.7A on a 10A 240V circuit meaning that, theoretically speaking, you could fit 15 onto one circuit.

The Rush MH 6 was a good value for money wash light in its day. Although the fixture has now been discontinued, many are still in service. The RGBW colour mixing system, as simple as it was, produced a very impressive array of rich colours. They were small enough to be placed in almost any kind of setting, on a truss or on the floor.

In 2015, if you were after a compact LED moving head wash light and value for money was driving the buying decision, the Martin Rush MH 6 would very likely have been near the top of your list.



Lumen output of some of the more popular Martin lights from a few years back:

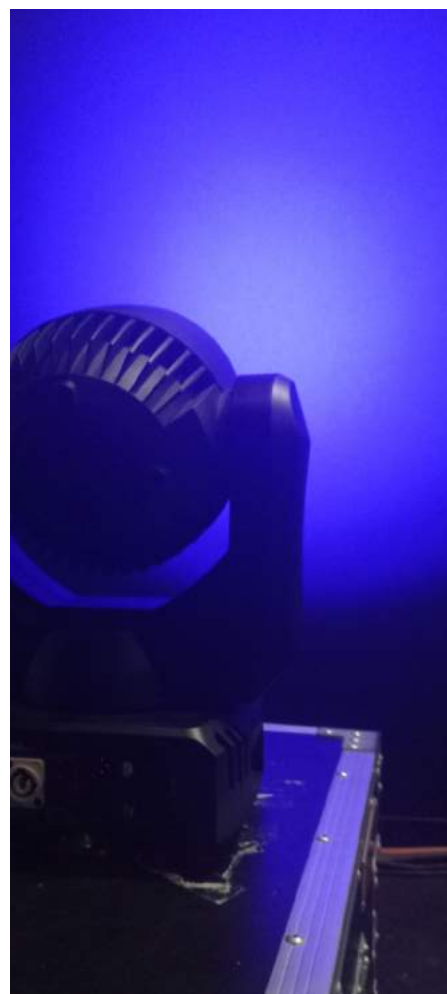
Martin MAC 101: 2,400 lumens

Martin MAC Aura XB: 6,000 lumens

Martin Viper Profile: 26,000 lumens

Martin Rush MH 7: 3,800 lumens

Martin Rush Par 2 Zoom: 2,000 lumens





Who's in charge here anyway?

Over millennia, our societies have developed systems for managing the pecking order of people. Witness autocracy, plutocracy, oligarchy, and the least worst for now, democracy. Businesses have their own structures, dependent on how the owners and managers choose to run them. Some even resemble military organisation in their arrangement (if not execution).

Likewise, each show type has its hierarchy. Theatre roughly goes thus: director > stage manager (SM) > cast > crew. Musical theatre adds in the musical director (MD) who aids direction in rehearsal and onstage. They will work alongside the SM, who controls physical

and technical logistics while the MD ensures that the performers are on song musically. Many solo artists with backing bands also follow this model. Touring adds a tour manager (responsible for the whole tour and particularly artists and performers) and production manager (responsible for all technical aspects and tech crew) alongside a plethora of assistants, growing in number the larger the show gets.

Technician wise, there is a food chain too. FoH audio has always been the glory role but lighting and video are now equally important. Large concerts are now so multi-disciplined that a show director might be employed to oversee everything.

Show control adds a layer of consistency and predictability to the sequencing and triggering of events using a dedicated controller module. Just where this fits in and when it is used is unique to each show. First, it requires budget. Budget to hire the control gear and budget to extend rehearsals to fully test show control in action.

Installations

Less set-in-stone are the pecking orders in installed electronic integration. Setting a control hierarchy was relatively easy just ten or so years ago. Use Dynalite or CBus to do all the low level grunt work and direct interfacing with lights, security and HVAC, then slap the funkiest AV controller you could afford (Crestron, AMX, Control 4, etc) over the top and hey presto - all sorted!

This approach meant omitting low level devices or sub-systems from the Jetsons Integration Plan™ and accepting voice assistants as nothing but music servers or web searchers. Robot vacuum cleaners be damned.

Commercially, the building management systems like KNX and Modbus stood on their own, and the boardrooms got all the swanky touch screens and AV distribution. But both ends of the spectrum were far from seamlessly integrated. This space is rapidly evolving and better interconnectivity between layers is seeing far better integrated buildings.

Theme parks have an interesting mix of all of the above. Regular routines of lighting, pyro and animatronics are often directed by embedded controllers for each sub-system. Increasingly, these report back to a top layer control system or portal for user access and system metrics.

Control precedence

The domination tendencies of the various systems and sub systems have taken another turn with the increasing penetration of IoT and now advent of Matter (a royalty-free proprietary standard for home automation backed by big players including Google, Amazon, and Apple), enabling, in theory, all manner of auto-comms between devices. While human institutions focus on chain of command, electronic control relies on order of precedence.

But which device takes priority? Which system does what and when? What is the optimal architecture for integrating proprietary gizmos? With this sector evolving rapidly, AV designers need to stay open minded about change.

Much like the backstabbing, empire building ladder climb of corporate upward mobility, each electronics vendor wants their kit at the heart of everything. Designing and architecting whole building electronica has simultaneously become more powerful and more complex. Yet this complexity brings several drawbacks:

- Lack of simple centralised UI (without major programming)
- On again / off again comms / status updates
- Designing the most cost-effective control strategy
- Reliability / troubleshooting.
- Talking across eco-verses
- API limitations

Smart designers will let each device take care of its native functionality. In the human world, this is clever delegation: marrying a unit's most efficient functionality with its role. If only personal ambition, greed and over-reach could be mitigated for the greater good, societal systems might work as well as our building electronics. As system architect, you can choose to use the top layer, the one that the fickle humans paying for all of this will interact with, to do the heavy lifting, constantly polling and probing, or just treat it as a reporting layer, leaving the grunt work at the device end where it is optimised.

Like meat space organisation, electronic integration requires establishing robust reporting mechanisms between devices and systems. Unlike with humans, once these pathways are established, they will work forever. Spreading the load across devices is the sensible play. It also favours redundancy, as losing one critical component doesn't bring the whole system down.

Sitting on top of the world

Increasingly, the top layer - the one that makes the major decisions about what is controlled and when that is reported - is moving to SaaS (Software as a Service) vendors. A good example is Sydney based startup Innomate, now making major inroads into that space, both locally and internationally. Other integrators are developing their own SaaS. For many installation companies, webOS and Matter will be important focuses in the near future.

The top layer of show control has historically been timecode driven, based on either SMPTE or MIDI clocks. DMX has taken a recent lead, allowing complex trigger routines to be launched by the LD. Where they fit into the show hierarchy will be dependent on both the type and scale of the production.

Theatre, concert, broadcast, theme parks and fireworks all have similar but differing needs when it comes to automation. In theory, it would be possible to control any one of them from the same platform - it's all just relays and ICs after all. But, safety restraints from dangerous conditions necessitate dedicated controllers for items that could injure someone, let alone items designed to explode. Further, a human element is often required to get timing that feels in tempo with the show.

Not losing control

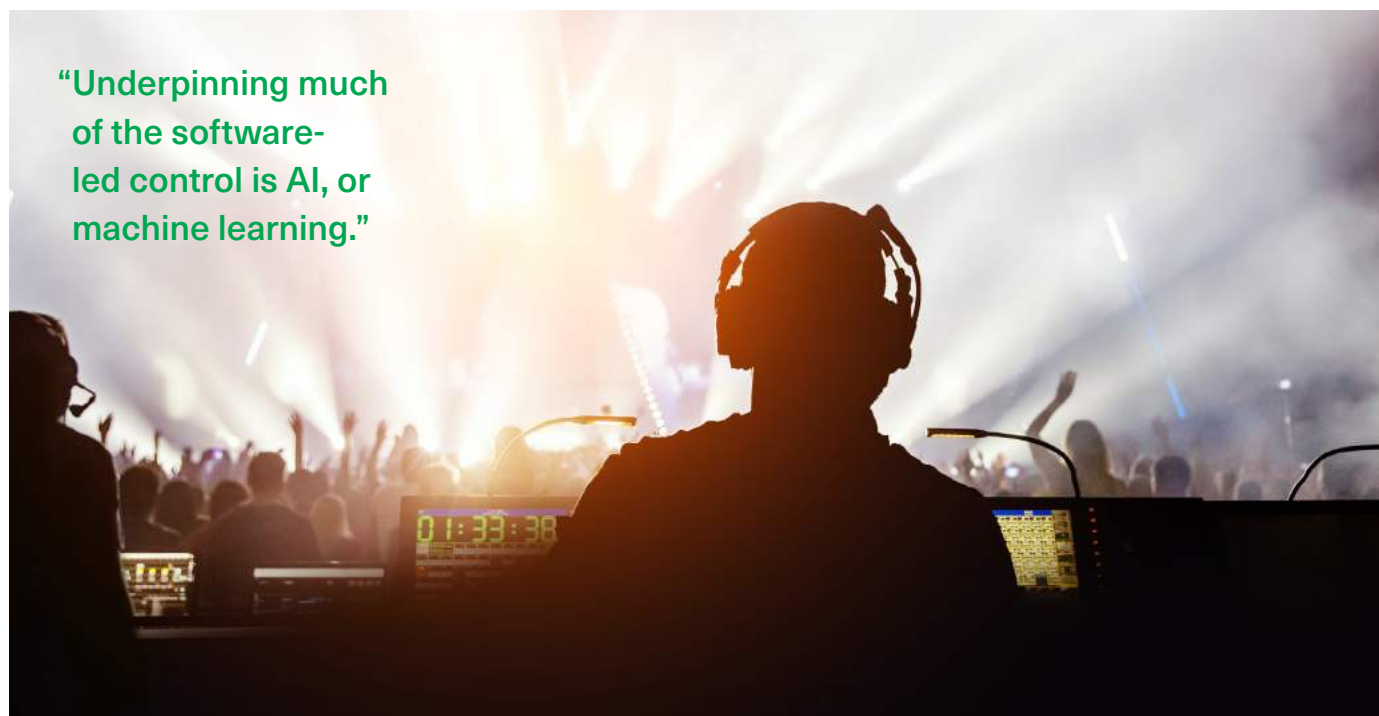
Underpinning much of the software-led control is AI, or machine learning. This is fast being embedded into a lot of our gear and its power only increases with time. But it's proving fallible or prone to false positives, so its human masters still need to be there, just in case. Particularly where the likelihood of personal injury is high (like self-driving cars, moving set pieces, or pyrotechnics).

AI won't take your jobs (yet). Why? Because: until it is 100% failsafe, an operator is still required; people are in charge of designing and developing the gear and seeding and structuring the AI; and maintenance will ever be required. Until robots get better at this last function than us, we'll always have gigs fixing broken stuff.

Control what you can, ignore what you can't. Both globally and locally. Professionally, take the same approach. Electronically, design your systems so that they complement and enhance each other. Personally, take charge of your destiny and do your utmost to exert a positive influence on the environment around you.

There's enough conflict and miscommunication going on in the world. No need to add more to your home or work existence.

“Underpinning much of the software-led control is AI, or machine learning.”



by Brian Coleman



HARMONICA BLUES

Most kids have owned a toy harmonica with tinny, tuneless reeds that made it impossible for them to produce any recognisable tune from the instrument, just an annoying discordant blow-draw cacophony.

A contingent of those wannabe virtuosos had probably expressed an interest in mastering the harmonica, and I was one of those. In fact, in those pre-television days I had never seen anyone play the instrument correctly until my parents took me to the Tivoli Theatre in Sydney in June 1957. Here, I saw Ronald Chesney, the first person on the planet I had ever seen coax a tune out of a harmonica, albeit this was the chromatic version that had a slider which could produce sharps and flats.

The Tivoli was my first trip to any theatre; not only was I mesmerized by Ronald Chesney's harmonica performance, but I was also in awe of ventriloquist Peter Brough with his

dummy Archie Andrews featuring on the same programme. The entire theatre experience left me stagestruck, an affliction that has stayed with me to this day. So along with harmonica playing, another lifetime obsession emerged, that of ventriloquism and puppetry.

In the same year, bitten by the theatre bug, I somehow landed the lead role in the Year Two (then called Second Class) play at the school's annual concert. Later in Year Four I would

experience a monumental fall from grace when the school cast me as one of the lowly rats in the Pied Piper of Hamelin. How could this have happened when only two years earlier I was on my way to stardom, wooing a packed house singing and dancing to the Bing Crosby hit 'With My Shillelagh Under My Arm'?

There was one saving grace: the shillelagh man role where I was dressed in top hat, white tie and tails was merely performed on a



Benny Hill with puppet Archie Andrews and Ventriloquist Peter Brough



St Benedict's



Brian and Joey D, Main Earth 1980

makeshift stage in a dilapidated demountable classroom. Now, fully costumed as the Fourth Rat, I was delivering my few speaking lines from the dizzying heights of the Bankstown Capital Theatre stage. Some six years later I would be watching acts like Billy Thorpe and the Aztecs, and Ray Brown & the Whispers perform on that same Bankstown Capital stage.

Meanwhile, obsessive trips to the Bankstown Library saw me borrowing every book on ventriloquism and puppetry in the library, and they were plentiful. I also pestered my father to arrange tuition on the harmonica, which was mostly referred to in those days as the mouth organ. Perhaps this failed actor's resurrection to stage stardom would be as a ventriloquist or harmonica player?

My father was an 'old boy' of Saint Benedict's Catholic School Chippendale, Sydney. His mother, a devout Catholic, was a parishioner, and the parish priest Father Roach gave free



Bankstown Capitol

harmonica lessons to students. So every Saturday, after a trip to Paddy's Markets in the Haymarket, my father would drop me off at Saint Benedict's Catholic Church whilst he visited my grandmother, and I would be taught the harmonica by Father Roach.

In my first year of high school it was mandated

that every student would be required to buy a recorder. It's an instrument that I abhor to this day because of the raucous shrill that emanates from it in the hands of amateur musicians. There is no worse sound on the planet than a classroom of 50 or so kids trying to play 'Polly Wolly Doodle' on the recorder, so I refused to own one. Ironically, Led Zeppelin's

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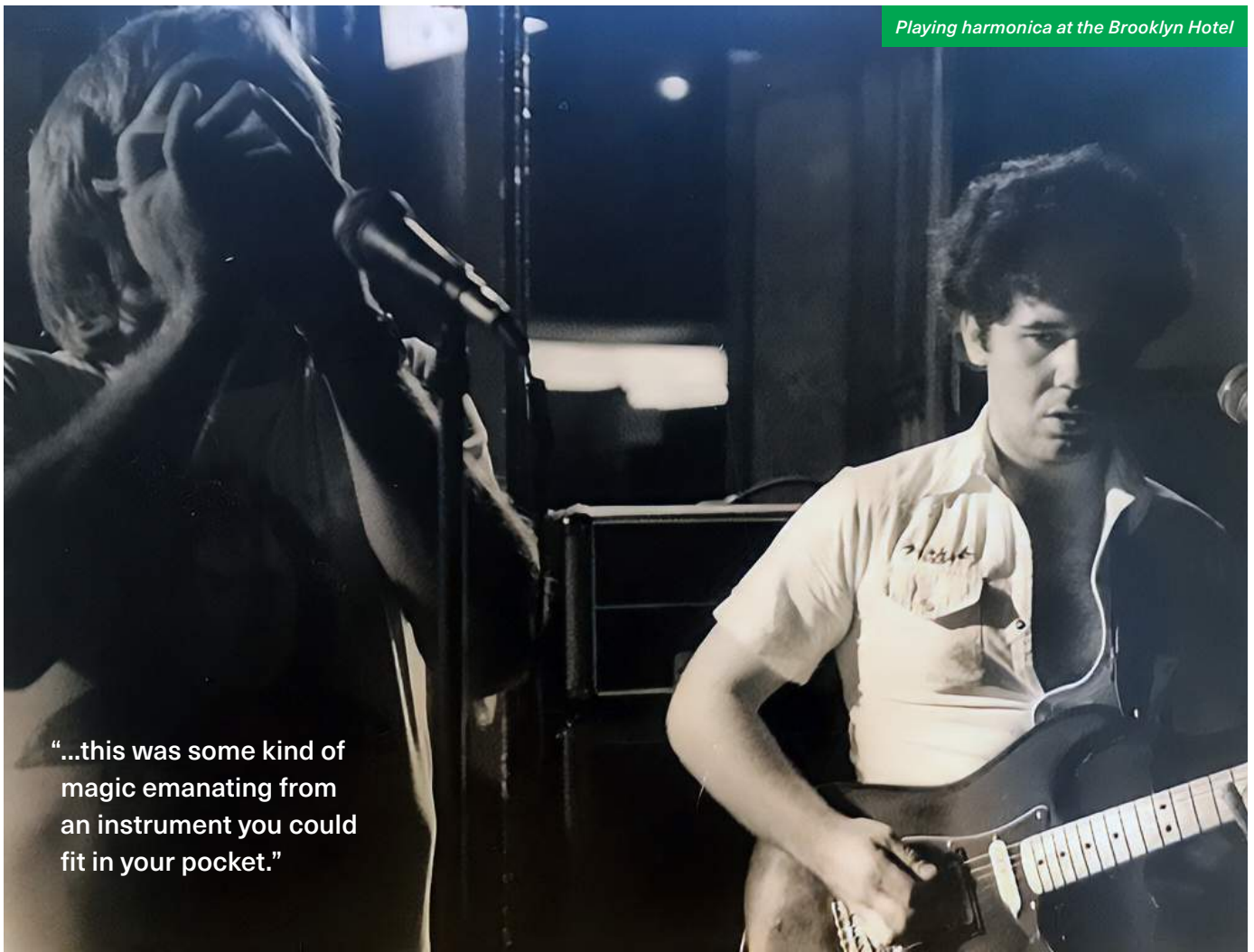
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“...this was some kind of magic emanating from an instrument you could fit in your pocket.”

noted intro to ‘Stairway to Heaven’ played on the recorder was later to become a great embarrassment to me for my enduring ridicule of the instrument.

To pass the school’s final music exam, students were required to play a tune on the recorder. The era was pre-Beatles and somehow the 1959 Broadway Cast Recording of ‘The Sound of Music’ had made its way into the syllabus; the horror, the horror. Until you’ve heard a classroom trying to sing ‘The Lonely Goatherd’ complete with yodelling you haven’t experienced real pain:

“High on a hill was a lonely goatherd,

Lay ee odl lay ee odl lay hee hoo.”

After some wrangling, I was eventually allowed to front up to my music exam armed with my harmonica, and bluntly refused to play ‘Polly Wolly Doodle’ or anything from ‘The Sound of Music’. The Shadows were very big at the time, so I played their hit ‘The Boys’ to our disgruntled music examiner Brother John, who, whilst despising me for this and other infractions, had no choice other than to pass me.

It wasn’t too long before Bob Dylan and The Beatles were churning out songs utilising the harmonica, and I was enamoured that I could play along. Although Bob Dylan and John Lennon played both the chromatic harmonica

and the diatonic harmonica (single scale), their ‘harps’ were in the key of the song they were playing, and they rarely, if ever, bent notes. These were 10-hole Hohner Marine Band diatonic harps.

Later, ‘blues harp’ became the rage and I bought a book by Tony ‘Harp Dog’ Glover entitled How to Play Blues Harp, which came complete with a flexi disc vinyl record. Blues harps are almost always diatonic but are played in the subdominant key, meaning the fourth note on the scale. So if the song is in C you buy a harp in the key of F. If the song is in E you use a harp in the key of A, and if the song is in A you use a harp in the key of D. And to get that bluesy sound you have to draw down hard to bend the harmonica reeds; it’s kind of like a legato slide on a guitar. Tony ‘Harp Dog’ Glover insisted that the harmonica had to be wet and some players went to the extreme of soaking their harps in whiskey or vodka. I tried this a few times but eventually settled for water. Of course, you have to tap the excess liquid out before you commence playing.

I was already in my fourth band, Main Earth, before I played harmonica live. The band had a residency at the Brooklyn Hotel in George Street Sydney every Saturday night circa 1980/81. ‘Roadhouse Blues’ in the key of E was in the repertoire, so one evening I trotted out my A harp and played through the song. The

harp was so well received that we incorporated it into a whole range of songs. My only guess reverts to my earlier assumption that every kid once owned a tuneless harmonica without the simple instructions of how to play the thing. So this was some kind of magic emanating from an instrument you could fit in your pocket.

In a 2011 Diesel interview for CX (CX 59) Mark Lizotte told me, “People come up and ask me things, and I just tell them. They probably get more information than they bargained for,” he said, adding, “They probably go away wishing they hadn’t asked.”

I’m a bit the same with lengthy explanations. So when a passing punter from the street poked his head inside the open doors of the Brooklyn Hotel, where my harps sat on the lead guitarist’s Marshall amp head, I went into great detail before returning to the microphone. When I returned, I discovered that he had stolen all my harps.



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