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IDOL'S LD

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Dr Danger Flames Out
The fall of TCP

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as new award bites*

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CUE03 Entertainment
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NEWS: EVERYTHING FROM HAYBALES TO THE SOUND GUY WHO WROTE AND FINANCED HIS OWN MUSICAL - THEN OPERATED AUDIO! FROM THE EXTRAORDINARY TO THE EVERYDAY, IF IT IMPACTS THE INDUSTRY IT'S IN HERE.

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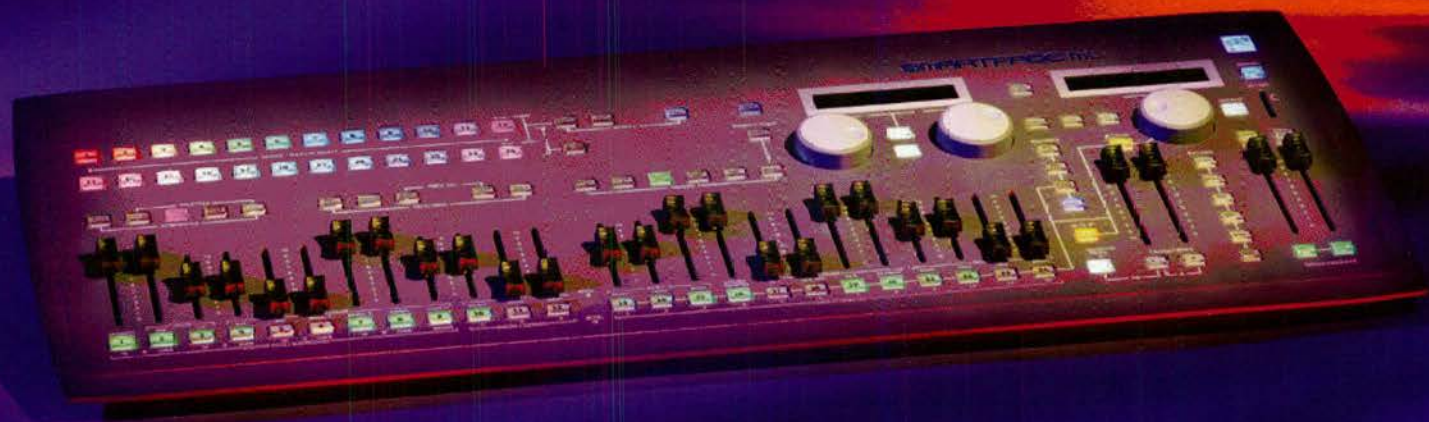


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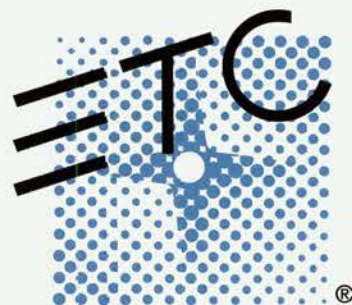
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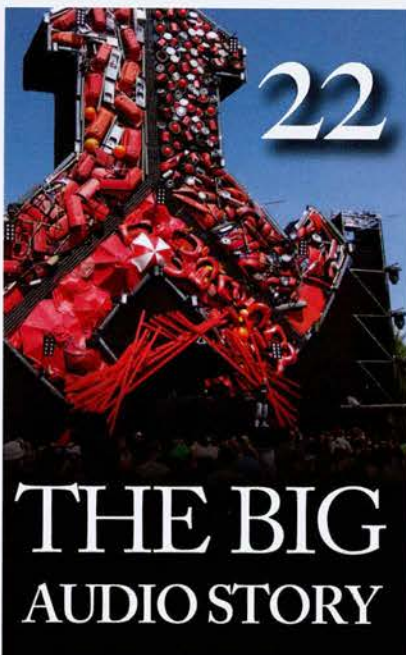
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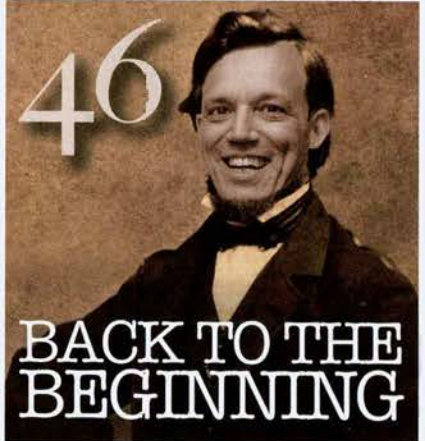
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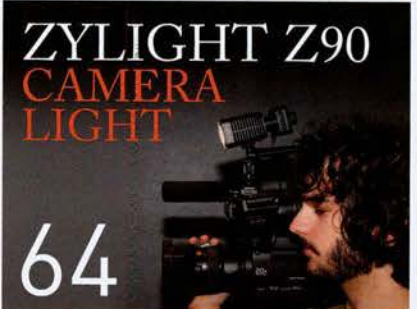
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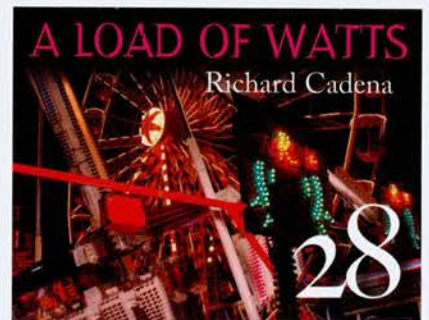
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CUE03

Entertainment Training Resource

This magazine contains much information which is a direct resource for anyone studying from the new Entertainment Training Package, named CUE03. From 2006 we will start to map certain articles direct against the relevant Unit of Competency within the package. This makes CX magazine a very cost effective resource for schools, colleges, and universities. Note that we offer a copyright release where articles in CX Magazine may be photocopied and distributed to students within an accredited course.

EDITORIAL

GUTS

Sydney soundie Michael Orland has stumped up his own money to stage his own professional musical, 'Beaudy' in July. Having seen the unedifying punchups between producers and directors (Pan, Dirty Dancing, Priscilla) and the almost ran shows like Jon English's Paris and SG's Eureka, Orland is pure oxygen. We've bought tickets. Opens Parade Theatre July 7th. Read more inside. See the show!

BIRTHDAY

Sorry there can be no escape as we rightly celebrate 20 years of publishing. It is a significant milestone for a small trade journal such as this one, which has paid for the upbringing of my seven kids and countless others. Without this mag there would have been no ENTECH and no Julius College either. We invite all friends to our campus on August 21 for a party. See www.cx.myevent.com for free ticket info.

ANGRY ANGUS

Thanks to Jeremy Brayton and Niels Hansen for emailing semi objectively about my accusation that AC/DC breach a duty of care to their fans by playing far too loud and not posting warnings about SPL. No thanks to the dozen plus rabid creatures with pointless email handles that paid out on me, made threats, and vented rudely. Everyone knows where I am - come get me, don't make threats.

TV STUDIO

Jimmy is almost done wiring our new TV studio, created in place of the recording studio on campus. Same floor plate but now we can multi-track, edit and control cameras as well. Recording studios are so 'last century'. It should be ready for official launch at our 20th birthday bash. Thanks also to John Maizels who has come on board to advise us on many matters. He is a man of many talents.

TEST & TAG - SAFER?

Talking to a few people recently, I find that there's still some discussion about whether testing and tagging electrical gear actually achieves anything in terms of safety. The majority of older professionals were brought up on the idea of always inspecting it before you plug it in, so the tag does nothing for them.

Problem is all the people who think the presence of the tag somehow magically confers safety, and don't bother checking it over. In this respect at least, it could be argued that testing and tagging has created a new hazard.

It's your life, it's the only one you get and there is no 'save game' button. Whether it's tagged or not, check it over - we've all seen too many things damaged in transit to believe that 'safe from the factory' is the same as 'safe on the gig'.

BINGE LISTENING

A recently published medical study has found that youngsters are being consistently exposed to excessive noise in pubs, clubs and similar venues, and that they risk suffering permanent hearing damage as a result. This fits with our understanding of what's going on out there, and presents one more piece of evidence to encourage authorities to pay attention. As an industry, we need to take this issue seriously and start doing something about it, rather than just muttering '...but it's what the punters want...'

THANKS TEAM

Since the last issue of CX hit the stands, we've had exciting times round my place. With the arrival of a new, tiny wee member of the family I've been focused at home. This has left the slack at the bunker to be picked up by Julius, Jimmy, Steve and Monique. It's also put extra pressure on Andrew and the team at Bite to get the layout pushed through.

Thanks guys.

Julius

Andy

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CX NEWS

DEVICES, PEOPLE AND CONCEPTS

BEHIND THE TCP COLLAPSE

How a \$35 million AV installation firm went down

"On the twelfth of April the Commonwealth Bank walked in and took over", says former TCP Director Tony Musico. Just nine days later, the firm stopped trading, leaving 60 staff without jobs and stripping Musico and partner Richard Skarzynski of their assets.

Ferrier Hodgson took control of Total Concept Projects as receivers and managers, along with seven other associated firms known collectively as The Total Concept Group. At presstime they confirmed the group would be liquidated, and could not estimate its debts.

Musico was more forthcoming. "The bank are owed \$5 million, it's a big hole. We've lost everything including our properties. My head is still spinning, it's a slight setback." Trade creditors and the tax commissioner are owed a lot more.

What about the sixty staff? "I put money from my pocket into wages - it's not like they weren't paid each week", Musico continued. As to staff entitlements, "who knows? You can't let it get to you, it'll destroy you", he says.

SO WHAT WENT WRONG?

"Digital signage. It was a disaster. Richard (Skarzynski) guaranteed the clubs. It cost us twelve million. I should have stopped it. He has a strong personality, and a lot of people said it was a good idea at the time. Do the math."

Some years ago TCP sold a package of display screens to 32 registered clubs, each of which took 20 plasma screens that were installed by TCP and financed by Capital



Tony Musico.



Richard Skarzynski.

Finance. The clubs paid \$8,000 per month rental, and were guaranteed at least that amount in advertising revenue.

The problem was with the advertising revenue. It didn't flow fast enough - if at all. "One hundred and fifty grand a year across all the clubs", Musico says, "that's across ALL the clubs, while the rentals were two hundred and forty k a month! Do the math. Do the math!"

Behind the scenes the group hatched a problem of its own making in 2008 when star sales director Peter Guest and several other staff left to form their own

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AV SPOTLIGHT TOWERS



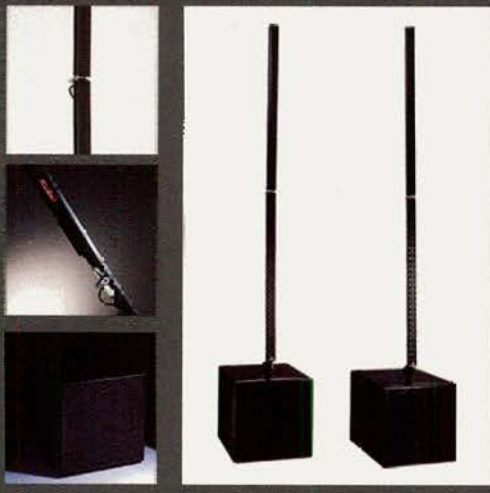
"The pictures above are of an AV-Spotlight tower I had to build recently as the scissor lift did not turn up and the closest one was over 350 km away", says veteran tour manager Ray RRR Maguire.

"Each hay bale is approximately 3m x 1m x 1m and weighs around 160kg. It's all held together by the weight of each bale and star pickets joining them all together internally. The rail around the top is made of sheep pen panels and we found a 2.8 m x 6 m piece of timber floor that we relocated from an old show grounds shed."

"The event was in the South Flinders Ranges. I love working with country people. They're always willing to get in and help solve a problem and most times have the manpower and items needed." CX

Redline

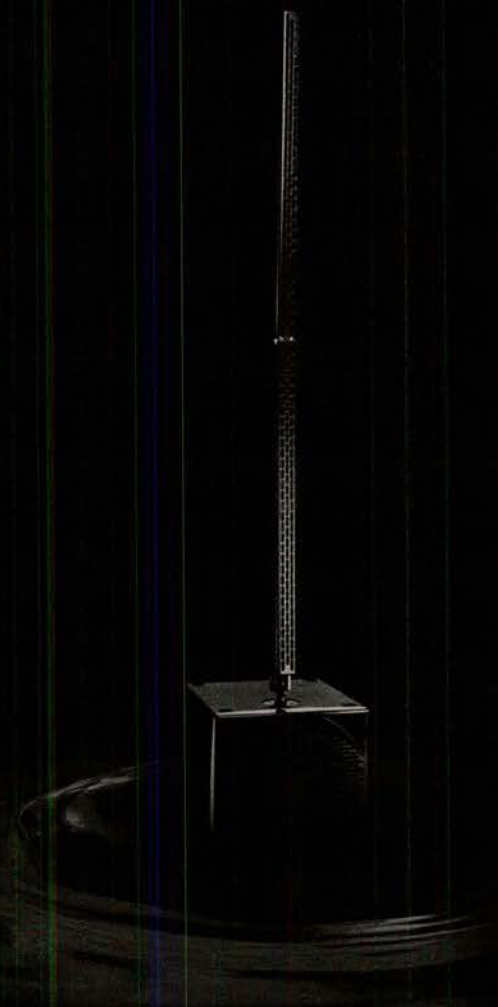
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Loi. Mannarino - CEO of L&M Sound & Light NY,
Live Engineer for the New York Philharmonic Orchestra



Continued from page 8

competing firm, EO Designs.

"My nemesis", sighed Musico. "But I do believe in Karma...."

For a guy in his position, Musico is surprisingly resilient. He plays down his interest in TCP Malaysia, a firm that he owns 'with others' (but not Skarzynski) and which is trading well, he says. Then there is a nightclub project with his brother that he says is near completion.

TCP did work in pubs, clubs, venues, boardrooms and increasingly the court and medical audio visual market. So what of the landscape now that TCP, which has been a strong player in the audio visual installation market for twenty five years, has gone?

"While we were unravelling we lost some to Saltec, and Club AV. But the big winner out of this is Electroboard. Mind you, I've had a lot of calls from people. Michael Rutledge (Rutledge Engineering) rang the other day, and Matthew Kline - he's back in business as well". Musico is referring to the collapse of AV Sound, another pub and club audio visual installer, earlier this year.

"I think margins were getting pressed, our demise will actually help the market. I mean, in Queensland now there's only Video Pro and Rutledge."

"I'm not sitting here getting depressed. Down yes. But out - never!" CX

NEW TANNOY DISTRIBUTOR FOR AUSTRALIA

Tannoy Limited, one of the oldest and most prestigious names in the world of audio, has appointed Audio Products Group Pty. Limited (APG) to distribute the company's consumer and professional/installed sound products in Australia, from 1 July 2010.

"Tannoy's decision to entrust the fortunes of its historic brand to APG reflects our commitment to build a business that operates as three distinct, specialist streams, focussing on Consumer HiFi, Pro Audio and Installed Sound respectively," explained Ken Dwyer, APG's Managing Director. "We are very proud to be able to work with Tannoy. I am confident that Tannoy's portfolio of innovative, high-quality products will complement our existing loudspeaker offerings, and strengthen our presence in the consumer, professional and installed sound markets."

In announcing its appointment to distribute Tannoy, APG acknowledged Syntec (the outgoing distributor) for its contribution to the brand over many years, and pledged to work with Syntec to ensure that the transition will be smooth for all parties. CX

THE HOUSE OF DANCING WATER OPENS



Australian Anna Robb is the stage manager for *The House of Dancing Water*. She most recently worked on a *Cirque* production in Vegas. A lot of Australians find work in Macau.

Two theatre powerhouses battle in Macau

Without a firm date at presstime, the largest and most ambitious theatre project of 2010 is set to open 'soon' in Macau, near Hong Kong. A 270 degree theatre for 2000 people designed by New York architects Pei Partnership will be exclusively used for the new House of Dancing Water show.

Costing around US \$300 million, the show is designed by Franco Dragone, the revered theatre producer from Antwerp, Belgium. His shows are in a similar vein to Cirque du Soleil, indeed he was a pivotal director and creator within Cirque.

Cirque is an entertainment powerhouse with over 20 different productions showing in more than fifty theatres across the world. They fused theatre into circus.

While Cirque is a monster, loaded with shareholder funds from Dubai and highly profitable, Dragone is growing fast with an audience total of more than 55 million so far.

These creative houses come face to face in Macau the gambling enclave of Mainland China. The Chinese slowly and assiduously took control of this former Portuguese territory, and licensed foreign casino groups who have now built dozens of establishments. The largest is the Venetian, which is a larger clone of the Vegas Venetian with a few extras added

on. Venetian has a 15,000 seat concert arena (hardly ever used), plus a one million square foot convention and exhibition centre that is equal in space to Sydney, Melbourne and Brisbane exhibition and convention centres all rolled into one.

But the theatres are where the battle intensifies, with Cirque's *Zaia* performing in a purpose built theatre at the Venetian since mid 2008 and soon the new Dragone show across the road in the Melco Crown City of Dreams Casino.

Described as a 'kick ass aquatic show', the Dragone show promises to be the largest aquatic theatrical production in the world today.

Macau's two theatre shows will battle for audience - the Sands Corporation planned their Cirque show without firm ideas about audience, and discovered it is hard to sell theatre tickets to mainland Chinese who come to Macau for one purpose only.

They quickly abandoned many planned touring shows in their entertainment arena, which now features occasional canto-pop shows.

Once The Venetian was open and the theatre and concert audiences didn't come, it was too late for City Of Dreams to change course as contracts were let and building was advanced.

www.dragone.be

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AV-HS50E NEW

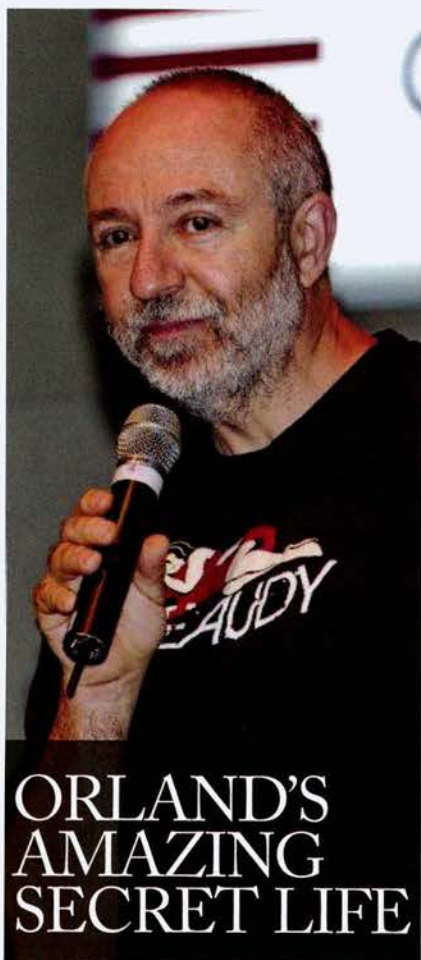


HD	1080/59.94i, 1080/50i, 1080/23.98PsF, 1080/24PsF, 720/59.94p, 720/50p
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ORLAND'S AMAZING SECRET LIFE

New Australian musical born out of 35 years of gigs

Occasionally people meander across that line between the technical and creative sides of entertainment.

Audio installer and live sound guy Michael Orland has written a full stage musical, "Beaudy", which has its world premier in July at The Parade Theatre at NIDA in Sydney on July 7th.

Australia doesn't produce too many stage musicals, and Michael Orland's is the full deal: orchestra, solid storyline; and strong critical backing and support before the curtain goes up.

Unlike almost every other musical, this one is fully backed by its creator, who is also the producer and technical designer. With close to forty people on payroll, this is a professional venture without the shortcuts that have plagued so many modern productions lately. It doesn't have creative disputes. It doesn't have a producer demanding budget cuts.

History is littered with failed attempts to stage musicals. Jon English spent two decades trying to secure backing for 'Paris', his musical which has been recorded and is available on license to amateur musical societies. Then the stories surrounding another Australian musical "Eureka" have



passed into urban legend.

Orland has written his own cheque.

Beaudy employs a professional cast of 16 with over 40 Mo awards between them. Over 200 applicants turned up to audition for the supporting roles. The show features musicians handpicked by Michael from those he has worked with over three decades.

Industry reaction, based on the cast recordings alone, have taken many (including Michael himself) by surprise. Some see a fully original musical like Beaudy as part of the inevitable backlash to the "Jukebox Musical" which has dominated the local market for the last few years - musicals which have been taking the "safe" path, based on the punter's CD collection and a perception that the audience is unwilling to listen to anything new.

Perhaps successes like "Wicked" have shown that the LCD (Lowest Common Denominator) approach doesn't always have to apply, and that there is always room for quality original material.

The show is having an unusual and massive preview. The cast will be flown to Hobart's Conservatorium of Music for a one off presentation of the show before Broadway Royalty, headed by Steven Schwartz (Wicked, Godspell and more) before opening in Sydney on July 7th.

"As I approach what would have been my retirement from live gigs age, I have gone and sunk 7 years worth of retirement funds into staging my musical for 3 weeks. Real smart. But this is my personal "Everest expedition". It makes no sense. I just have to do it. Margaret (Michael's wife and partner) is cool with it. In fact, she is our co-producer, without which I never could have coped with the mountain of paperwork!"

Beaudy premiers at NIDA's Parade Theatre on the 7th July and runs for three weeks.

"We need to sell 14,000 tickets just to break even", Michael says optimistically.

Despite his intimate involvement with the show on every conceivable level, Michael will still be out front controlling the sound each night on his laptop. "OK, Beaudy may be a gig, which for me, has been over 35 years in the making, but it's still just a gig", he shrugged.

Check the website for details:

www.beaudy.com.au

XTA RELAUNCHED IN AUSTRALIA



Waring Hayes.

Recently XTA Electronics design engineer Waring Hayes visited Australia to assist new distributor CMI reposition XTA - a leading audio processing brand.

"We merged with MC2 - the amplifier firm. Our live roots made the company, we go to the Glastonbery festival, the idea is to talk to engineers and keep them happy while they are doing the show not later. In recent times the market has shifted - now it's not just speaker management systems, things are integrated towards digital audio networks collaborating".

XTA has adopted the Australian Dante protocol which allows significant audio bandwidth on regular Cat 5 networking, and has a new line of break-out and break-in boxes available for both the touring and the install market.

The NXBoB8 and NXBoB16 can be inserted anywhere in a Dante digital audio stream, itself offering converting the signal to analogue for carrying to analogue amplifiers and PA systems.

The units will also act as an amp manager for the MC2 Ti amplifier range, learning the network setup and then interrogating the amps to check that they are performing normally and report on the operational status.


CMI are pushing the new XTA installation lines hard, hosting seminars for consultants.

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NEW AWARDS START JULY 1ST

The new Live Performance Award 2010 came into effect on January 1st, and the pay scales become mandatory on July 1st. Industry knowledge of the new award is relatively high, with many production firms and labor suppliers quoting new labor rates for productions.

Some crew confusion exists with some thinking the new awards do not apply to them, however CX can confirm that everyone who works for money in Australia on any kind of entertainment production is covered by the below table.

One area of confusion lies with the Levels, CX has interpreted the below classification descriptions from the award, and not been challenged in the several months since we conducted an industry seminar on the subject.

TABLE 1

LEVEL	DESCRIPTION	WEEKLY	CASUAL
Level 2	Stage Hand	\$593.90	\$19.54
Level 3	Unqualified Tech	\$625.15	\$20.56
Level 4	Qualified Tech	\$637.60	\$20.97
Level 5	Console Operator	\$658.45	\$21.66
Level 6	Theatre Tech	\$679.30	\$22.35
Level 8	Technical Supervisor	\$724.37	\$23.83
Level 10	Experienced, qual tech	\$750.35	\$24.68
Level 13	Technical Manager	\$831.90	\$27.37

The table below shows casual rates, with penalty rates. Time and a half kicks in after 8 hours, and double time after 10 hours. All Sunday hours are at double time.

TABLE 2

LEVEL	DESCRIPTION	NORMAL TIME	TIME AND A HALF	DOUBLE /SUNDAY
Level 2	Stage Hand	\$19.54	\$29.31	\$39.08
Level 3	Unqualified Tech	\$20.56	\$30.84	\$41.12
Level 4	Qualified Tech	\$20.97	\$31.46	\$41.94
Level 5	Console Operator	\$21.66	\$32.49	\$43.32
Level 6	Theatre Tech	\$22.35	\$33.53	\$44.70
Level 8	Technical Supervisor	\$23.83	\$35.75	\$47.66
Level 10	Experienced, qual tech	\$24.68	\$37.02	\$49.36
Level 13	Technical Manager	\$27.37	\$41.06	\$54.74

The real sting in the new Award is where a ten hour break is not possible after 14 hours of work. This then requires that any crew who have not had a ten hour break be paid double time for every hour they work after their break. The table below shows how a 14 hour day would be paid, for a casual.

TABLE 3

LEVEL	DESCRIPTION	8 HOURS PAY TOTAL	9 + 10 HOURS	11 TO 14 HOURS	14 HOURS TOTAL PAY
Level 2	Stage Hand	\$156.32	\$58.62	\$156.32	\$371.26
Level 3	Unqualified Tech	\$164.48	\$61.68	\$164.48	\$390.64
Level 4	Qualified Tech	\$167.76	\$62.91	\$167.76	\$398.43
Level 5	Console Operator	\$173.28	\$64.98	\$173.28	\$411.54
Level 6	Theatre Tech	\$178.80	\$67.05	\$178.80	\$424.65
Level 8	Technical Supervisor	\$190.64	\$71.49	\$190.64	\$452.77
Level 10	Experienced, qual tech	\$197.44	\$74.04	\$197.44	\$468.92
Level 13	Technical Manager	\$218.96	\$82.11	\$218.96	\$520.03

So does the new award herald the end of 'day rate'? Some production firms engage crew on a 'show' basis and pay a flat rate through one 24 hour period. It is generally understood this covers all production activities 'within reason', and can mean travel, setup, rehearsal, show, pull down and travel time amounting to even more than 14 hours in one day.

The award is clear on this. Where crew work more than 14 hours, and have less than ten hours break, all hours worked in the second 24 hour period are then paid at double time.

Continues overleaf.



LIFE BEFORE THE NEW AWARD

Young tech James Johnson recently started a full time job with Bytecraft in Sydney. "I love it – a big company, great gear, and they look after their crew", he said enthusiastically. But he had a rough start to his career just after he left Julius college.

"I have been contracting – freelance, mostly as a lighting guy", he says. "And it turns out sometimes I earned less than when I worked at Coles."

James was hesitant to go public with CX. But now that he is employed in a job that he wants, he feels it is OK to talk about the rough conditions that sometimes existed before the new Award came into place on July 1st this year.

"An example is when I worked for Silhouette Sound Studios on \$200 day rate", he says. Silhouette supply sound, lighting, transport and crew as a package. There is no suggestion they are doing anything wrong.

"I got up at 4am. We flew to Melbourne, went to a gig, set up, rehearsed, did the show, loaded out and then needed to be up again at 8am. We then went right through and got to bed at 5am. We were supposed to be at the airport at midday, but we overslept and missed the flight, so we had to wait until 6pm".

All that for \$400. As a contractor. Without his own insurance.

James is not complaining – he just says that he didn't know any better, at the time. Which was just a few months ago, earlier in 2010.

"I put up 48 cans, 12 movers, a truss grid and even set my own points. We had no loaders, and no riggers, and I had three hours to get it all in, up and focused".

Presumably Silhouette now charge a whole lot more for their production work, since they would have to pay Level 4 crew working to James' example above, almost \$1,000 under the new award. Instead of just \$400.

Julius Grafton

PRODUCT SPOTLIGHT

UHF MULTI-CHANNEL RADIO MICROPHONE SYSTEM

CLOCKAUDIO

Who is Clockaudio?

Clockaudio is a specialist manufacturer of professional microphone and DSP audio system solutions, and since its formation in 1994, has achieved a position of high regard within the professional audio, corporate and leisure AV installation sectors. Its reputation has been built on sound principles, whilst its dedication to quality and service has gained the respect of all. Clockaudio professional microphones and equipment can be found in venues such as broadcasting, parliaments, courts, council chambers, places of worship, airports, banks, leisure centres, etc, and is the preferred choice for many key applications. Clockaudio products are exclusively distributed in Australia by Madison Technologies.



MULTI-CHANNEL UHF RECEIVER

Versatile & Flexible System

Product
CW9000 Full Diversity Receiver

The Low-Down!

Clockaudio's CW9000 features 192 PLL selectable channels per UHF band. The true diversity system includes tuned antennae and two independent receivers for optimal reception in poor conditions. Receivers are made of rugged metal and come in a compact 1/4RU size with easy controls, LCD display including battery status, and balanced XLR and unbalanced 1/2" jack outputs. Internal squelch and mute are provided to minimise noise.

The CW9000 is available in handheld, beltpack, wireless desktop or combination versions to accommodate a diverse range of applications.

For more info

For more information on the Clockaudio range contact Madison directly on **1800 00 77 80** or email clockaudio@madisontech.com.au

HANDHELD MIC & BELTPACK TRANSMITTER

When you're on the Move

Product
Beltpack & Handheld Transmitters

The Low-Down!

Two mobile options available to suit the CW9000 receiver include the CW9001T belt-pack transmitter and the CW9000T handheld transmitter. The beltpack transmitter with a lavalier microphone (CL 6) tunes to 192 phase-locked loop (PLL) selectable frequencies displayed on an LCD along with battery status. The transmitter also includes audio-level control and a power switch. The unit can run for up to eight hours on two AA batteries.

The CW9000T handheld transmitter has the same features, and it can fit either a dynamic or a condenser head. It is rated to run for 10 hours on two AA batteries, and it uses an integrated dipole antenna.

UHF DESK BASED WIRELESS TRANSMITTERS

Stylish, Cable-Free Solution

Product
Desk Based Wireless Transmitters

The Low-Down!

A new series of desk/table top and floor-stand wireless systems has been added to Clockaudio's successful CW9000 UHF Multi-Channel Radio Microphone System. Using the CW9000 receivers, the latest additions plug into new stands to create a portable wireless gooseneck or boundary mic and they can be used in multiples, e.g. where the situation calls for six portable goosenecks on a boardroom table without hard wiring. The CW9004T base has a built in Tini Q XLR connector allowing you to mount five different microphone options. The CW9005T comes with a built in microphone, and the CW9006T with a XLR connector. A new rechargeable docking station (CU-2) is also now available.

Many production firms are nervous about this, if a client delays a well planned production (this happens often) then the crew cost for the second day is considerably higher. Table 4 (below) shows what happens where there is less than a 10 hour break.

TABLE 4

LEVEL	DESCRIPTION	COL A (DAY 1) 14 HOURS	COL B (DAY 2) 14 HOURS WITH LESS THAN 10 HOUR BREAK	DIFFERENCE
Level 2	Stage Hand	\$371.26	\$547.01	\$175.75
Level 3	Unqualified Tech	\$390.64	\$575.80	\$185.16
Level 4	Qualified Tech	\$398.43	\$587.26	\$188.83
Level 5	Console Operator	\$411.54	\$606.47	\$194.93
Level 6	Theatre Tech	\$424.65	\$625.67	\$201.02
Level 8	Technical Supervisor	\$452.77	\$667.18	\$214.41
Level 10	Experienced, qual tech	\$468.92	\$691.11	\$222.19
Level 13	Technical Manager	\$520.03	\$766.22	\$246.19

Column A is the pay for Day one, 14 hours, same as Table 3. Column B is what you are forced to pay for the second day – assuming it also runs for 14 hours. Even if the second day is shorter, the hourly rate is considerably higher – all because the crew didn't get the very necessary ten hour break, and thus are paid Double Time for all hours of work.

Crew working in music venues, or on several dates of a short tour are all affected the same way. Everyone is covered. No one is not covered. There is no ambiguity. Also note that all work done on Sunday is now paid at double time from hour number 1. Sunday just got very expensive.

Here are the Sunday rates:

TABLE 5

LEVEL	DESCRIPTION	NORMAL RATE	SUNDAY RATE	4 HOUR CALL*	8 HOURS
Level 2	Stage Hand	\$19.54	\$39.08	\$156.32	\$312.64
Level 3	Unqualified Tech	\$20.56	\$41.12	\$164.48	\$328.96
Level 4	Qualified Tech	\$20.97	\$41.94	\$167.76	\$335.52
Level 5	Console Operator	\$21.66	\$43.32	\$173.28	\$346.56
Level 6	Theatre Tech	\$22.35	\$44.70	\$178.80	\$357.60
Level 8	Technical Supervisor	\$23.83	\$47.66	\$190.64	\$381.28
Level 10	Experienced, qual tech	\$24.68	\$49.36	\$197.44	\$394.88
Level 13	Technical Manager	\$27.37	\$54.74	\$218.96	\$437.92

* Note that Sunday has a 4 hour call minimum. Other days the minimum call is 3 hours.

Different arrangements exist for crew working in the factory doing prep, and also for touring crew. Consult the award for those provisions. Crewing Agency pay rates are subject to a 52.5% penalty between 11pm and 6am instead of overtime. Read the award carefully if any of the above apply to yourself.

Crew not paid properly should complain to Fair Work Australia- there is no need to join a Union. See below for links.

Finally, CX has had a lot of enquiries about how Contractors are affected. The answer is, contractors need to charge MORE than the minimum award rates, to cover the cost of their own sickness and disability insurance and also public liability insurance, both of which are highly recommended if not mandatory. Any employer paying a contractor less than the award will be in breach of the Fair Work act in any case.

MORE INFO:

Fair Work Australia is now the national workplace relations tribunal. www.fwa.gov.au
The Modern Awards that apply to our industry are:

- MA000081 Live Performance
- MA000080 Amusement, Events and Recreation
- MA000091 Broadcasting and Recorded Entertainment

The full list of Modern Awards is here:

<http://www.airc.gov.au/awardmod/fullbench/awards.htm>

See also: The JuliusMedia Industry Summit paper, online in the News area at www.juliusmedia.com



PROF. DR. FRITZ SENNHEISER DIES

Just a few days after his 98th birthday, Prof. Dr.-Ing. Fritz Sennheiser, audio pioneer and founder of today's Sennheiser electronic GmbH & Co. KG, passed away. The audio industry has lost a huge figure, not only in terms of his technical expertise but also in terms of his humanity.

Through his company Prof. Dr. Fritz Sennheiser had a crucial influence on the development of sound transmission technologies and was instrumental in forging many ground-breaking developments in electro-acoustics and transmission technologies.

Under his guidance the first shotgun microphones and open headphones were created and he oversaw important developments in wireless radio and infra-red transmission. It was completely natural for Fritz Sennheiser to give his developers the "creative and technical freedom" they required.

His humanity also shone through when – considering the significant workload involved in running an expanding company – he took time to share his knowledge with students, inspiring them with an enthusiasm for audio technology. In 1982 he retired from the management of the company, handing over to his son, Prof. Dr. Jörg Sennheiser.

Fritz Sennheiser continued to take a vivid interest in the company he founded in summer 1945. His enthusiasm for audio technology, his creative curiosity, coupled with a modesty that is all too rare these days, his self-discipline, sincerity and generosity in his dealings with people, will remain an example to follow for all those who knew him.

The history of the European audio industry will forever remain inextricably linked with the name of Fritz Sennheiser.





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www.mtasales.com.au

VR SOLUTIONS AWARDED AT CHRISTIE ASIA PACIFIC PARTNERS CONFERENCE

VR Solutions has won a special award at the Christie Digital Asia Pacific Partners meeting held recently in Korea. This award was presented in acknowledgement of the sales and technical support that VR Solutions has provided the Australian and New Zealand Christie Digital customers over the last 12 months.

Both Christie Digital and VR Solutions have worked closely together to upskill the VR Solutions sales and technical teams on the Christie Digital product range. Training for the VR Solutions staff has taken place at Christie Digital's offices in Singapore, and the Christie Digital factories in Kitchener and Vista Systems in Arizona.

Managing Director of VR Solutions, Michael Bosworth, said it was an unexpected and very welcome award from Christie Digital. 



month of July. Rigged and ready to demo will be the new JBL sub compact VerTec line array system powered by Crown's new VRack system, a selection of Soundcraft digital consoles, the full range of Chroma-Q LEDs, the new Jands SLX150 band hoist with JLX Pro lighting bar, and the long awaited new Jands Vista Byron software release.

There will also be training sessions running over the two days, including:

'Getting to Know Byron' – the new Byron Vista software from Jands. The original Vista software showed the lighting world a whole new way of thinking about programming, now with worldwide feedback and a few years under its belt, the new Vista Byron is worth checking.

'VerTec's and VRack's...' – This is your opportunity to listen and learn about the new JBL VerTec sub-compact line array system, and its partner in crime the Crown VRack. The new technology that goes into designing a speaker of this calibre is quite amazing, and the session will also include an overview of the recently redesigned System Architect. A must for any self-confessed audiophile [geek] or anyone in the market for a new PA.

This is a perfect opportunity to see some great stuff not usually on show outside of Sydney and Melbourne. If you have anything to do with audio, lighting or staging in your school, church, venue, job, pub, club or hotel then this IS the gig for you.

To register your interest email marketing@jands.com.au or log onto www.jands.com.au for regular updates to training sessions and product demonstrations. 

JANDS TOUR '@HOME' PROGRAM

The Jands@Home program, starting last year in September, places management and product engineers for a week in cities around Australia for meetings with customers and end users alike. The aim is

to give the local industry unprecedented access to Jands business and product managers as well as an up to date overview of their range of audio, lighting and staging solutions.

With a definitively more Production feel this time, Jands@Home will hit Perth, Adelaide and Brisbane in the



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PANASONIC ANNOUNCES FULL HD 3D CAMCORDER

Panasonic will ship an HD 3D camera in October. The AG-3DA1 is a professional-quality, Full HD 3D camcorder offering SD media card recording.



Mathew Alexander, Product Manager Broadcast, Panasonic Australia, said: "We have already had interest locally from TV networks and documentary makers, and our reseller partners also see potential in the rental market."

It is equipped with dual lenses and two full 1920 x 1080 2.07 megapixel 3-MOS imagers to record 1080/60i, 50i, 30p, 25p and 24p (native) and 720/60p and 50p in AVCHD. It can record for up to 180 minutes on dual 32GB SD cards in Panasonic's professional AVCHD PH mode, and offers professional interfaces including dual HD-SDI out, HDMI (version 1.4), two XLR connectors, built-in stereo microphone and twin-lens camera remotes.

Current 3D systems are component based systems in which two cameras are fitted to a rig in parallel, or vertically intersect across a half-mirror. Often separate recorders are also required. In the AG-3DA1, the lenses, camera head, and a dual Memory Card recorder are integrated into a single, lightweight body. The camcorder also incorporates stereoscopic adjustment controls making it easier to use and operate.

The twin-lens system adopted in the camcorder's optical section allows the convergence point (the point at which the left and right-camera lenses' optical axes converge) to be adjusted. Functions for automatically correcting horizontal and vertical displacement are also provided. Conventional 3D camera systems require these adjustments to be made by means of a PC or an external video processor. This new camcorder, however, will automatically recalibrate without any need for external equipment, allowing immediate 3D image capture.

Panasonic will also release the BT-3DL2550, a 25" professional-quality 3D LCD monitor for field use, and the AG-HMX100, a professional HD digital AV mixer for live 3D event production. Panasonic will offer professional production equipment to allow video professionals to efficiently create 3D content, so consumers can enjoy 3D video using Panasonic 3D home theatre systems. www.panasonic.com.au



NEW CDA FACILITY

CDA Professional Audio was recently formed by Control Devices Australia in order to give their line of audio products a unique identity. CDA Pro Audio is headed up by Wayne Baptist, and has recently taken occupancy of new premises in Alexandria, Sydney.

Well at home among the audio capital of Sydney, the new premises features a showroom, SADIE and CEDAR demo systems, as well as administration offices. The dedicated training / listening room features K&H monitoring & acoustic treatment. A selection of product is on display including equipment from PrismSound, MASELEC and AVP, not to mention an extensive range of microphones from the CDA brand. CDA Pro Audio are also the Australian distributor for Lundahl transformers. See <http://www.cda-proaudio.com> for further details, or call 02 9330 1750.



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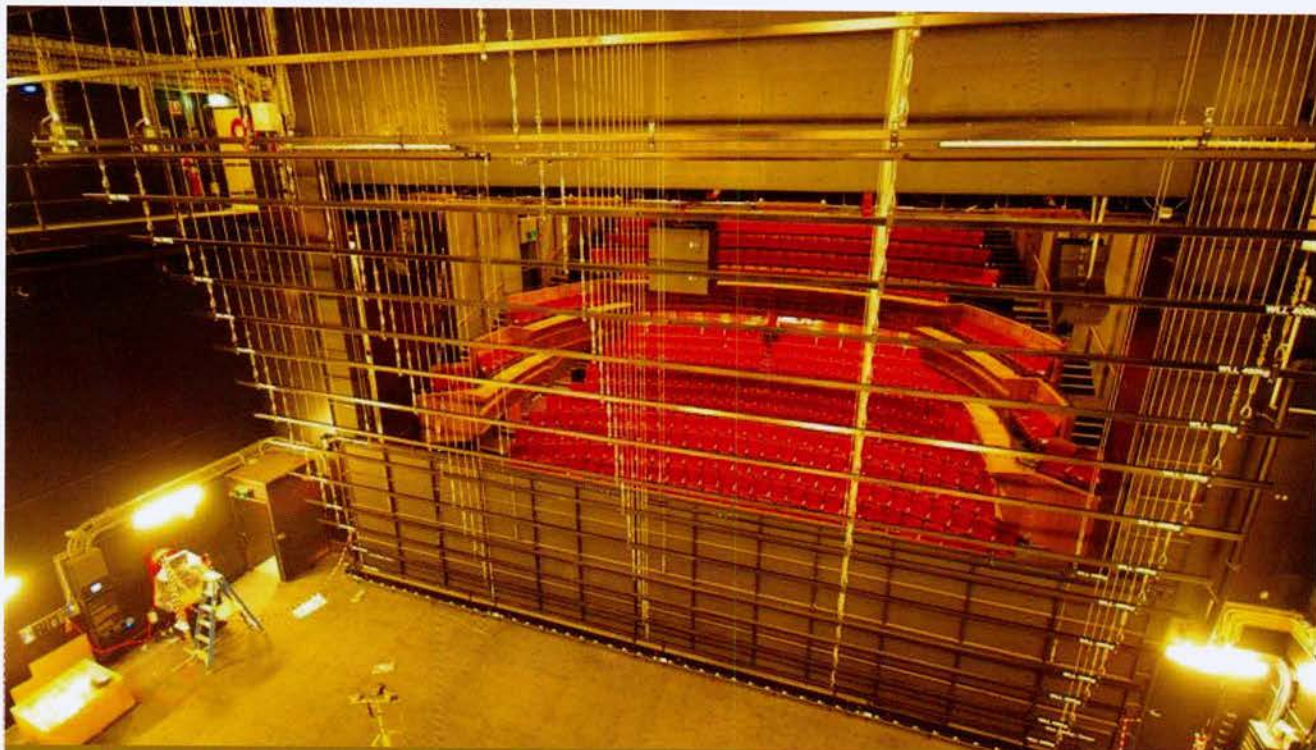
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GLASSHOUSE ENTERS YEAR 2

Port Macquarie's new performing arts venue The Glasshouse has been bedded down and has already become a tourist attraction. CX has heard good things from show crews passing through the pristine mid north coast town.

Glasshouse is an architecturally striking glass construction comprising of a 600-seat performing arts theatre, a 600m² Regional Art Gallery, a studio theatre, conference facilities and a community workshop. The project brief was to establish the Glasshouse as the pre-eminent performance and exhibition arts facility in the region. That the building stands is a tribute to big thinking: there were many political hurdles along the way.

The auditorium is a semi-traditional proscenium horseshoe, with a fully equipped lyric stage and fly tower. Operable acoustic drapes and Jands VAB 6 Acoustic Curtains enable the space to be tuned for both voice and music performance. The orchestra pit is operated via direct acting Serapid Link Lift 80 rigid chain actuators to allow a thrust stage, orchestra pit or an additional 40 seats for the audience. The sightlines have been computer modeled, and the sound performance designed to exacting standards. The venue has fibre-optic and Ethernet backbone cabling with audio-visual support provided in-house

Jands, who were the head staging contractor for this project, appointed The P.A. People to draw up plans for the sound system design and to undertake systems integration for the venue. The project works for the Glasshouse included the commissioning, design, and installation of the stage lighting, DMX distribution, patch panels, dimmers and controls, stage manager's systems including CCTV and paging, stage luminaires, the theatre audio system and studio lighting controls.

The P.A. People's project team leader Brett Steele worked closely with theatre consultants Marshall Day Entertech, RTM and the acoustic consultants ARUP during the course of the project.

For the theatre's main PA a JBL VRX loudspeaker system was chosen and configured as a L-C-R system in three drops of four VRX932LA cabinets finished in black, augmented by two double 18-inch ASB6128 sub bass loudspeaker, which are flown behind the centre cluster. Three JBL Control 28T60 loudspeakers make up the front fill component located in the front edge of the stage, all of which is powered by six Crown CTs3000 amplifiers. Four JBL PRX512M 500W powered monitors are also utilized.

The FOH and monitoring speaker systems are mixed on a Soundcraft GB8 40ch console, which is also served by a Lexicon MPX-1 effects engine and Marantz CDR 510 CD recorder.

A three universe DMX backbone infrastructure is distributed over ten spurs and four custom DMX inlet plates together with central patching, including three Jands DD8s in the control room racks. The P.A. People were also responsible for the IT infrastructure including 65 data tie lines over 38 outlet plates, with central patching across three RJ45 patch bays. The level 4 dimmer room includes thirteen Jands HPX-12SC and six HP-6HRC customised dimmer racks, all fitted with special high rise time filters, for which each rack has been supplied with a separate rack mounted transition panel to present the dimmed outlets in a format compatible with the patch panels installed.

An ETC Ion lighting control console with 1024 patchable outputs and an LCD monitor is backed up by a system infrastructure which includes Jands SB series back boxes and panels in high traffic areas and Clipsal 2000 series plates in the FOH and other BOH areas.

The P.A. People also provided profile spots, including six ETC Source 4,750W and six ETC Source 4 Junior 575W luminaires. A total of 60 ETC Source 4,750W par cans have been installed on the 24 three-metre J LX Pro lighting bars, each of which is fitted with two Socapex looms.

Glasshouse Operations Manager is Belinda Gibson and the Technical Manager is Mark Millett.

www.glasshouse.org.au



FOOTPRINT FRIENDLY

Allen & Heath has added two new models to the iLive digital mixing series, the iDR-16 3U MixRack and iLive-R72 rackmountable Control Surface. Together they provide a space saving, lightweight digital live mixing system, with the same power, sonic performance and flexibility as the larger touring iLive systems.

With these additions, the iLive Series now includes a total of 6 Surface and 5 MixRack variants, which can be mixed and matched in any combination, and share the same firmware, so that show files are transferable between systems via a USB key.

The iDR-16 MixRack and iLive-R72 Control Surface connect using Allen & Heath's proprietary ACE (Audio Control Ethernet) link, which allows cost effective long distance point to point control and audio communication over a single CAT5 cable up to 120m in length.

The fixed I/O iDR-16 MixRack provides 16 mic/line inputs and 8 XLR outputs in a compact 3U frame, with a further 8in/8out available locally at the iLive-R72 surface. All MixRacks, including the new iDR-16, feature the same 64x32 RackExtra DSP mix engine, providing processing for 64 channels, 32

mixes, and 8 stereo FX processors. The latest dualcore DSP technology handles all the FX and mixing along with the full dynamics, EQ and delay for all inputs and outputs simultaneously.

Flexible in the extreme, iLive's networking facilitates, for example, digital mic splitting and multi-track recording, with ACE, EtherSound, MADI, ADAT and Aviom™ interfaces available, while control can be via laptops, touch tablets and MIDI devices.



The compact iLive-R72 10" rackmount surface features 12 faders in 2 banks and 6 layers, providing a total of 72 colour assignable channel ID control strips. A built-in touch screen enables swift access to the processing, memories and system configuration.

Pricing is expected to be around \$8,500 for the iLive-R72 and \$5,000 for the iDR-16.

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Big The Audio Story

How hard can it be to supply audio for festivals? CX goes behind the scenes with Norwest Productions to find out.

By JULIUS GRAFTON

Nick Hutchinson is not such a great partner to Louisa during festival season. He sits at home raking through band riders. Then he lies awake workshopping what could possibly go wrong. There's plenty to think about.

An account manager at Norwest Productions, Australia's largest audio provider, Nick looks after a raft of outdoor festivals including Park Life and Defqon. "Anyone working in this industry does it because they love it", he explains.

Given the hours and the outdoor conditions, some love helps. "A typical

work pattern for a festival is a couple of prep days in the factory, then load in at 7am Friday. Stay around until 8 or 9 that night, then back at 8am for the headline band crew to set up their backline and check. The show starts at midday, ends at 11pm then we load out. We often see the next dawn."

Then there's the weather. "Norwest brings the rain", Nick half jokes. "Most load outs seem to be in the rain."

EQUIPMENT

How much P.A. do you take? "There is not enough until the truck is full", Nick says. "I don't want any complaints and I

don't want anything broken". A truism of live sound is that once a component like a subwoofer fails, more failures become more likely as the engineers push harder.

"Shows build in level, they never get quieter".

"Really, more P.A. than necessary is my policy. If the gear is sitting around in the factory doing nothing, I'd rather it was out on the show."

"Quotes and contracts happen six to nine months out, then things change when the band specs come through. I try to keep everyone happy – at Norwest we don't go hard and say 'that's the stage mic spec, just handle it'.

"You've signed off on the gig and then



the headline bands want a Midas XL-4 console.

One challenge with Parklife is to try to make the stages the same, from city to city. "They have four or five stages, and the festival runs Brisbane then Adelaide one weekend, Melbourne and Sydney the next. It's easier for us, because Northwest is in Melbourne and Brisbane as well. But it's hard to get the same console on every stage. We can do that."

How about the digital divide? "Funny enough, the specs are about half analog and half digital consoles, so we usually have an analog main stage and a digital Main stage and that has worked OK so far".

DESIGN

"You always start with the headline act's requirements and work to that, which covers stage, mics and monitors. The P.A. design is a different matter".

Nick has used some innovative ideas in recent times.

"The problem is the venues. We did Defqon for Sensation at Penrith in the former Olympics Regatta rowing grounds and there are no residents anywhere near. There were no limits on sound levels. The reviews said it all."

They sure did. Inthemix forums raved about the sound. They also praise the promoters - "Little things like bamboo screens instead of wire fences, gas burners to keep you warm. There was nothing to flaw it. Everything was so well run. I did not line up for a drink once. Same with food". The punters were impressed.

"But when you get to a venue like Centennial Parklands in Sydney", Nick picks up, "there are massive noise restrictions because of residents. We can't breach 98dB at the boundary". This means the promoter is caught between a central venue with great transport links, and what is probably the most unreasonable local population in all of Australia, the whingers who moved into Paddington and Moore Park and then started to complain about the multiple outdoor venues around them.

Audio for events in the precinct is closely monitored.

For Nick it means throwing out the line array rule book. "I tilt the top of the array down towards the deck at the front of house position, so the whole array is pointed down".

"Then I put massive front fill in place, right across the front

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Norwest's Nick Hutchinson.

of the stage. When the show starts, we only run the front fill. Then as the crowd builds, we bring in the line array in steps. We send matrix outputs from the desk to different combinations of (line array) elements. This way you can turn on, or up, the lower, the middle or the top boxes."

"We have to get energy into the crowd. We move the mix tower to just 35 metres in front of the stage, so the engineer is in the sound field. If punters don't get in close, they complain there is not enough sound."

"Delay towers are OK but they cost money – the promoter needs ground support, power. What I really want to do is build a grid from the stage to the mix tower, and put in a distributed system of (Nexo) PS15's pointed down. One box

per 3 metres.

Then everyone gets the same sound, everywhere underneath it. But that is probably too radical".

Another idea is to convince the residents to man up and swallow the noise until 11pm. Hell will freeze over first.

CHANGEOVERS

Some larger festivals have an A/B main stage. One band appears while another sets up. There are multiple mixers at the front of house position.

Norwest do a lot of rolling riser changeovers. "We get everything on one riser on a drop box, and have a Yamaha 01V (small digital mixer) side stage. We connect the L&K Multipin from the riser

to the Yamaha, line check everything on headphones, then when the riser rolls on it is hooked straight up. The power is on C Form connectors, everything works straight away."

At the console things can get interesting. "Early on we discovered one console type shuts audio when you load a show file. And show files are common. So we put another 01V at front of house, and switch it in at the Dolby processor or with a Midas XL88. The MC mic, a DJ console and the CD playback are all on the 01V, so you can take the main console offline to load it up. Even a second of audio break is too long".

Show files of digital console settings are a big deal. "We work on educating the artist – please email me the console file ahead of time so we can run it up in the factory and make sure the patch is right. Even so, occasionally someone walks up with a file. Which is potentially deadly."

The problems can include a different output patch, where an artist's engineer is using (say) mix one to left, mix two to right but the system at the festival is arranged differently. With stage monitor console files this becomes a nightmare.

"A standard festival monitor system has eight sends of wedges, two sends of 4 way side fill, one three or four way drum fill and four sends of in-ears", says Nick. Where each send goes is a make or break – importing a show file at the last minute that isn't compliant with the physical show patch will test an engineer, who must open the console patch screen and quickly rearrange.

"At Parklife we had the live debut of the band Empire of the Sun. They were

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Brisbane's Park Life Festival.



building their show file and we emailed it from State to State. They built it as they went."

WIRELESS AND BROADCAST

Management of wireless frequencies is also a potential nightmare – which is why Nick spends his leisure hours poring over band specs to assemble the inputs and frequencies of things like guitar wireless packs or in-ear packs that a band may bring with them. A frequency allocation patch sheet is produced.

"For really big events we have a wireless guru – Steve Caldwell who comes on site before we start, and checks the spectrum. He can transmit a message or a tone on all the frequencies that we want to use, so no other users can get in there before the show."

This can become problematic when the broadcast crew arrive.

"I don't mean to criticise anyone", Nick says, "but when you've been trying to talk to broadcast for days before an event, and you can't, and then they roll up and start making demands it gets hard."

Typical of this: outside broadcast uses a lot of wireless spectrum for comms and audio. Without negotiation, this can quickly smash planning and result in last minute stress. Another: the audio truck is parked somewhere and the broadcast audio crew demand splits from the stage. But their truck is a hundred metres away from the nearest practical point.

"What can you do? It's the bane of our existence," laments Nick. "It isn't our problem but they make it that way. They need the audio. We get on the phone to

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When the imported file tells the console the wrong thing...

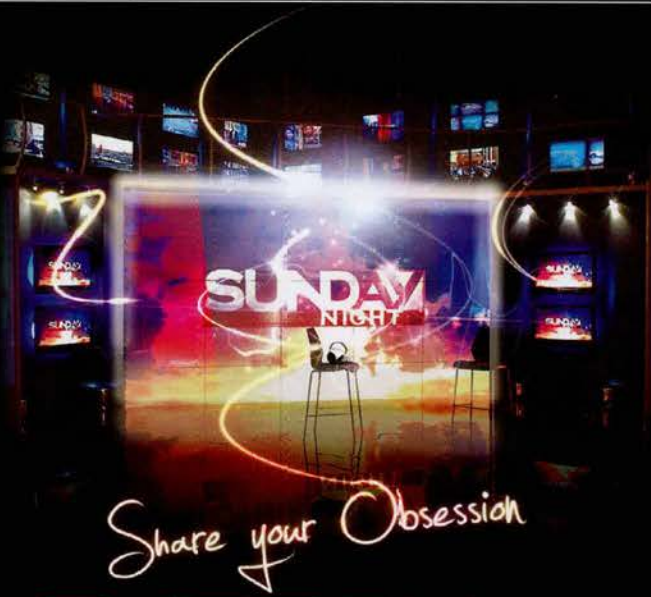
Yet another great reason why show files should be sent in advance and loaded at the factory BEFORE the festival.

Howard Bennet reported on Crewspace about a Yamaha PM5D-RH on a 2 day festival.

"First day, it worked fine. The 2nd day upon power up it decided it didn't have head amps. I called the east coast 24 hour service guy, no ideas. They called the west coast service guy, no ideas. When the console returned to the shop, it worked fine."

Transpires that this happens when shows are loaded from very old 5D firmware into current firmware consoles. New firmware had some upgrades done to headamps and a bug causes the 5D to revert to non RH status when recalling old scenes.

Always keep a current firmware load on your USB stick. And load old scenes (made using old firmware) at your own peril.



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the factory and whistle up another set of multicores at the last minute. Very frustrating and it costs us."

BURGERS AND POWER

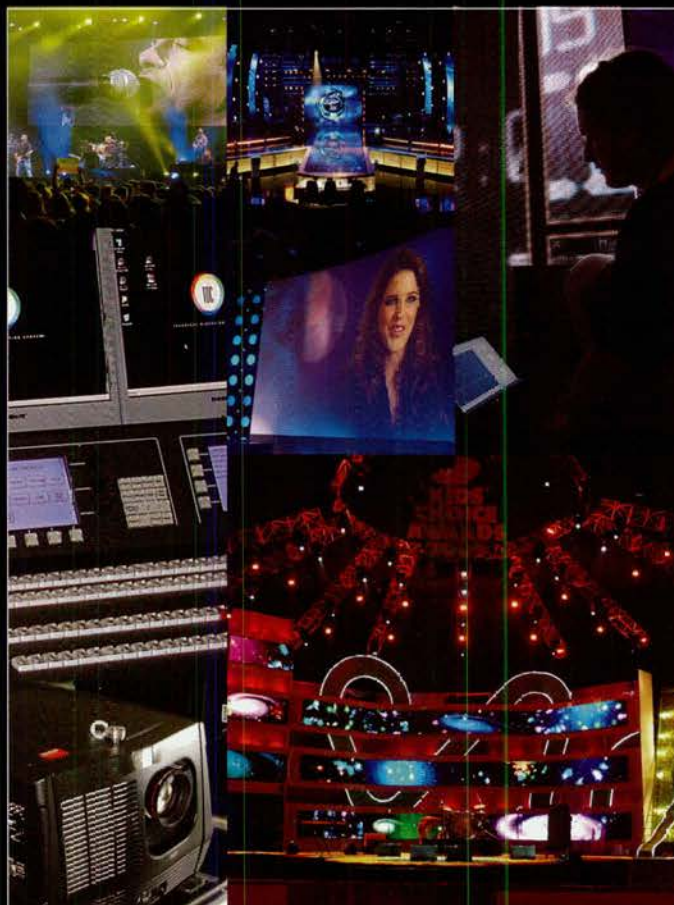
"We specify dual redundant generators", Nick says. "The number one cause of show stops is power. We had one nine years ago with Billy Idol at the football final and we got blamed for it even though it was not our fault. We lost the gig!"

Nick is correct – the Billy Idol stoppage happened when one of the artist's keyboards tripped an earth leakage breaker on stage. With the backline power out, the act were left flailing onstage instead of doing a three minute live to air segment. It wasn't an audio fault but still Norwest unfairly suffered the consequences.

"I lie awake at night worrying about show stoppers", says Nick.

But the biggest planning issue on a show is his crew. "They literally can spend an entire day and night at their console. Feeding them is a big deal. We've had a promoter give us all an Oporto voucher. That is actually better than some promoters, who actually do not feed the crew. Louisa has stayed up and made heaps of sandwiches at home, to take to the crew".

So there you have it. There are 1001 things to think about when planning festival audio. One of the most important things is to have a guy like Nick doing the job – someone who knows what can go wrong, and who stays awake at night sweating so it doesn't.



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A LOAD OF WATTS



It's not often that you meet female road warriors – I mean real road warriors who have spent their entire careers in busses and arenas. So when Libby Gray ended up sitting across the dinner table from me during a recent trade show one of her first comments really caught me off guard.

By **RICHARD CADENA**

*"I ran away with the circus."
- Libby Gray*

I asked her how she got into the lighting industry and her answer was, in effect, "I ran away with the circus." Her first job was running the portable generators for the circus. She explained that the generators were critically important because in the event that they were to lose power in the middle of, say, a trapeze act, it could be fatal. I knew right away that she and I would get along well because anyone who starts a conversation that begins with a circus and results in a discussion about electricity is my kind of tech.

IS A 1KW GENERATOR A 1KW GENERATOR?

Funny enough, just before dinner I had been searching for answers to a portable

generator question. I had been puzzling how to properly size portable generators and wondering about why they're rated the way they are. Most everybody who has operated a portable generator will tell you how many kilowatts a generator produces. Even manufacturers of portable generators publish specs online and in the literature that will tell you how many kilowatts a particular generator will supply. But I'm not sure I believe them.

If a generator is indeed able to produce a certain number of kilowatts then it should be able to run a given load today, tomorrow, in Erisbane, in Sydney, where ever, no matter what the conditions. Is a 1kW generator always a 1kW generator? I can give you a generator and a load with a matching (or slightly lower) kilowattage and the generator, under certain conditions, won't be able to run it.

For example, if I had a 1.2kW generator and a 1kW HMI fixture then the generator should be able to run it, right? But what if the HMI fixture had

a magnetic ballast and no power factor correction? Would the generator still be able to run the load?

WHAT'S PF CORRECTION?

Power factor correction is a way of bringing the voltage and current in the system back in phase with each other. If they are out of phase then the power factor drops from 1 to some value less than 1 and the current draw is higher than what is needed to run a power factor corrected load of equal value.

So in a nutshell, our 1kW load without power factor correction would draw more current than "normal" for a load of that size. Whether or not the generator could supply the load would depend on how low the power factor is. If it was much lower than 1, say, 0.8, then the generator would be slightly over capacity and the HMI lamp might flicker badly or not stay on at all.

In this case, our 1kW load is undersupplied by a "1.2kW" generator. Is it still a 1.2kW generator? If it is, why can't it run a 1kW load?

WHAT'S THE ANSWER?

Perhaps a better way of describing the supply capacity of a generator is to use a value that is unaffected by the power factor of the connected load. There is a unit of measure that is similar to kW except it takes into account the increased current caused by a lower power factor. That unit of measure is kVA.

kVA is simply the product of the kV and the A, or the kilovolts times the amps. In the case of a 240V system, the kV is 0.24, so a 1.2kVA generator could supply 5A, regardless of the power factor of the load.

That makes sense when you consider that the higher the current, the higher the temperature of a conductor. In fact, the temperature of a conductor increases exponentially with the current. And a limiting factor in any system is how much heat it can handle before it melts into a puddle on the floor.

So when you re-evaluate the supply capacity of a portable generator from

the perspective of how much heat can it handle, and thus, how much current it can supply, then for a given voltage you're left with a pretty hard and fast limit on the amount of current it can generate. And it doesn't care how many kilowatts that is, only how many kVAs it is.

CAN YOU SHOW ME?

In our example of the 1kW HMI lamp, if the power factor is 1 then the kVA is 1, but if the power factor is 0.8 then the kVA is 1.25 ($1\text{kW} \div 0.8 = 1.25\text{kVA}$). It's easy to see that a 1.2kVA generator will not run a 1.25kVA load, at least not for very long.

The supply capacity of a portable generator is especially critical because they are happiest when they are running closer to full capacity than they are when they're running lightly loaded. As a generator works harder the temperature of the internal parts rises, and as they heat they also expand. When a generator is optimally heated the parts expand sufficiently so that they fit together better, they run more smoothly, and they produce the least amount of friction. I don't think it's ever a good idea to max out the capacity of any system, but in the case of a portable generator,

manufacturers say it should be run at around 80% of full capacity.

If you don't understand the difference between kW and kVA then you might be confused about what full capacity is for a portable generator. But if you simply keep an eye on the kVA and compare it to the kVA of the portable generator you'll be better off. To measure the actual kVA of the system load just use a true RMS clamp meter and measure the amperage in each leg of a three-phase system or in the hot leg of a single-phase system. Then multiply amperage by the voltage and divide by 1000 for each leg. For a three-phase system, add the results. Divide that number by the name plate rating of the generator and it should be around 0.8.

WHAT ABOUT LIBBY?

Enough about portable generators. What you really want to know is more about Libby. Today she is with a different kind of circus; she's the lighting director for Styx. Now the clowns are behind the scenes, the animals are in the house, and the ringleader is behind the console. **CX**

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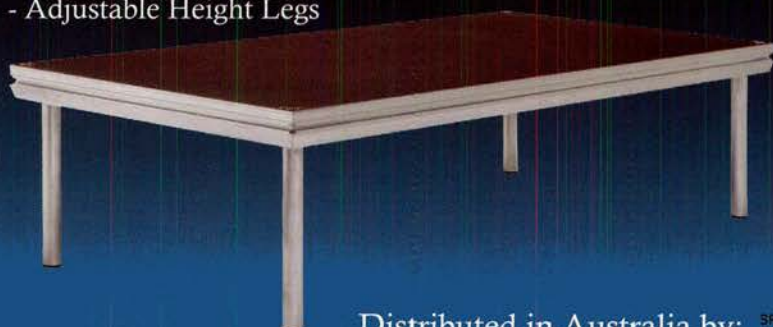
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UNDERSTANDING SPEAKER SYSTEMS



In the olden days, if you didn't understand it you couldn't make it go. Are the current crop of packaged, processed, idiot-proof speaker systems encouraging us to reach new heights of ignorance?

By **ANDY MACKENZIE**

Not so long ago I met up with a young chap, the system engineer on a gig, who had a neatly loaded amp rack with all the processing on board and a nicely finished back cover with two XLRs, two Speakon NL8s and two NL4s fitted. I enquired as to how the system went together and he showed me how the input and output cables hooked up to the back panel. I asked how it was wired behind the back panel and he stared at me aghast "My boss set it up – I just have to know where to plug the speakers in..."

An admittedly extreme, and hopefully unusual, case – but it demonstrates the kind of thinking that can prevail if thinking is made optional. There are probably relatively few people out there who don't know how their amp racks are patched, but there are probably also some who don't understand why it's done the way it is, and an even larger number who get the patching but have no idea what's going on inside the processor.

So for the sake of education, let's go back in time to a simpler era – a time when equipment was primitive, and most

of us weren't much better. Let's have a look at what it used to take to get the system working, and translate it into modern terms.

PILING IT UP

To start with, in almost every case we were dealing with ground stacked PA. Composite boxes were rare, and completely unheard of in concert systems – it was all about bins and horns, and the geography of the stack pretty much followed the frequency response of the devices. The subs went on the ground, then the low mid bins, the horns, and the rings up on top.

When you stacked the horns, you tried to do it in a way that the horizontal coverage of adjacent ones didn't overlap – otherwise you could get all kinds of zany phase effects where they overlapped. If you suggested computer modeling the system beforehand, you would have been considered a lunatic. Apart from anything else, NASA were hardly going to lend you the computer, were they?

You just piled it up, then listened to it. If you didn't like it, you fiddled about with it until you did.

In the modern world, composite boxes

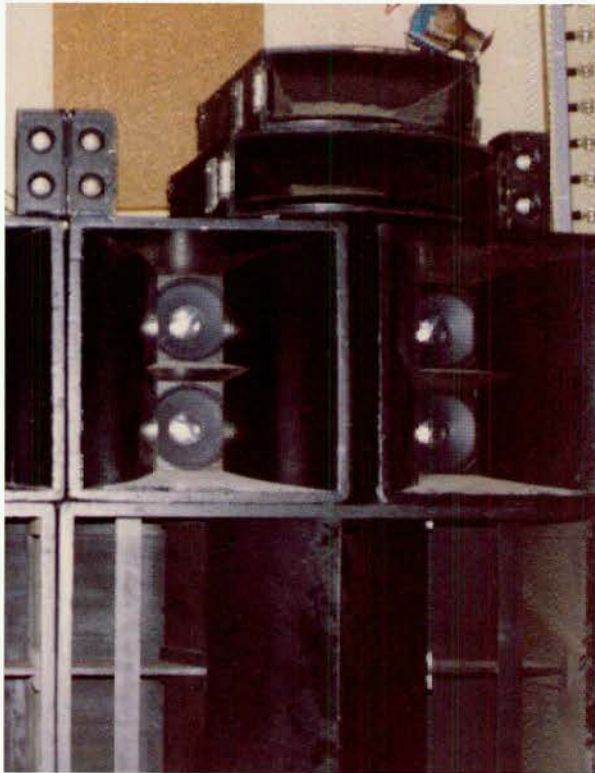
rule. In the case of line arrays, they're very carefully and specifically designed to avoid the crazy phase effects by keeping all the high frequency devices in a single vertical line with minimal horizontal overlap. For those who've wondered though, this is why you'll never see a double row of line arrays.

In the world of smaller boxes, array angles still make a difference. Too many people will stack those nice trapezoidal boxes right next to each other, not realizing that the horn angles are bigger than the box angles (or not realizing it matters). In almost every case, the sound of the system will benefit from (usually) about 10-15cm spacing between the front edges of the boxes with the back corners together. It doesn't look as nice, but then speakers aren't for looking at.

And if you're considering deploying a line array without modeling – think again...

POWERING THE PILE

I've launched into a tirade about impedance previously, exactly ten issues ago (CX42) so I won't be going there again. There's more to amplifier selection than just worrying about load



capacity however.

Amplification used to be a difficult, expensive, and overall heavy business – somewhere around 40W/kg, so you didn't carry extra amplification if you could avoid it. The actual power requirements of your individual speakers depended on two things – the efficiency of the speakers and the amount of air they needed to move.

Efficiency was always a big kicker – measured in terms of SPL output from one watt, a difference of 3dB efficiency meant carrying half the amplifier power. Everything was horn loaded, for the sake of greater efficiency, and actual power capacity of speakers was much lower – Turbosound's ludicrous 24 inch TSW-24 only had a nominal power rating of 300W.

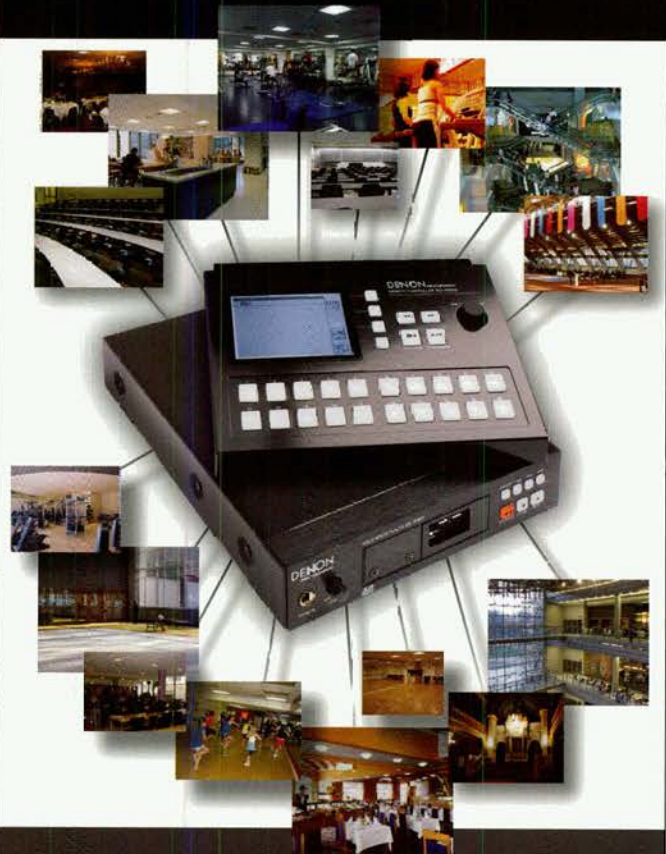
Then there was the issue of how much air needed to be moved. Then, as now, lower frequencies required the movement of large amounts of air compared to higher frequencies. Given that the compression drivers in the horns were substantially more efficient than the bass drivers and they needed to move very little air, you could use much smaller amplifiers to drive the horns. I remember one Atec system based on 200W bass drivers and 25W horns – in a 1:1 ratio!

So you'd use one amplifier for the subs, another (smaller) one for the low mids, and a really little one for the horns. Or maybe you'd use a specialised amplifier, like the AM2200, purpose built for driving Turbo TMS-3s, which had three channels – 800W for the lows, 600 for the mids and 200 for the highs.

So you'd put a back panel on the amp rack, wire up the inputs and the speaker outputs so you could just hook up direct to the back of the rack.

The current practice, encouraged by the presence of the biamped NL4 connectors on the back of virtually every amplifier made, is to simply connect one box to one amplifier – channel A for the lows, channel B for the highs. Now that amplifiers no longer weigh anything and there appears to be no upper limit to the amount of power that

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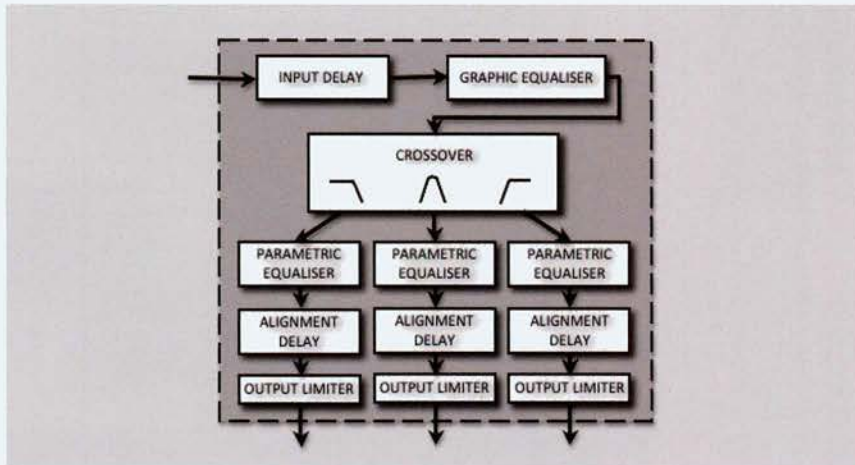
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EP6	1(-), 2(+)	3(-), 4(+)	5(-), 6(+)	
EP8	1(-), 2(+)	3(-), 4(+)	5(-), 6(+)	7(-), 8(+)
NL4	1+, 1-		2+, 2-	
NL8	1+, 1-	2+, 2-	3+, 3-	4+, 4-

Remember – these are common allocations, not gospel truth. There are enough people out there doing things differently to justify always looking at the manual. If you trash your speakers because you didn't read the manual, don't come crying to me...



A typical system processor does the work of a whole rack full of gear

can be produced, it seems not to matter as much...

FIDDLING WITH FREQUENCIES

Obviously we needed some kind of frequency divider to make these multiway systems work. Most audio electronics manufacturers worth their salt made a line of crossovers – 2-way, 3-way, 4-way versions – that you could bring into play. Brand didn't matter – you could use any crossover with any speaker system. Urei were popular because they were good and reliable, but they were by no means the only option.

Crossover controls were pretty much standard across the board – crossover frequency selection, gain for each output and a mute switch for each output. Some had flashy features like delay and metering for each output. The delay was for time alignment – if the horns were deeper than the mid drivers, you could delay the mids to make sure it lined up right. Some people didn't bother, but if you got it right it could make a big difference. There were specified

crossover frequencies for different speaker systems, but you could always fiddle them around a bit if you needed to.

Crossovers were necessary – feeding low frequency speakers with high frequency information leads to increased harmonic distortion, while feeding low frequency information into high frequency speakers tends to just destroy them. These days the crossover, complete with its associated time alignment delays, is just one of the processes incorporated into the digital system processor. Factory presets for individual speaker systems ensure that you always use the manufacturers preferred settings.

AIMING FOR EQUALITY

Equalisation for systems and rooms used to be pretty rough and ready – 1/3 octave equalisers at front of house, adjusted by the operator or system tech on the basis of listening to a cassette (for those of you who missed out, cassettes are what CDs used to be before they were invented) through the system. Some particularly scientific types would use signal

generators and Real-Time Analysers to get things a bit less subjective, but mostly we just followed the first law of sound engineering: F#%* with it until it sounds right.

The one equaliser dealt with the frequency response of both the system and the room, and most systems (and most rooms!) needed a fair bit of work. The drive for efficiency and the limited technologies of the time compromised the acoustic performance of the systems so they always needed a fair bit of EQ to get them sorted.

In our brave modern world, the need for efficiency has been reduced by the availability of lightweight, high powered amplifiers, and design and manufacturing techniques have improved so that we can produce speaker systems that are much closer to flat frequency response. The little bit of equalisation that is still required gets taken care of by parametric filters in the processor – solving the problems with a minimum of fuss.

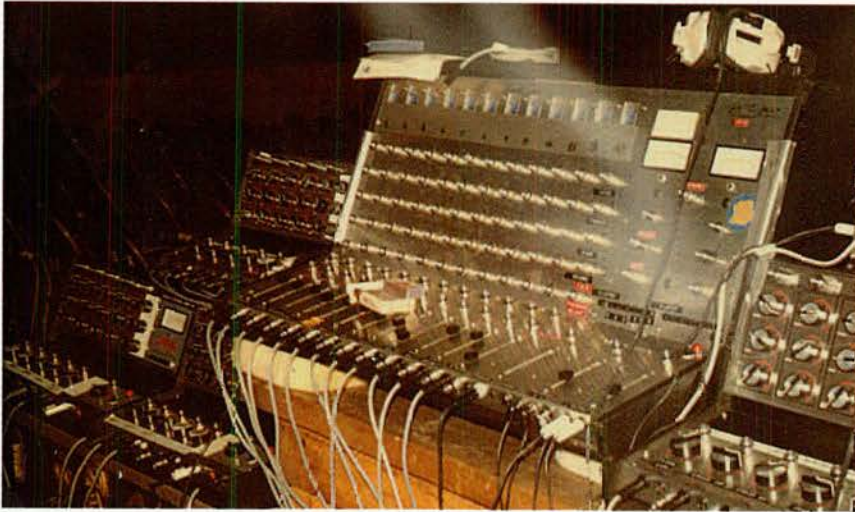
So in any kind of decent sounding room, most modern systems will sound pretty good straight out of the box. It's still normal to have a graphic EQ somewhere in the system to deal with room response, but the days of extensive EQ to tame the PA are over.

SAFE SOUND IS GOOD SOUND

Of course nobody likes it when their expensive system suddenly stops working, and the best way to achieve a stoppage has always been the blowing up of the speakers. This used to be much easier to do in the olden days, because none of the speaker protection circuits you find in modern amplifiers had been invented yet.

Limiters, then, seemed a very excellent idea. They could be set to prevent the signal levels driving the amplifiers into clipping – still the easiest way to kill a speaker. Only the brave and the foolhardy would venture into the noisy world of rock without their fair complement of limiters. Later on the limiters got built into the crossovers, but they were always there...

And they still are. Limiting the output signal is another of the jobs handled by the system processor. Many of today's processors are able to do an even better job thanks to the introduction of sense circuits which detect such things as amplifier output, coil temperature, and so on – thus allowing them to be very precise about applying protection as and when it is required. You can still kill the system, but it's a bloody sight more difficult.



TAKING TIME

The last bit of system processing that used to come into play was mostly used in the bigger rooms. Delay systems were identified pretty early on as being the best way of getting sound to the back of a big venue without tearing the heads off the poor souls at the front (or blowing up the PA, which is probably what we were more concerned about in the days before duty of care).

Delays were typically a standalone unit with a rotary control to select the delay time – you'd calculate the 'near enough' time based on the distance between the main PA and the delays, then play your trusty cassette again while fine tuning the delay time to get both arriving at the same time.

Delays are now incorporated into – you guessed it – the system processor. Very often the settings can be adjusted either in milliseconds like they used to

be or in metres (or feet for our American brethren), thus eliminating the need for the calculation.

BRINGING IT ALL TOGETHER

The digital speaker processor is a wonderful thing. What used to take ten rack units of stuff to do now gets done in one or two – and often done better than we ever could with the old kit. Interaction between amps, speakers and processors means that things are only going to get better from here.

For the people that still want to be able to make the little tweaks, there are tools like the dBx Drive Rack and the Lake processor (now built into LabGruppen amplifiers) that allow you to bung in the manufacturer's specs then interfere with them to achieve your desired result. For those who just want to plug it in and get on with it, there are the various speaker manufacturer's proprietary devices.

But the fact remains that even though we've got new devices, they're doing the same things we always did – and understanding what's going on in the magic box can only make you a better soundie. CX



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With Julius Grafton...



WHAT IF SOMEONE GETS HURT?

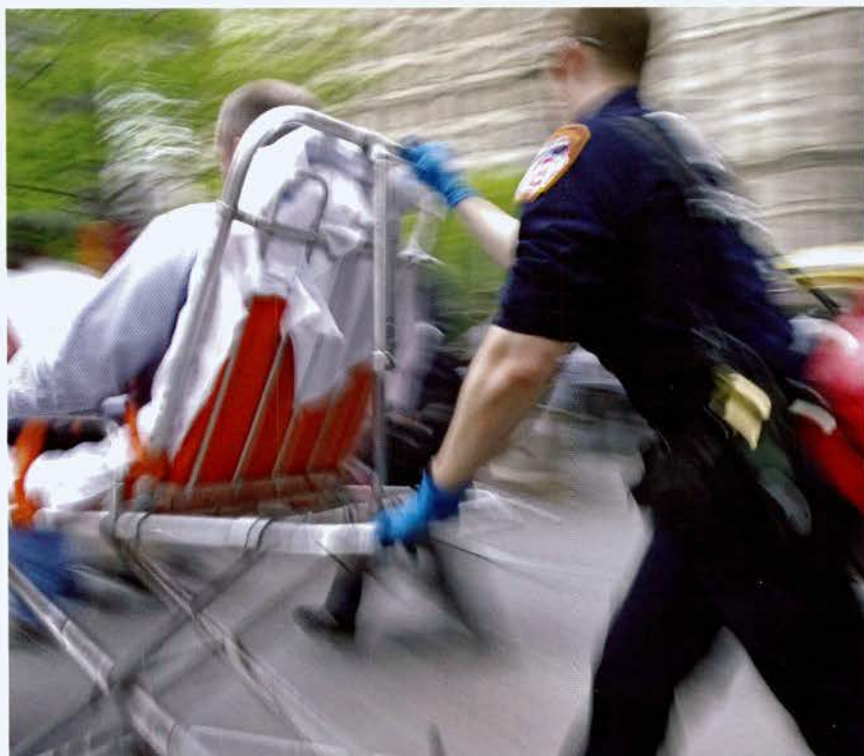
Our first and only workplace accident here at the bunker forced a big think about dealing with an injured worker, and particularly about Worker's Compensation insurance. We are glad we are legally required to have it, and that we actually do make the payments and it is current.

The worker needs to remain confidential, as this is a personal medical matter after all, so we will just call him Mr Danger. He suffered an internal injury, on the job. I'll let you be the judge. No it wasn't when he was annoying the publisher with his flute. In fact it is in the upper regions of his ultra fit, push bike devouring torso. He has a six pack as well, or at least he did before we drank it at our last nude staff jelly wrestling telecast.

The doctor said that if he didn't have an operation, the condition would eventually possibly kill him. If he wanted to go on the public hospital waiting list it may be that death would happen first, or come close. But if it was Worker's Compensation, then the insurer would pay. "It IS Worker's Comp", he told Mr Danger, "because that's how you get this kind of injury!"

Allianz Insurance didn't want to agree to all this straight up. They needed paperwork, so we went into That World. The first thing we needed to agree was when did the accident happen? I told them that I thought it had started some time ago, so they asked me to pluck a date out the air. "Right then, because you didn't report the accident within 7 days, there is a \$1,300 excess", the bright little bean on the phone informed me.

This is a gotcha for all the employers out there. If someone breaks their leg, or falls out of the rig, it's easy enough to know when the injury occurred. But if it's an occupational overuse thing, like



a bad back, hearing deterioration or Mr Danger's delicate condition, it's harder to know when it occurred – and you may have no idea it's work related until the doctor tells you so.

Then there was the Workcover Report from the Dr Wolfgang or whatever damn specialist it was that Mr Danger was being diagnosed by. Eventually a blizzard of paperwork descended, and Allianz pulled the next trip mat out of the pack.

"We're not totally convinced Dr. Wolfgang has it right", said Bean-girl. "We need Mr Danger to see our specialist". Sufficiently medicated with cheap Vodka, he caught the little bus to the street where these guys work and pulled down his pants or did whatever they wanted.

This was a bare four days before the surgery date, so Allianz did come to the plate quickly to confirm with the hospital that they would, in fact, pay for the operation.

So far a good outcome. Mr Danger is on a Worx Plan, where he is on light duties that do not strain his body part while it re-grows or is enhanced. We thought there were mail order solutions to all this, but Allianz had better ideas.

In all seriousness, think about all this, freelancers. Do you have personal accident and disability insurance? No? Then when you get injured, you better hope there is a guilty employer in line, who has a Worker's Compensation insurance policy. Otherwise you'll be literally up the creek. CX

The nature of the advice given here is general. Do not rely on this column, and do refer any questions you have to legal counsel before imposing any changes to your venue, job practices or workplace. This column is not legal advice, and should not be taken as such.



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HOW I SPENT SIX MONTHS ON THE ROAD WITH **BILLY IDOL** AND SAID 5 WORDS TO THE MAN



By JOHN SCHLICK

Hopefully, that's a catchy title. This is a great (and completely true and unembellished) story that highlights a part of the job description of being on the road. Many people outside of the music business want to hang out with Rock Stars (in some capacity OTHER than "Groupie"). Many of them think that by taking a position as a sound tech, lighting tech, stage carpenter, rigger, etc, they will get to "hang" with whoever they are on tour with. If this is your primary reason for getting into the tech side of the entertainment business, then you are in the wrong business. PLEASE, stay home. The entertainment business is for people with a passion for their job.

The arena sized touring road crew business where I work is a place where pros exercise their craft. They set-up somewhere between 1 and 20 semi-loads of gear in record time EVERY day, and they love that it's their job. Now, there are ways to hang with the band, and have it be ok, and I'll get to that at the end. In the meantime, let me tell the story that I allude to in the title.



John Schlick

GETTING THE GIG

Back in the late 80's I was on the Billy Idol Whiplash Smile tour. We were playing 6,000 to 20,000 seat venues across the U.S. and Canada. I got the job in the way most people get cool jobs in the business... I got a call at home asking me if I could be on a plane the next day to replace someone they hadn't YET told they were firing.

So, naturally the next day I was on a plane to Boston, to head for the Centrum in Worcester 60 miles from the airport. I joined the tour, learned my part of the load in, show, and load-out. The worthless guy was replaced. In the very rare moments of free time I had, I tended to find myself hanging out either with Duffy (the guitar player for our opening act, The Cult), Ian (the LD for the Cult), or Kenny Aaronson (Billy's bass player), and occasionally with Janet (Billy's Wardrobe Girl, who also happened to have the bunk below me on the tourbus). But I never really saw or talked to Billy.

RAIN & CLASSIC CARS

After a couple months of this, we pulled into Philly, at some venue where they have three levels of parking below the

main space. Now, a confluence of events took place that led to one of the strangest encounters of my life, one which I remember vividly to this day.

First... Catering (where the food is!!) was located at the lowest level of the parking garage in some large room off to the side. You had to walk down and down and down the ramps and across the parking area and then up a small set of stairs to get to catering to get lunch.

Second... A day or so before we hit town, they had a vintage muscle car show in this venue. Hundreds of old cars, perfectly restored, spotless, the pride of American manufacturing. Many of these cars weren't scheduled to be shipped home to their owners for a few more days, and so easily 50 to 100 of them had been parked in the lowest level (the most secure) of the parking garage.

Third... The night before we arrived, it had POURED down rain. I mean, POURED. Like, they got their annual rainfall in one night. Now, remember the parking garage? Guess what? It's well below grade right? Lets add one more factor here... Poor drainage!

To adequately paint the picture, imagine a couple of million dollars of cars with about an inch of their bonnets

showing above the water, and catering on the other side of an impassable lake. What do you think was going to happen...

The roadies and local crew were walking across the bonnets of the cars to get to food, hanging from the sprinklers to make the hop between some of the cars that were parked a little farther apart than others.

STEPPING STONES

Now, I got up a hair late that day, and missed breakfast. So after we got the rig flown, I headed off to get lunch before focus – not knowing anything that I just told you. I got to the bottom of the ramp, saw a car close by that wasn't underwater and noted that the bonnet was totally scratched. Then I saw a trail of dented bonnets all the way across the garage to the stairs that led up to the door on the other side where food was. So, I did what everyone else had done. I hopped up on the first car, and grabbed the sprinkler and headed across the lake using the car bonnets as stepping stones.

As I got on the first car, Billy appeared out of catering, and headed towards me, both of us using the sprinklers to steady our hops towards each other from car to car. (Now, I also noted that Billy's silver tipped boots were REALLY doing a scratch number on the cars, but with the dents and scratches that were already there, this was not really an issue.)

We met somewhere in the middle of the lake, on the hood of a BEAUTIFUL, bright orange, must have been mid 50's Chevy coupe, it must have been a monster on the road. He was grabbing a sprinkler to pass me on the windscreen side of the bonnet, and I was holding something like an electrical conduit to pass him on the radiator side. As we passed, I said to him, "Hey man, how's it going?" (5 words), and he shot back, "Yeah... It's going alright.", with that, he moved on to the next car towards the ramp, and I moved on towards the food.

I was out with this tour for 6 months, and it turns out that was my ONLY encounter with him the entire time, and so even though I worked for him for a reasonable period of time, that was the only exchange I EVER had with him. (Wait, I saw him backstage at a Van Halen show in LA 2 years later, I said "Hi, I was on your Whiplash Smile tour", and he said "Coo."). I need to tell you that I don't lament that this was my only exchange with Billy on the tour, because the moral is that it wasn't my JOB to sit and chat with him. It was my JOB to hang the lighting rig every day, and I did that, cause well, I didn't want to get replaced like the guy I had replaced. The fact that I got to talk to him under fairly interesting circumstances doesn't change that I was doing my job.

Now, the exception that I mentioned earlier... The larger the tour you are on, the less access you will have to the band. Of course, this means that smaller tours, you DO hang out more with the band, but it means you are hanging out with "lesser" stars. So, IF you want to hang with the band, go on a 1 bus, or van/club tour as stage crew or even "Merch Girl", but always remember to do your job FIRST! (If anyone wants to know what happens to you when you DON'T do your job? Email me at John_Schlick@eXotic-Lighting.com, and I'll tell you the story of Glitch, who went out with Hanzel Und Gretyl on a bus based club tour.)

John Schlick is a full time LD who lives in Seattle when he is not touring. His website is <http://eXotic-Lighting.com>



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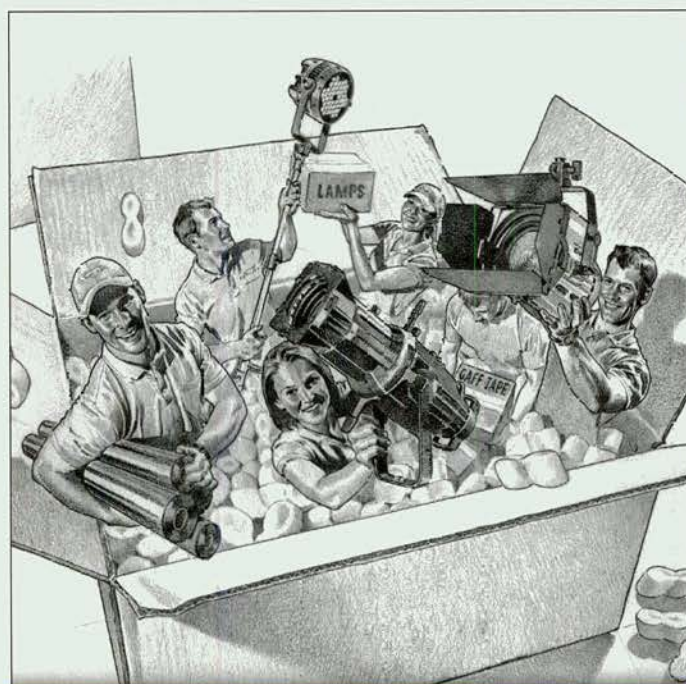
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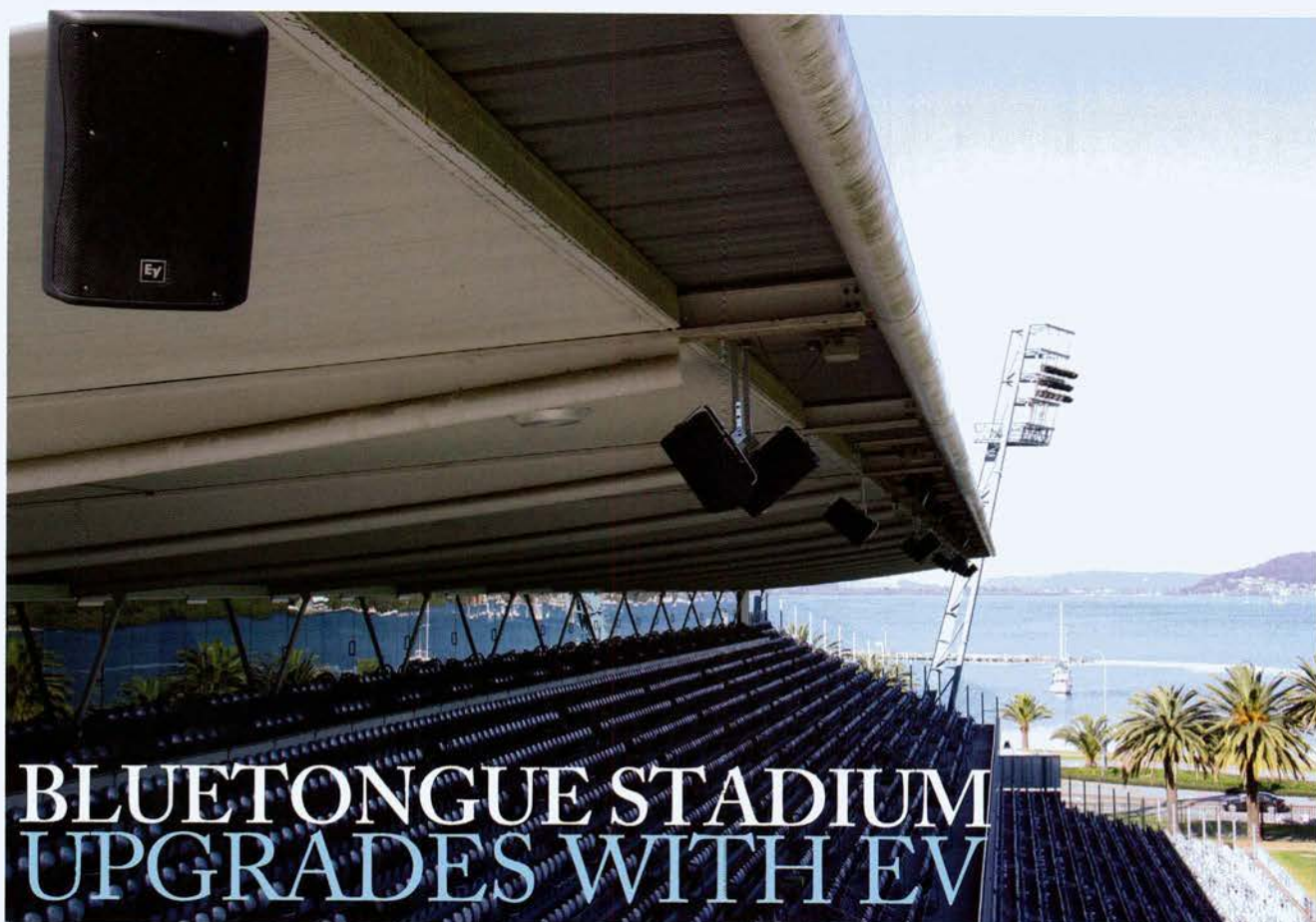
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BLUETONGUE STADIUM UPGRADES WITH EV

Situated on the scenic Central Coast in Gosford, Bluetongue Stadium has earned a reputation as one of Australia's most picturesque venues.

With a total capacity of 20,059, Bluetongue Stadium has played host to many major events. These include International Rugby Union, National Rugby League and National A-League Football matches, branching out to boxing, motorcross and open-air rock concerts as well as a multitude of local sporting and community events.

The construction of Bluetongue Stadium was completed in February 2000, bringing to Gosford a premier multifunctional facility overlooking the beautiful Brisbane Waters. Unfortunately the speaker system installed at that time was recently in dire need of replacement as the waterside location of the stadium meant that most speakers had been adversely affected by the salt air.

"Some of the speakers weren't working because their components had been corroded," explained Chris Fanning, director of Newcastle-based A1 Audio & Lighting who was asked to design and install a new audio system. "More importantly, the speaker brackets were so corroded the speakers were close to falling down from the roof!"

Chris didn't hesitate to recommend the Electro Voice Zx5PI 15" 2 Way Weather Resistant Passive PA speakers, along with NetMax DSP control, as the ideal solution and consequently the west and east grandstands feature eleven EV Zx5PI speakers each covering the upper and lower seating. EV MH640p horns are placed on the north end of each grandstand to service the end zone.

"The EV system delivers all the performance at a cost-effective price," he said. "Dispersion was a major factor when deciding on the Zx5PI as they have the suitable dispersion to fit the existing speaker locations that we had to work with. Rather than change the existing speaker locations it was easier for us to reutilize the existing points. The Zx5PI speakers definitely have the output to cover the areas. It's the same with the end zones where the medium throw horns cover the area well."

Chris specified a NetMax DSP control for the stadium which is consequently easily divided into eight zones. NetMax provides the supervision and control to ensure that the PA system is always operating at its best.

"We've got limiting on the system

through the NetMax as well as different presets," continued Chris. "So when the games start with the crowd not at capacity, we have the system limited at a certain level but as the stadium fills up the show-caller or operator can simply change the limit settings with a preset. That way the operators don't have to think too much about it."

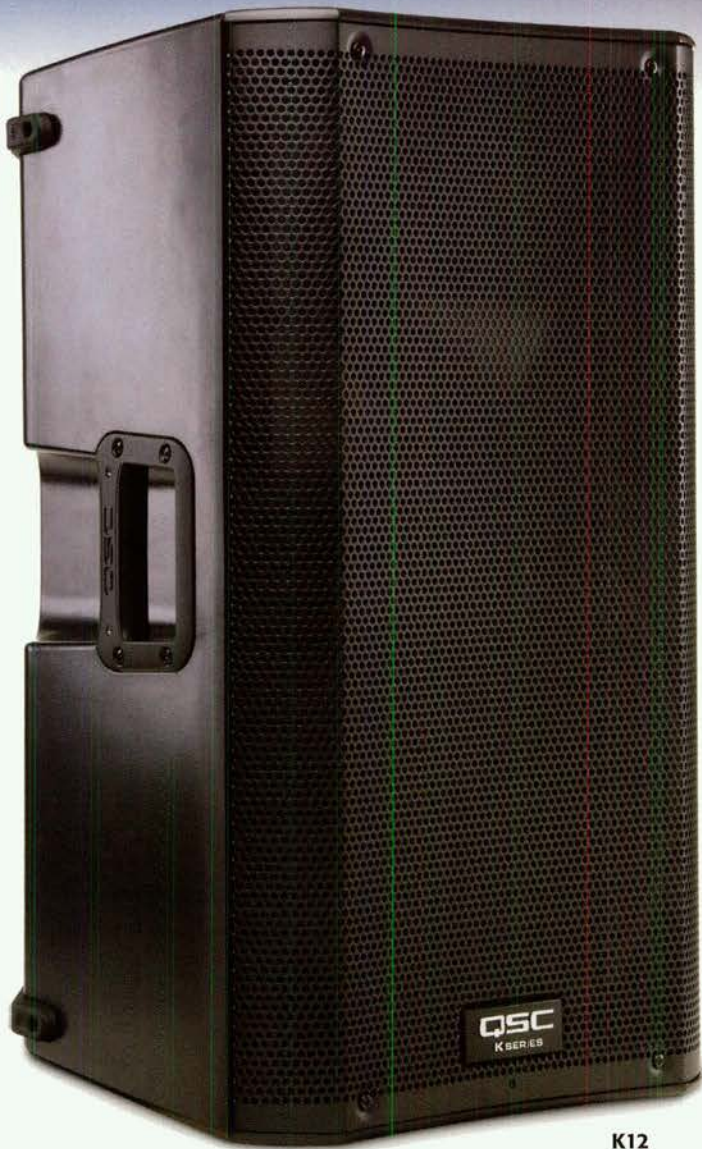
The installation is being done in stages and in the near future thirty EV Zx1i speakers are planned to cover the balcony areas.

"Mind you the EV Zx5PI speakers made such an improvement in the sound quality I suspect the client may not do the second stage!" declared Chris. "The feedback that I've been getting is that everyone is extremely happy with the installation. I've talked to the operators who use the system and the show-caller and they're all more than happy. The venue was also happy with how the installation was done within a limited time frame."

Chris was aided in the design of the system by Bryan Davidson, Bosch's Senior Engineer for permanent installations, and gratefully acknowledges his input.



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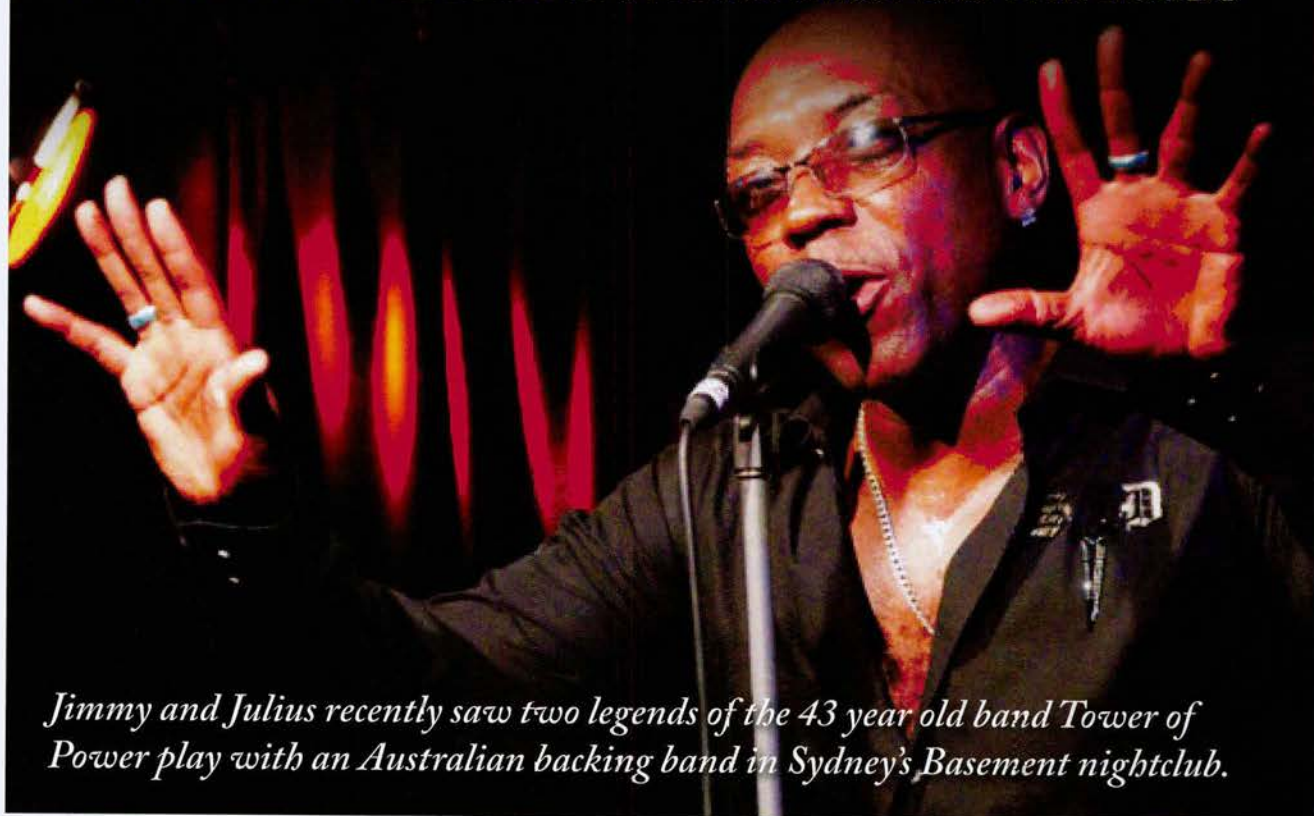
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LEGENDS OF TOWER POWER

BASEMENT'S HOUSE AUDIO SYSTEM DELIVERS THE GOODS



Jimmy and Julius recently saw two legends of the 43 year old band Tower of Power play with an Australian backing band in Sydney's Basement nightclub.

By JULIUS GRAFTON

Tower of Power are one of those classic “musicians’ bands” that refuse to stop. The Sydney show came about by chance when Sydney based musician and bass player Victor Rounds had an impromptu jam at New York’s “Bitter End” nightclub last year. He met on stage with Larry Braggs, the lead singer for Tower of Power and later with drummer David Garibaldi.

Garibaldi has driven the grooves of the Tower machine since 1970. He believes the band is greater than the sum of its parts and shares a commonality with his band members in their approach to making music. Endorsed by Yamaha and Sabian, he has shared his gift through many publications and is also a supremely highly regarded writer and teacher.

Braggs knew from the second grade he was a singer - and what a singer. Possibly the most accessible of all Tower vocalists, his tone, range and power are of world renown. His style is a graceful nod to the best aspects of two of his most distinctive

predecessors: the gritty rasp of Rick Stevens and the churchy, soulful sheen of Lenny Williams, but his sheer dynamism is all his own.

This saw a great night of soul classics with Australian musicians including Clayton Doley on Hammond/Keys, Paul Berton on guitar and the Sydney Super Brass sounds of Angus Gomm on trumpet, Anthony Kable on Trombone, Aaron Michael on saxophone and Steve Fitzmaurice on Baritone Saxophone.

Basement’s chief audio engineer Chris Mysinski mixed the show – he designed the system some years ago with the help of supplier and installer Michael White from Sound On Stage.

Mysinski says that over his thirty plus year career he has never come across a system that has survived for so long and he couldn’t be happier with it.

The FOH system consists of Ramsa WS-294HD speakers and WS-P146WL Sub-Woofer powered by EV P2000 (Mid-High) and P3000 Amplifiers (Sub-Woofer). The console is a Yamaha DM 2000, and monitors originate from front



Chris Mysinski.

of house as well.

Basement is an intimate, low roofed venue.

Mysinski mixes from one side of the room, and plainly as the stalwart of the venue he has the inside knowledge on how it should sound. Your CX duo were quite impressed with the fullness of the mix, the dynamic range, and the overall combinations.

The show ran almost two hours straight, and featured several walk on artists including three backup singers.

It’s nice to see live music in an intimate space, but with everything mixed properly.

More power to The Basement. **CX**

20 YEARS IS A LONG TIME IN PUBLISHING

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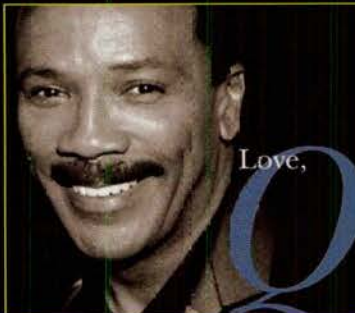
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By GUEST HISTORIAN ANDY

Normally the rest of the CX team would take pitchforks and flaming torches to drive Julius into the vault to think about what he's done but he's gone into hiding, leaving me with no choice but to venture into the blackness of the archive myself...

15 YEARS AGO: CONNECTIONS JUNE 1995

Another in a sequence of appalling covers. It's incredibly lucky that the majority of our readers are subscribers, because if we'd been relying on them to pick this up at the newsagent...

BIG NEWS

Jands Production Services bought two full-automation Midas XL-4 consoles – the XL-4 has been a massive success for Midas. 15 years on, it still keeps turning up on riders.

Buck Freeman told us that DVD was on the way to kill VHS stone dead. And it's fair to say he was right, but it took a

long time, and didn't really happen until recordable DVD took off.

Peavey Media Matrix was the way of the future for installed audio, and we were profoundly impressed that you could get 24-track software for PowerMac for only \$800 - without needing to buy extra cards to run it!

SCANCOMMANDER PAIN

The exciting world of automated lighting was still in its infancy back in '95, and there were still few compatibility issues to be resolved...

A skeptical Sydney Opera House rigged the followspots anyway, so they'd be ready when the audacious plan of lighting a dance production primarily with 'waggly mirrors' fell apart.

The Clay Paky scanners worked to plan, but there were a few adverse comments about the ScanCommander controller, which needed more memory, more DMX controllability, and more than 12 channels per fixture.

HISTORICAL HISTORY

Even fifteen years ago, there was already history. On a page titled 20 years ago, Julius dragged his mind back into the late Bakelite era to talk about doing psychedelic lightshows in 1975. "Yes, without drugs, too..."

BRISBANE CONVENTION CENTRE

To cover the big new Brisbane Convention and Exhibition Centre. We featured a full tech rundown of what was then the state of the art in large function/exhibition venues. Interesting to see that even back then Julius was talking up the need for real industry training.

STATIONARY LIGHTS!

We talked to You Am I's sound and lighting guys at the Metro Theatre in Sydney. Lighting guy Anthony 'Bazz' Barrat describes a lighting design which is all about colour and shape – and not a moving light in sight.

CLUBLAND

This section was still bouncing along, and even got coloured pictures. I have no idea why.

WHAT WE PAID

Our buyers guide to live mixing consoles listed Midas XL-4 "From \$225, 000" and a 48 channel PM4000 at \$140k. More manageable price tags on Soundcraft K3 (\$26k) and Mackie 8-bus (\$11, 295 for 32 channels). The era of super-cheap mixers hadn't arrived yet, and the cheapest we listed was \$633 for a six-channel Korean 'Spark' mixer. Lexicon PCM-80 was \$5995 Jands System 500 12 and horn speaker was \$3495 A 650W zoom profile spot cost \$480 from Coemar, \$430 from Teatro, \$434 from Strand, \$420 from CCT, \$348 from Prolite and \$432 from Selecon.



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10 YEARS AGO: CONNECTIONS JUNE 2000

A mercifully improved cover – good colour, great pic and a sparseness of words looks very classy.

SAVAGE ROCK WITH X-ARRAY

...reads the coverline, and Julius was well impressed with how hard they rocked compared to the CD. The PA was clustered EV X-Array, the same as that used for AC/DC's 2010 Black Ice Tour, and FOH audio was controlled from a Midas H3000. This was all supplied by Powa Audio, a new player on the large-scale touring market.

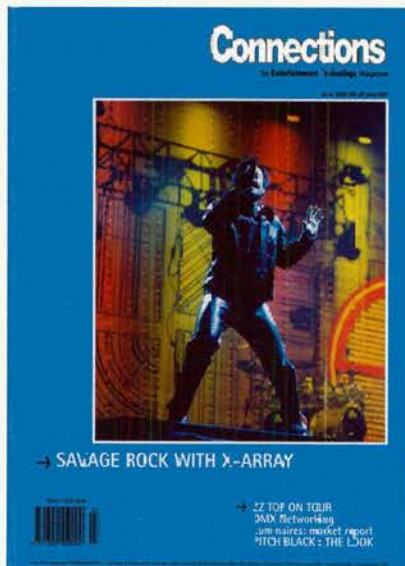
Moving Lights had well and truly arrived by now, as witness the 110 or so Vari*lites in the rig. Since the invention of bloody great LED panels for the backdrop was still somewhere in the future, LD Bruce Ramus had done some crazy work with panels of coloured roplight.

TINY PIECE OF ADVICE

Rigger to the stars Tiny Good poked his head up to remind everybody that one really good way of busting karabiners and shackles is tool-tightening them – still worth remembering, but rarely stated.

PROFILES PROFILED

John Grimshaw explored the exciting world of profile spots, providing all kinds of details about beam angles and similar.



Interesting thing here is that it could easily be a list of current fixtures, since not much has changed in the world of non-robot lighting since then.

MEYER IN MELBOURNE

We went exploring the newly installed audio system at Melbourne Concert Hall, finding a carefully designed and precisely hung collection of Meyer point-source boxes. The FOH console was an AMEK with various bits by Rupert Neve, and the list of microphones and processing is comprehensive.

BEARDY TIME!

Mandy Jones covered ZZ Top's Melbourne Park show and talked to their lighting and monitor guys. Lighting guy Chris offered a different take on the classic 'light the money' theory, saying...

why you're here is to 'heat the meat'. Monitor engineer Robert Ausmus explained why a three piece band needs two monitor guys – one for the wedges and the other for the drummer's in-ears.

DUNK AND DISORDERLY

Duncan Fry made the first of his annual trips into the strange twilight zone that he finds in Frankfurt, and reported back with no shortage of amazement at the wonders he had seen...

WHAT WE PAID

- Seacor Pacific 23/50: \$720;
- Source 4 25/50: \$1, 537;
- Altmar Shakespeare 30/55: \$1, 784
- Tascam CD 302 professional DJ dual CD deck: \$2, 799
- Allen & Heath ML5000 32+4: \$52, 995; 40+4: \$59, 995; 48+4: \$66, 995



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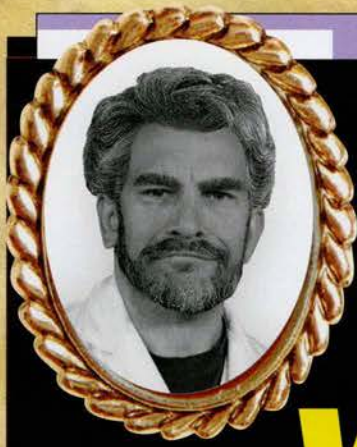
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Dr Danger's

PLAYING WITH FIRE



Greetings, science buddies. Today, at long last, I've finally come up with a legitimate scientific excuse for setting fire to stuff. Read on...



By DR NIGEL SHORTCIRCUIT

We all know that theatre drapes and similar softgoods need to be flame retardant because of the time they spend in close proximity to seriously hot burny things. It's pretty obvious really. And so everybody potters along in the cheerful certainty that all their cloth is flame retardant and they therefore won't burn to death in a collapsing theatre.

But is that really what 'flame retardant' means? Over a number of years of experimenting, I've determined that most things will burn if you get them hot enough.

So there's the question.

Will the kinds of hazards in a production environment heat flame retardant cloth enough to burn?

PHASE 1: BRIGHT LIGHTS

To get started, I've got a couple of nice bits of flame retardant fabric – some heavy wool (described as 'inherently flame retardant' so no treatment necessary) and a sample swatch of treated velveteen. My heat source is a standard two light Molefay – that should do the job.

The procedure is pretty simple – put the cloth over the front of the light, then switch it on.

The velveteen was first victim, and right from the word go it was clear that 'flame retardant' doesn't mean 'unburnable'. It didn't burst into flame, but it did smoke and stink most abominably. It continued to do the same thing for as long as we left it on the cooker, so after a few minutes we got bored and took it off.

Then the wool. The results were almost identical except that as the smoke poured off it exuded a noticeably different vile stench. After punishing the wool for a similar time to that enjoyed by the velveteen, we gave up on it as well.

I guess you could score it as flame retardant two, Molefay nil, but that doesn't tell the whole story. On the day Science Boy happened to have a chum visiting with a thermal imaging thingamajon, so we got him to do some measuring. In each case the cloth reached its maximum

temperature within about a minute – in excess of 400°C for the wool and 500°C for the velveteen!

PHASE 2: ESCALATING HOSTILITIES

Slightly miffed by the effectiveness of the flame retardant, I decided we needed to go a bit harder. Sending Science Boy inside to gather the bits for an improvised flamethrower, I prepared to find out how tough this stuff really was...

When actually exposed to some serious naked flame, the velveteen put up a decent resistance for thirty seconds or so before packing it in and catching fire. Even then, it didn't burn madly well –



Over a number of years of experimenting, I've determined that most things will burn if you get them hot enough.



The velvet was first victim, and right from the word go it was clear that 'flame retardant' doesn't mean 'unburnable'.



there were flames, but they were flames of a fairly desultory kind.

The wool fared even better. It resolutely refused to burst into flames – just sat there, sullenly smoking and stinking. Eventually the foul odour became intolerable and I stopped. The end result was not dissimilar to what the Molefay did to it.

THE CONTROL SAMPLE

Just to be fair, we decided to try an ordinary bit of crappy old black fabric we found lying around the place. Let's just say that the evidence suggests that only using flame retardant stuff is probably a really, really good idea...

SO WHAT HAVE WE LEARNED?

Well, to start with we've learned that 'flame retardant' is definitely not a synonym for 'fireproof'. Flame retardant material will burn, albeit more slowly than non flame retardant stuff. Secondly, we've learned that a carelessly positioned lamp can easily produce enough heat to start a fire – even in flame retardant fabric.

We've discovered that burning wool smells extremely foul, and that burning velvet smells just as bad, but different.

And we've discovered that the inherent flame retardant properties of heavy wool outclass chemical treatment, and have the additional benefit of not needing re-treatment.

So use the flame retardant material – always – but don't make the mistake of thinking it's a satisfactory replacement for a bit of commonsense and safe work practices.



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KEEPING BUSY

In 1979 I contributed a lighting column to the very first Sonics Yearbook, which soon became a quarterly magazine. Through the latter years of my audio and lighting business I published a newsletter.

Having left Sydney with some cash I built a house and did some volunteer work. Unable to let go, I had a PA and some lights in a van, and I did weekend gigs for some of the rock bands out in the bush.

It was one of those bands that led me back to Sydney – they were finalists in the Yamaha band competition and I came down to mix their song on a Jands PA. That afternoon I dropped into an early Australian Music Association trade show, which was held in the old Sydney showground.

I walked around, dropping in on the pro audio exhibits and re-establishing contact with a lot of suppliers and industry types. The Jands exhibit was the last stop, I stood talking to Peter Twartz when Jands boss Paul Mulholland wandered over to say hello.

“Paul – we were talking about a magazine. You should talk to Julius!” said Peter Twartz.

SONICS

Federal Publishing produced Sonics but by 1990 they were well over the glory days. For many years they had a really good editor called Cathy Grey, who came out of the production side of the industry and who knew the ropes.

In 1990 some guy was seconded from Fishing News to run Sonics. It was hilarious. Before him there had been a series of seedy musicians who all brought their own strange proclivities into the mag, which people like me still bought every time it went to print.

Some months earlier, I'd approached Federal to buy Sonics from them. They were unnecessarily rude to me. Indeed I had a déjà vu experience about five years ago when I approached Reed to sell me the now defunct BEN magazine. Why do these big publishing firms employ old Fleet street hacks who are Janus faced?

Paul Mulholland suggested I come see him at Jands, and it was clear I was interested in hearing what he thought. He told me that his firm was at a cross roads and he was keen to open a new line of communication with the industry. I seized the idea and started to expand on how the industry needed a voice, and how Sonics had lost confidence. He felt the same way.

In the 1980's, Sonics had a competitor in the form of Australian Sound and Recording, remarkably published by the remarkable Tom Misner, famous audio mogul courtesy of the School of Audio Education – SAE.

1990 was the year of a deep recession in Australia and many firms were downsizing – Jands included. Into that environment, putting a new person in to run a new project is always tricky.

CHANNELS

In the cold dark winter of 1990 I started at Jands 2 days a week, driving down from the bush and staying overnight with a friend's mum. My first day, Paul took me to the 'other' Jands, which was at that time Samuelson Production Services. Paul and his partner Eric Robinson had sold Jands Concert Productions several years earlier for a rumoured \$7m to Samuelson's, a UK firm.

Jands Electronics, for whom I was now working, was located off the end of the main runway at Sydney airport. Samuelson's

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was at the site that now houses the 'new' Jands complex at 40 Kent Road.

Back then the old warehouse had been the HQ of a poker machine company, with a boardroom that contained a bar and a men's urinal. The Samuelson's guys still worked like they did when Jands owned the place, and Paul's partner Eric was in charge of Samuelson's.

Paul drove me there, taking a short cut through a massive container depot with railway trains and huge forklifts going everywhere. He adroitly navigated his company Nissan through all of this, and we walked in to Samuelson's.

'Just hang here, I'll tell Eric why we are here', he said. As I stood in the foyer, I heard heated discussion from down the hall. Paul returned shaking his head. I knew what went down: Eric and I had been feuding since 1973 about a little dispute we shared. Evidently he had not forgotten.

Glen Barwick was deputised to be my contact in Production, and now all that mattered was getting material. My 'Suggestion' boxes at Jands attracted a few lunch orders and several anonymous ideas that bore no relation to what I was doing.

JANDS

I'd enrolled in a crash course on industry politics. I fast discovered that a large company has fans and detractors, and that a large company that had been going as long as they had (21 years at the time) was imbued with a culture.

Luckily the culture was one that I enjoyed – many people I met at Jands in 1990 had already been there a long time. Some of them are still there now. I fast discovered things that I didn't know, so that made a magazine job easier. For example, Jands did really complex,

well engineered installation work. They manufactured lighting control desks that were exported.

Having sold off the Concert Production business, Jands were trying to build better relationships with other concert production firms around the country, who could now buy JBL or Jands products without feeling like they were feeding the enemy.

Channels took shape as the voice of Jands, but Mulholland was quite open to the idea it could report outside his borders.

Back then the Apple Mac was a new thing, and Jands had one loaded with Pagemaker 4 and Freehand. They used it for front panel artwork and brochures. I got to supervise their operator, who designed Channels. Desktop publishing was a brand new technology.

GOOD REACTIONS

Jands got solid feedback, dealers enjoyed having a new giveaway for customers, and I had a green light once that first issue hit the streets on August 15, 1990.

You need to see the landscape : there was no internet or email, and the one incumbent magazine, which was Sonics, was seriously pathetic. Federal excelled themselves by refusing to let Jands advertise Channels in Sonics – they actually knocked back the advertising money. Mulholland and I took this as good sign: they felt threatened by Channels. We couldn't believe it.

I started to feature other distributors' products in Channels. The other distributors didn't know what to make of it. One day John Fitzpatrick from Amber Technology rang me to enquire about running an advert.

"What do you want to advertise?" I asked him. "Who cares! I'm just blown away that I can", he replied.

Federal buried Sonics and relaunched it as 'Digital Something Music Or Rather', which lasted about as long as its new pommy advertising guy, who left to set up in competition with them.

The Italian trade commission invited me to Italy to cover the Rimini Trade Show, which was the venue for the launch of waggly mirror moving lights. The massive European disco industry fed a variety of Italian manufacturers like Coemar and Clay Paky, who in turn adapted nightclub effects with the new fangled DMX 512 so that an operator could pan, tilt and change colour from a regular lighting desk.

I got very lucky in Rimini because High End Systems from Texas had just launched the Intellabeam, and Clay Paky claimed it was a copy of their Golden

Scan. Being Italian, and since Rimini was on Italian soil, the sales guy at Clay Paky gave me journalistic gold by laying into the Texans. On the record.

I wasted no time getting over to the little High End stand to breathlessly seek their response to the amazingly libellous spray from Clay Paky. They in turn were caught in the moment, and gave me some unguarded gems to run with.

My Rimini report was a rule changer for Channels, the little Jands magazine that thought it could do better, because no one said we couldn't. Mulholland was amazingly supportive in his slightly cryptic and occasionally grumpy way.

We'd built a relationship based on my growing appreciation of his razor sharp mind, and his laconic goading at my random philosophies about the industry. The thing we had in common the most was (and probably still is) a common love of the industry we work in, and a respect for high production values.

High End Systems enjoyed the coverage. A year later I was at LDI, the lighting industry trade show in Dallas. They offered me a job, editing their magazine which was a fairly pedestrian and slightly dull read. It had five times the budget of Channels. I was flattered, but didn't want to raise my kids in Texas.

THE END OF THE ROAD

Channels grew into a 64 page monster, and its 18th issue was the last.

"Jands never wanted to be publishers", said Robert Young, Jands Managing Director at the time. "We just wanted a relevant media outlet that would cover many areas of a growing professional industry. No one else wanted to pick up the ball so we did."

I'd managed to convince Jands that it would be best for the industry if I started a new magazine that was independent. They even sold me the mailing list from Channels.

"We think we ran a fair and unbiased viewpoint in the topics we covered and no better proof of this came from the advertisers. But now it's time to move forward", Robert concluded.

From where I sat, I was ecstatic. I'd managed to start a publishing business, see off Sonics and the dreadful suits at Federal, and find a new place in the world. I couldn't have done it without my then partner Caroline, and finding Catriona Forcer in the UK was a big help as well. By the end of Channels she had migrated to Australia.

The scene was set: Connections was born in February 1993.



Total Control

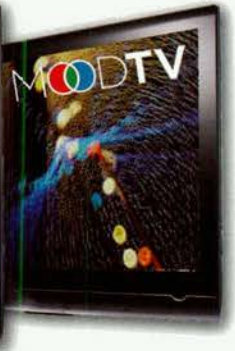
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FRY FROM FRANKFURT

Freshly returned from his annual pilgrimage to Frankfurt, Dunk reports that the music technology business is becoming ever more bizarre...



By **DUNCAN FRY**

It's called hand luggage for a reason, right? It's a fair supposition that the inclusion of the word 'hand' implies that it can be carried 'in the hand'.

If that's the case though, why on earth are people dragging these monster wheelie cases and bags down the aisles of planes and trying to shove them in the overhead lockers? Or, in many cases, needing the help of two gold medal Olympic weightlifters to help them squeeze something the size of a small caravan into the locker!

Look, if you can't carry or pick it up in your hands, then it ain't hand luggage. Sorry but them's my rules.

But no, airlines are letting people bring everything but the kitchen sink on board the plane as hand luggage. As long as it's black and has wheels, then sure, bring it on.

I was pondering this as I stood in the aisle of the plane to Frankfurt this year, my very small backpack in hand, trying to work out why the overhead locker above my seat was stuffed full with a black canvas wheelie bin!

I sympathise with anyone having to survive long plane flights with small children. I've travelled with Fifi Trixiebella Fry when she was young, and I know it can be hard work, so unlike many passengers I never complain or tut-tut if young kids and babies cry, yell out or become obnoxious. They're kids, and pretty well most of us were that young at some stage. But I tell you what I never did; I never let my small child who could just walk totter around the aisle while his simpering, doting parents looked on benignly. But that's what the parents of the child in front of me did! And let him wander through the galley,



Super-caffeinated

opening cupboards while the food service was on; one badly latched food trolley would absolutely flatten a little kid if it slammed into him suddenly. Or what if he grabbed hold of a pot of boiling hot coffee and poured it over himself? The busy galley of a 747 is no place for any passenger, whether they're 18 months old or 18 years.

As usual this time of year, I was off to the Frankfurt Pro Light and Sound exhibition. A little bit smaller this year; I suspect the financial problems of much of Europe (and the world) are having some effect on both exhibitors and attendees. Some stands were smaller, but then again some were bigger. And now that Hall 11 was open, it was a fair old sprint from

an appointment there to one in Hall 3. I suppose it's one way to lose the kilos packed on by the traditional Frankfurt diet of beer and sausage. (See last year's story) Mmmm.

This year, thanks to the Aton company, our stand was dominated by an enormous four metre high poster of an attractive blonde Madame Lash dressed in mini lederhosen, thigh boots, and flexing a riding crop, with the message 'You've been asking for it' underneath. It didn't have much to do with pro audio, as far as I could tell, but it certainly attracted a large amount of men wanting to be photographed beneath it. Some blokes just don't like it plain and simple, as Bazza McKenzie used to say.

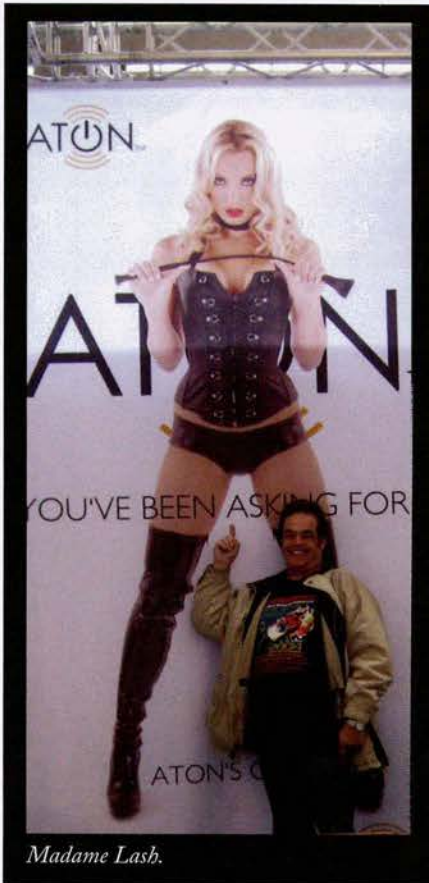
Another stand had a picture of a nude woman bent over the front of a giant speaker; implying plenty of bottom end, perhaps? Yet another had a nude woman holding up little speakers in front of her,



An idea whose time will come?

With wildness but tender, the aboriginal music expresses entire dignity to the Nature. Carol's microphone truly reveals this aboriginal music's feature.

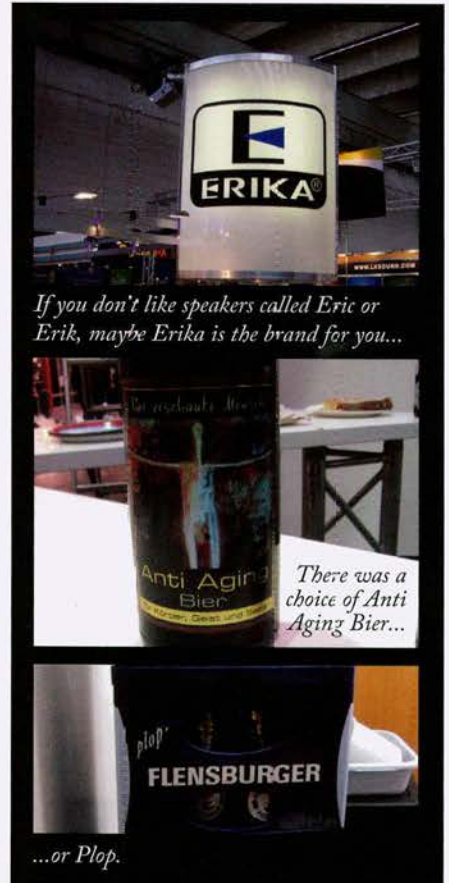
Hopefully the microphone's clearer than the marketing message.



Madame Lash.

er, charms, shall we say, with the caption Small Size, Big Sound. Our German distributors had laid on plenty of beer for happy hour, which commenced around 10 a.m most days. The chest high pile of crates of Flensburger 'Plop' beer (see pic) gradually worked their way down to floor level by the end of the show. I wasn't sure about the 'Plop' part of it though. It sounded to me like the sort of sound you might hear in the toilets after drinking too much of it! But luckily it just turned out to be the distinctive sound made by the push-off bottle top as it came off! There was also a bottle or two of 'Anti Aging Beer' which rather took my fancy, and for the mornings, bottles of Fritz Kola with a mega caffeine content that Coke and Pepsi can only dream of.

At lunchtime on the first day, a delicious hot savoury smell drifted across the stand. 'Where's that coming from?' I wondered, as like one of Pavlov's dogs, I started to drool uncontrollably. I looked in the back room of the stand, and there was a big pot of Chili con Carne bubbling away on a little camping stove, with all the guys chomping away on bowls of the stuff. Next day they were



If you don't like speakers called Eric or Erik, maybe Erika is the brand for you...

There was a choice of Anti Aging Beer...

...or Plop.



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**YOU MAY NOT LIKE HANGING AROUND THE HOUSE,
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The Guitar Hanger Co had neat little gadgets that hung your guitars up in the wardrobe, along with your black t-shirt collection.

boiling up sausages (of course) and then back to chili. All the comforts of home; the only thing missing was a little bed for a quick post-lunch nap! The name Eric must be popular in Europe. I counted three speaker brands called Eric, Erik and Erika within 20 metres of our stand. I did like the Carol microphone motto, though: 'With wildness but tender, the aboriginal music expresses entire dignity to the Nature' Total gibberish but at least it filled in the spaces between the pictures!


For total over-the-top copywriting though, the award goes to Tamara drums. Describing their new snare drum, they say '...this is a snare with a loud and aggressive sound calculated to have old maids bicycling to holy communion through the morning mist diving for the nearest ditch. Even the black nickel-plated hardware has an undertone of menace!' I wish I'd said that.

The Guitar Hanger Co had neat little gadgets that hung your guitars up in the wardrobe, along with your black t-shirt collection. So now you can stand in front of the wardrobe in your undies, thinking 'Mmm - shall I wear the black one with the T-shirt, or should I go with the charcoal one and the Flying V? Decisions, decisions!'

Looking for more stuff to spend money on? How about the Guitdoorbell - a half size guitar that sits above your doorway. I didn't get a chance to go and see it, but here's a pic from the show magazine. When the door is opened, it drags a guitar pick across the strings of the guitar and strums your favourite chord! (Dropped D for metal fans, naturally).

Then it was all over, and we headed off to the airport and home. As Col and I stood in the final security check queue before boarding our plane, I looked at the couple in front of me. Both he and his wife were each dragging the equivalent of a kid's playhouse on wheels behind them. As well he had a laptop computer case, plus a substantial camera bag, and they both were carrying large plastic bags of duty free shopping and big furry overcoats.

I turned to Col and said "These bastards had better not try and grab the locker above us or they're gonna regret it!" He nodded in agreement.

Luckily for them though, once through security they turned left up to the priority exit of the plane and so became someone else's problem! 

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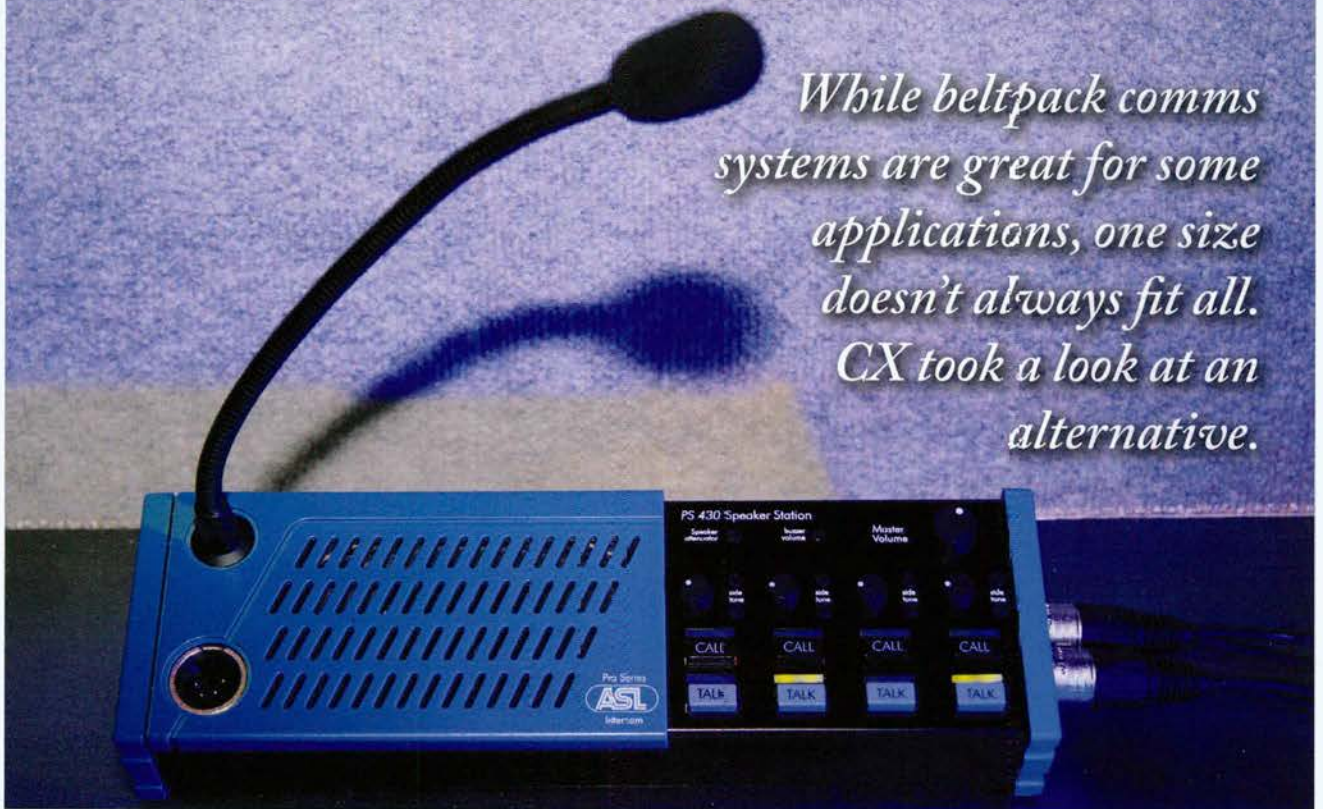
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ASL PRO SERIES SPEAKER STATION

While beltpack comms systems are great for some applications, one size doesn't always fit all. CX took a look at an alternative.



By JIMMY DEN-OUDE

Some shows exist solely on beltpack partyline comms systems, others rely on complex matrix based comms systems. And that's okay, but where's the "in-between" point? Let's say you're running a small show and you want some nice comms panels for a control room (maybe even with a few different channels) but you don't need or can't justify a full matrix system. The ASL Pro Series might be what you're looking for.

UP CLOSE

ASL Pro Series speaker stations are available in single, dual, four or six channel variations. They're designed for desktop use, although with the addition of a rack mount kit they fit nicely into a 2RU space. The units have an internal speaker, and noise canceling gooseneck microphone. Talk and Call functions are controlled with nice big push buttons, and have corresponding big green and red LEDs above these.

The multi-channel stations feature

independent listen level potentiometers for each channel, as well as a master volume level. Side-tone, speaker trim and buzzer volume are adjustable by way of recessed trimpots. Activating the mic with the talk function automatically attenuates the internal speaker. On-board speaker and mic functionality is turned over to the headset when one is connected.

LITTLE THINGS DONE WELL

The gooseneck mic has an input limiter, so it doesn't matter if you're the kind of operator who likes to get right on mic and shout – it won't distort. Connectors on the single dual and 4 channel units are on the end of the unit so they can be wall mounted if you so desire (the 6 channel version has XLR input and loop for each channel, which wouldn't all fit on the end). The 4 channel model uses a pair of 5 pin XLR inputs, but ASL have been thoughtful enough to include a pair of breakout cables which converts this to 4x 3 pin tails. The multi-channel stations have a binaural option too. There's even

an inbuilt speech presence filter to reduce background noise and increase speech intelligibility – it sounds like an obvious thing but how many distorted, muffled or washy comms systems have you heard? The Pro Series speaker stations even look nice, and they feel solid and well constructed.

These stations provide a nice interface for users who need access to one or more party-line communications loops. They're the kind of gear you look at and instinctively understand, which would see them very much at home in any control room, operations or backstage area. A nice little bonus is the instruction manual which ships with the unit – it's clearly written with good diagrams as well as useful supplemental information about party line comms systems. **CX**

BRAND: ASL INTERCOM

Model: Pro Series Speaker Station

RRP: \$1300 (1 ch), \$1504 (2 ch),
\$2450 (4 ch) and \$3190 (6 ch)

Product Info: <http://asl-inter.com>

Distributor: <http://madisontech.com.au>

SoftPlot9.2

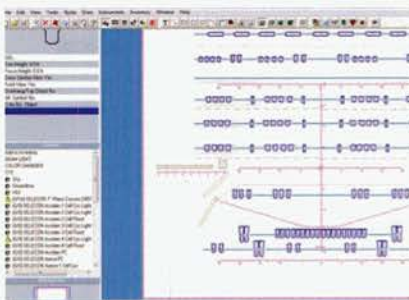
There are plenty of CAD solutions out there for lighting designers, but many of them are plenty pricey. We look at one that isn't.

By **STEPHEN DEAN**

Softplot 9.2, by Crescit Software, is just one of many CAD lighting programs available to the designer to help them realise their design concepts. Not only can CAD programs do the drawings of the placement of the lights but they can help with the generation of the paperwork that is also required to go along with the design. This package may not be as flash as products costing a lot more, but don't discount this software - it has plenty of features and does its job very well.

IN USE

After using an earlier version of this software it was with great interest that I



downloaded the latest version demo. After a very easy and quick install, when I started the software it was not quite what I was used to from previous versions. With a bit of playing around in the view menu you can customise the way it looks to give you the layout you like.

As with all CAD programs you need to spend time setting it up to suit your style. Another thing to remember is that it is American, so you need to set up it up for Australian voltages and some of the connectors information is not relevant. It has an extensive database of lighting fixtures, truss and other elements, all of which can be dragged and dropped onto the drawing area in any location that you require. You can add to the inbuilt database of fixtures, rigging etc either by importing extra symbols from SoftSymbols or designing your own with the graphics editor. You can tailor the

set up with the number of instruments and what type, input the venue that you are designing for, even add the set design. The software is fairly intuitive and it doesn't take long to get a plot happening. It is just a matter of picking a lighting symbol and placing it on the lighting bar where you want it. You can also assign patching, colours and accessories that you want with it. Paperwork generation is included, as is basic visualisation allowing you to "turn on" the fittings and see in section or front view what the coverage will be like. Only real downside is that it's PC only - no fun for Mac users.

CONCLUSION

I found with this software that I was thinking less about the tedious tasks of lighting design and more about the actual design. At the price this is a very good tool for the lighting designer that doesn't need all of the bells and whistles. It may not be as powerful as some, but it is only a fraction of the price. CX

BRAND: CRESCIT SOFTWARE
Model: SoftPlot 9.2
RRP: \$295US
Product Info: <http://stageresearch.com>
Distributor: <http://stageresearch.com>

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PreSonus StudioOne

While PreSonus make some fantastically intuitive hardware, their software line is newer and perhaps less widely known. CX took a look to see how it measured up.

By JIMMY DEN-ouden

StudioOne Professional arrives packaged in a nice cardboard box, within which there are some instructions, and a pair of installation DVDs. Maybe the big box is significant of the virtual content within more than the physical – the installation takes about as long as you’d expect 2 dual layer DVD discs to copy across to your hard drive. Once completed, you need to activate the software online using a unique code which you then punch into the program the first time you run it.

The registration process is pretty standard, but what it also does is give you access to PreSonus’ very good online services. You can see what software you own, licensing info and more which we’ll get to later on. Probably one of the more immediate differences you notice about StudioOne from other DAW programs is that it makes really good use of your internet connection (if you have one – if not then you can register by phone and run without). A nice touch is that you

get 2 licenses – one for your laptop and another for your desktop.

MAKING SENSE OF IT ALL

Is really easy. Starting the program up, you’re presented with various choices on the home screen: song / project options, your artist profile, audio / external device setup, and a news feed / tutorial section. Being a devout non-believer in reading the instructions, I launched straight into audio setup only to find the software already knew what device I had connected, and had set it up and mapped all the inputs and outputs to suitable places. I could have altered the setup, but why would I when it was already right?

Next up, I went back to the home screen and clicked on “new song” to find myself presented with a selection of templates to suit PreSonus hardware as well as “empty” projects. I could also choose where the song would be saved, as well as sample rate, timebase, and resolution. Again, the default options all

suit me fine so I left them.

There are a couple of different ways you can use StudioOne. You can go out and record some multitrack audio with it, then mix it down through the software. If you own PreSonus’ StudioLive console, you can return all the tracks back into the console and mix on that, then record the output back into the project. You can also start with nothing, then add in virtual instrument tracks. Or you can do a combination of all the above – it’s versatile.

The main song editing window has buttons at the lower right corner to toggle edit, mix, and browse functions. Want to put a plugin on a channel? Just drag one in from the list. Each channel strip in the mixer has an arrow which expands it out to show all the various inserts and sends. You can expand as many channels as you want at once. The edit window has tools which are easy to use and make sense. Everything can be scaled in the time domain, so it’s easy to find that once errant noise on a track and get rid of it. It looks like there’s automation

on everything you could want, and there are a pile of included plugins, the ones of which I tried all worked well without putting significant drain on processing resources.

Overall StudioOne seems not to be as resource hungry as something this functional should be – I was surprised by how well it ran as I sat at my local café re-mixing a recording. You don't even need to have audio hardware connected to do this – the program is happy to use the internal CoreAudio driver. As a musician you could feasibly couple your laptop up to a nice set of headphones, record a live show, and edit it on the plane or tourbus the next day then release it online when you got to your next port of call. Talk about quick turnarounds!

MASTER OF ALL TRADES

Once you're happy with your song you can send it out to a project file, add in a bunch of other songs, change the ordering, and then master the whole lot and render out a burnable disc image or even digitally release the project online. It takes very little time and again doesn't require you to read a manual. There's even an analysis plugin chain which



*Jimmy and StudioOne
bard at work*

includes spectrum and phase metering, and the mastering stage gives you a nice array of metering options. StudioOne is also smart enough to warn you about any digital clipping problems before you master the song.

Other things worthy of mention are the gigabytes of included samples, synths, and drum loops. There's a lot more functionality to the software than described here, but the included video tutorials are a really good way to get started with the basics. They run in a separate window, so you can follow along in real time. Once you've got this nailed

down, do some reading and learn about the other features of the software – there's enough to keep you going for quite a while. All things considered, StudioOne is a very capable piece of software that works well, and represents value for money. **CX**

BRAND: PRESONUS

Model: StudioOne Professional

RRP: \$440

Product Info: <http://presonus.com>

Distributor: <http://rodemic.com>

- OzBlok products. The new "Loadsafe" Chain Hoists with overload protection, Girder clamps, Trolleys and quick action Trolley clamps.
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BEACHTEK DXA-2T



With many high quality camcorders available, improved video quality is now easier than ever to attain. So, as it turns out, is audio to match.

By JIMMY DEN-ouden

One of my mates recently called me up about an audio problem she was having. She uses some small HDV type cameras to shoot ENG type video, but the thing she was having problems with was interviews. Since upgrading to HDV she could no longer plug in any of her existing microphones, which left her stuck using the camera's on-board mic. Which sucked a bit. I did some research, and turned up with a solution to the problem.

The BeachTek DXA-2T is called a "universal camcorder adapter". It's a die cast aluminium box, with a pair of XLR input connectors and a 3.5mm mini jack output connector. My guess is there are some balancing transformers between the two. The unit is supplied with a curly 3.5mm to 3.5mm jack lead, which you connect to the camera's microphone input.

It works on all sorts of cameras, and allows you to connect an external microphone rather than use the internal one. The benefits to this are quite obvious – the key one of these being that it allows you to put the microphone where the sound source actually is.

A BRIEF STUDY IN "HOW TO"

The DXA-2T is pretty simple to use. It's designed to sit between the camera and the tripod mount, so the top of it looks like the top of a tripod, and the base of it looks like the base of a camera. Attach the box to the camera using the inbuilt retractable azimuth pin and bolt (not as complex as it sounds, but isn't azimuth a splendid word?). Attach the curly cord between the output of the DXA-2T and the camera's mic input. Plug one or two microphones into the XLR inputs on the side of the DXA-2T, set levels, and record.

Some tips on how to make this work well for you now follow... The first tip is set your camera's electronic mic gain to unity, and turn off any AGC feature. Next, turn on the audio level meter in your viewfinder or LCD screen if you have one. Use the input attenuators on the DXA-2T to control your input level, and monitor the level during your shoot. Don't just monitor using the meters, listen to what's being recorded too – preferably on a decent set of headphones. This will also let you figure out which position to set the Ground Lift switch to (G1 or G2) to yield the best result.

Admittedly the included instructions are a bit vague about the function of this switch – I still have no idea which position is grounded and which is lifted. There's no phantom power on this model, however there's nothing to stop you using a battery powered condenser mic.

Other joys of this unit are the Mono/Stereo function, which allows you to send the input signal from one input to both recorded audio channels. There's also a Mic/Line level input selector on each channel – you could feed one channel with an audio desk matrix output and record with a shotgun mic on the other. Equally you could connect a pair of radio mics. The only other thing to watch out for is if your camera needs more than one point of contact to balance when on the ground, you may find it becomes less stable when raised by the unit. Other than that, the DXA-2T is a solid little unit which can help your recorded audio quality keep up with your video. **CX**

BRAND: BEACHTEK

Model: DXA-2T

RRP: \$295.00 inc GST

Product Info: <http://beachtek.com>

Distributor: <http://johnbarry.com.au>



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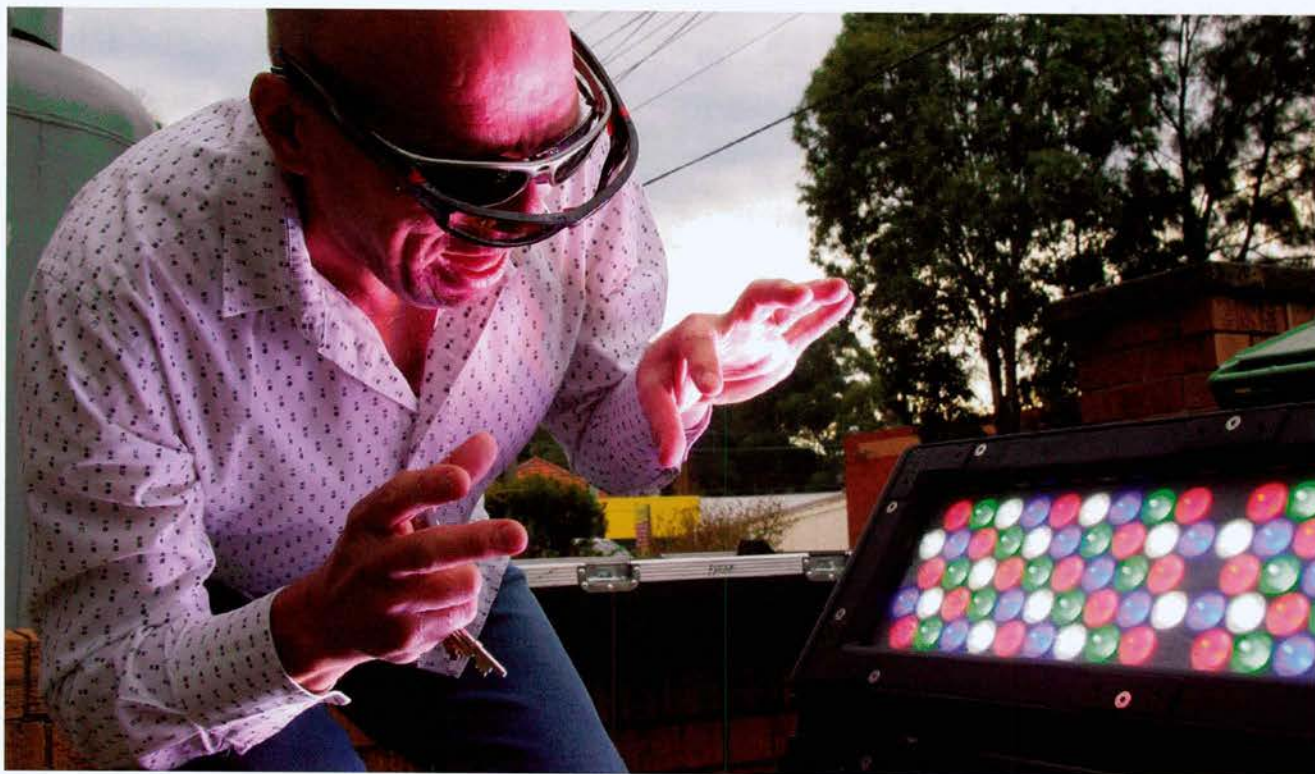
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ROBE CITYSKAPE XTREME



LED colour mixers are nothing new anymore, but Robe's latest contribution scales the idea up a step or two...

By **ANDY MACKENZIE**

My first impressions were formed pretty quickly on this one – the first time I had to move it, I thought to myself 'Bloody hell. This is big. And heavy. Why such a big, heavy case?' Then we took the lid off and found out that the case wasn't really unduly big or heavy.

It just had something big and heavy inside.

At almost a metre long and about 60kg, the CityScape is on the biggish side of large, and looks pretty serious about its job, even before it's turned on.

THE OBVIOUS STUFF

The fixture consists of an array of two LED panels, each containing 94 Luxeon K2 LEDs – 28 red and 22 each of green, blue and white. The two panels are individually tilt adjustable in a frame that is, in turn, tilt adjustable in the yoke. Be aware that none of these adjustments is motorized – you loosen the clamp, move the fixture, and retighten the clamp, just like in the good old days. Affixed to the bottom of the yoke is a big black box containing all the power supply and control electronics for both panels.

All the cables connecting it all together are large and robust, and tightly sealed into their respective fittings. The whole unit is rated at IP65, which to me says it's good for use pretty much anywhere in any kind of weather. For some reason the manual (which I actually read) says that it's designed for indoor use only, but since it says that in the same line that reminds you it's not for household use, I'd be inclined to think someone's just been a little lazy on their cutting and pasting.

FIXTURES AND FITTINGS

The yoke has a large footprint, which inclines me to think it would be very stable just sitting on a stage. It also features a myriad of bolt holes suitable for permanent mounting either in a case or an installation. There's a pair of 'omega holders' supplied with the unit to allow rigging from truss or bars using appropriate clamps. The manual includes a reminder that you need a serious safety cable on this unit, and that it is absolutely a two person rigging job. It's always going to be a two person job moving this unit, possibly more if it's cased.

Also included in the standard package

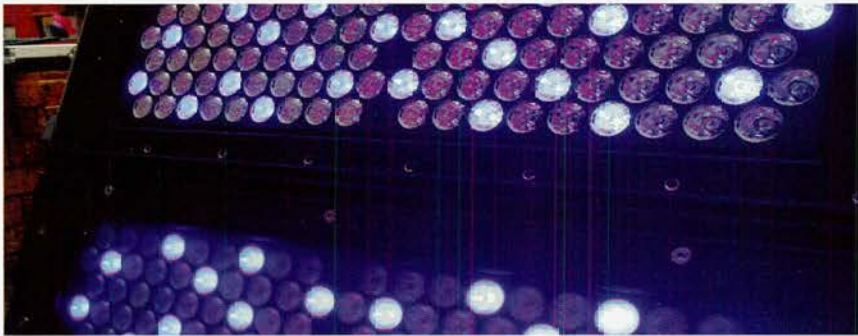


Big LEDs, and plenty of them

is a pair of glass frost filters, of which more discussion later. Available as optional extras are top hats and half top hats, barn doors and road cases (sensibly designed to carry a single unit).

MAKING IT GO

Making it go is nice and simple. Give it some electricity, address it and feed it DMX and it does exactly what you'd expect. And it takes its job seriously – it's bright. Blindingly, devastatingly bright. Bright enough that no-one was willing to look directly at it, and bright enough to allow us to pour colour over the fascia of the palatial CX offices even in full daylight.



Without, and with diffusion lense

The light is focused in a tight beam – this is typical of LED technology, and didn't come as a surprise. The included frost filters are designed to open up the beam and make it a bit more functional, especially at shorter throw distances. The frosts are not a tool-free fit like some others, but any normal human with an allen key can fit the pair in a few minutes. These are supposed to open up the beam angle from 3.5 to 24°, and that looks to be about right.

RGBW colour mixing offers far better reproduction of white (and its close relatives) than can be achieved by simple RGB mixing, and the inbuilt colour macro makes it easier to try matching a specific colour temperature than it would be to manually mix it.

CONTROL

DMX control is straightforward – the hungriest mode still only uses twelve channels. This gives you separate control of the colour mix in each module, with global control of strobe, dimmer and colour macros. The most lightweight profile only requires two channels – colour macro and intensity – and would be enough control to suit most architectural applications.

In fact, many architectural applications could be managed in stand-alone or master-slave mode, both of which allow not only fixed states but also programmed sequences.

RDM is supported allowing a good level of interaction between the fixture

and an RDM capable controller. RDM allows you to manage most common fixture functions remotely, which can make troubleshooting and sorting out a system with problems much easier and quicker.

CONCLUSION

Seriously bright, and seriously big. The CityScape Xtreme is not going to be for everyone – some venues just don't need this kind of power. Where big colour is needed on a big stage, there's plenty of potential here, and the combination of LED longevity, RDM interaction and an IP65 rating opens up some huge possibilities for outdoor architectural applications. It's built like a tank – some of the LED devices we've seen look like the LEDs would last way longer than their housing – so it's going to be up to the rigours of touring. All up, it's a very serious piece of hardware. **CX**

BRAND: ROBE

Model: CityScape Xtreme

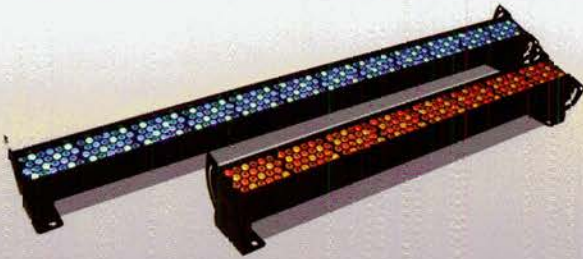
RRP: \$13,900

Product Info: www.robe.cz

Distributor: www.ula.com.au



Color Force Mighty Output LED Batten



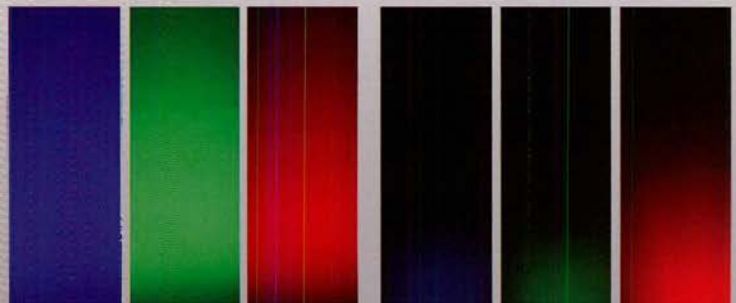
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SOLID STATE LOGIC XLOGIC ALPHA-LINK I/O



Keen eyes looked upon the clean white SSL carton as it was carried in through the office door – nobody knew what was inside but they all wanted to find out...

By JIMMY DEN-OUDEM

The XLogic Alpha-Link is a range of audio converters designed for broadcast and studio applications. Several models are available within the range, starting with the Alpha-Link AX which converts analogue audio to ADAT lightpipe, and back again. The Alpha-Link MADI AX adds MADI functionality to this, while the Alpha-Link MADI SX exchanges the ADAT ports for AES connectivity. Different users will require different models depending on their application – studio users are likely to find one of the ADAT units suitable for their needs, while broadcast players will be more likely to want an AES option.

WHY?

Maybe you own a studio, maybe you own a broadcast van, maybe you have a multitrack recorder with lousy on-board converters. If you're looking to improve the quality of your analogue to digital conversion then you could certainly do a lot worse than replacing it with some SSL kit. Other potential implementations are linking a multi-track tape machine to a DAW, or even as an interface to your

vintage analogue studio console.

MADI and digital audio in general is becoming more and more common, and it's perhaps with this in mind that SSL have released the Alpha-Link converters – these devices are competitively priced in the market but have the added bonus of dual functionality. Add to this the fact that you can use them as I/C devices for any console which operates on MADI – be it an SSL or other.

All the converters feature 24 analogue inputs and outputs on 25pin D-sub connectors. This initially seems like a strange choice, but when you consider the units are designed to be hardwired into racks with remote patch bays the choice makes more obvious sense – cost and space savings on connectors. Digital inputs and outputs are 3 pairs of TOSLINK connectors for ADAT, 3x 25pin D-Subs for AES, and a pair of optical connectors for MADI. There's also wordclock input & output on BNC, as well as 2x MIDI ports. The device will clock to an AES or ADAT source, external wordclock, or its own internal clock. The headphone socket on the front panel takes its signal from outputs 23 & 24 for left and right respectively.

The unit will run at 44.1k, 48k, 88.2k, or 96k sample rates, and when using

the latter two, the number of available conversion channels is halved. Dynamic range is 128db, and the maximum analogue input / output levels are +22dBu for both.

Appealingly enough, the Alpha-Link units can function as standalone converters or hook up to SSL's MadiXtreme PCI express card to form a complete I/O solution for computer based recording systems (with very low latency just to seal the deal). Alternatively, you can connect the unit to SSL's Mixpander card using the EXP port on the back. The Mixpander card offers not only I/O, but also on-board plug in DSP.

TOO EASY (ALMOST)

I really like it when I plug something in and it just works. The Alpha-Link is a perfect example of this – no messy software configuration is required and the front panel only has 6 buttons. When in standalone mode, signal routing is determined by the front panel matrix. This was simple enough to figure out – tap the output key until you reach your desired output, then holding the same key press the input key to choose its source. Choose sample rate, choose clock source, then get on with whatever you're doing. As for



how it sounds, it's everything you'd expect of a product bearing the SSL badge. It's really, really good. Yet it sits in the market at a pricepoint comparable to other similar I/O solutions – it's refreshing to see good technology made more accessible to end users.

Build quality is what you'd expect – it's got that nice studio/broadcast serious feel about it – beautiful up front and functional at the back. Even the buttons, which are likely to be pressed very rarely once the unit is setup feel springy and tactile – pressing them is nice a positive action. I like that the connectors are spaced far enough apart that your fingers can fit between them. Really, the biggest drama you're likely to have with this converter is figuring out which spot in the rack shows it off most nicely. **CX**

BRAND: SOLID STATE LOGIC

Model: XLogic Alpha-Link

RRP: Alpha-Link MADI AX

\$3,699.00 or bundled with 64 channel

MADI PCI express card \$4,299.00.

Alpha-Link MADI SX \$4,899.00.

All prices inc GST.

Product Info: <http://solidstatelogic.com>

Distributor: <http://ambertech.com.au>

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ZYLIGHT Z90

CAMERA LIGHT

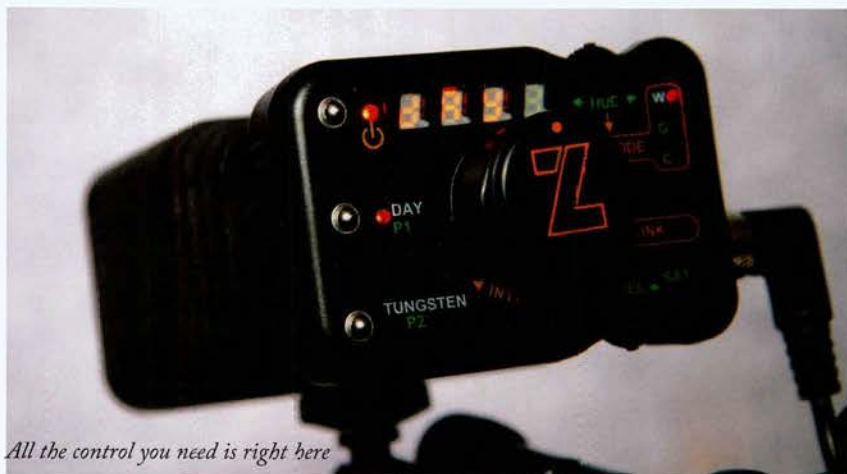


Whilst LED has found a firm footing in live production, its uptake in video has been somewhat slower. The Z90 from Zylight could well change this.

By JIMMY DEN-OUDEM

LEDs have been around for years. Everyone became very excited when white LEDs finally hit the mainstream market – the problem was that they weren't really white. Video relies heavily on white light being the correct colour temperature, otherwise everything between white and black (that's all the colours) looks wrong.

When shooting video outdoors for instance, incandescent lights need to be colour corrected with CT blue gel to make them match the colour temperature of the sun. Take everything indoors and the rules change. Colour matching in video is a fine art, and something which takes a lot of practice to get right. The Z90 makes it easier.



All the control you need is right here

OVERVIEW

The Zylight Z90 is an LED camera mount light, with variable colour temperature. It has a dimmer function, and “white” presets for daylight as well as tungsten. When running in “gel” mode, the colour temperature may be varied in 50K steps between 2700K and 9000K. A third mode allows the user to define and recall two colours – you can scroll between CMY and any variation in between. If you’re using more than one Z90, you can set them up over an inbuilt

radio link, so the additional lights will all follow the “master” light.

Some appealing things about the Z90: It’s lightweight – you’ll not notice a major weight difference with one of these strapped to your camera, especially if it’s a serious camera. It runs on 12 volts – so you can piggyback it off your camera power system. It’s dimmable, which is a good thing since running flat out it’s also extremely bright. It’s really easy to use – I still haven’t read the instructions and I figured out how to make it do everything

I needed to. The radio link system may require some reading, but I can't see it being that difficult when the overall operation of the unit is so easy.

Whoever reckons LED fixtures don't get hot is wrong – this one does. It's no hotter than an equivalent incandescent camera light, and it's not really surprising given the compact size and light output. The unit is built in two sections – the LED module and the control module. There appears to be a little tiny cooling fan in the back of the control module, and the LED module itself is basically surrounded on 5 sides with big heatsink fins, so the heat factor has clearly been a consideration in the design. The unit we tested came with a power supply with a locking DC connector – it's a little thing but something like a screw connector or a DC plug rather than just a push in (and subsequently "fall-out") connector again demonstrates some thought has been put into the design of the thing. Our unit also came equipped with a 2 stage articulated mounting arm, designed to fit into the cold shoe mount atop a camera. I didn't find the mounting system great – there are too many adjustable screws and such to achieve a really positive lock. It moves too easily, but then again since this is a sundry accessory it's hardly reason to condemn the Z90 itself. It's not completely silent in operation – when dimming you can hear the slightest of noises (it sounds something akin to an 8 bit space invader game) emanate from the control module. But you need to have your ear right next to the light to hear it, so again it's not really an issue. Really importantly, when we pointed a camera at the Z90 and dimmed it there was no flicker – this is a huge problem for LED fixtures so it was pleasing to see the Z90 exhibit excellent stability.



SO WHAT'S IT GOOD FOR?

Lots of stuff. I used it to light some of the products elsewhere in this issue of the magazine when taking photos, but that's not really the intended purpose. The Z90 is a great little accessory for ENG (electronic news gathering) type video shoots. The dimmer lets you light a subject to match ambient lighting conditions. It works as a key light or a fill light. You could use the user colours for chroma key lighting, or even just colour effect. It's certainly bright enough, and the light field is nice and flat and tapers off smoothly around the edges – it's almost fresnel-like. There are many cheaper LED camera lights on the market, but as none of these is likely to yield the same performance or feature set they'd hardly be a fair comparison. The Z90 does what it does, and does it well. **CX**

BRAND: ZYLIGHT

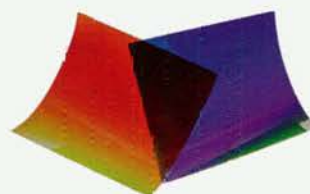
Model: Z90

RRP: \$1490 including GST for just the Z90 head, with some kit options available starting at \$1765.00.

Product Info: <http://zylight.com>

Distributor: <http://barbizon.com>

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