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Beijing Lights

REVIEWED:

JBL VRX Line Array
W-DMX Wireless System
Martin LE2100 Wedge
ETC Smartfade ML

CUE03 | Entertainment
Training Resource

ISSN 1320-5595



NEWS FROM THE TRADESHOW WARFRONT, BACKSTAGE, STUDIO AND IN THE OPS ROOM AT YOUR NEAREST VENUE. READ WHO IS UP WHO AND DOING WHAT IN THE EXCITING WORK WORLD OF SHOWBIZ!

THE NEWS MAGAZINE FOR ENTERTAINMENT TECHNICIANS AND MANAGERS





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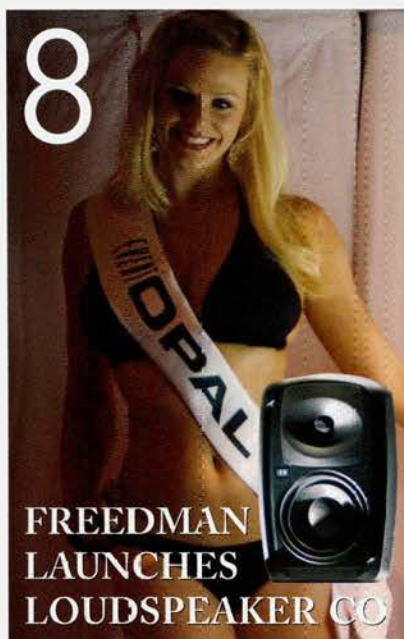
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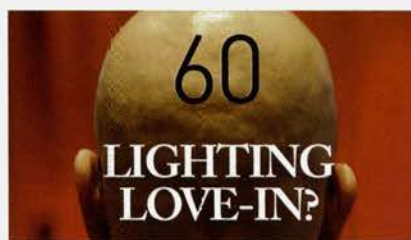
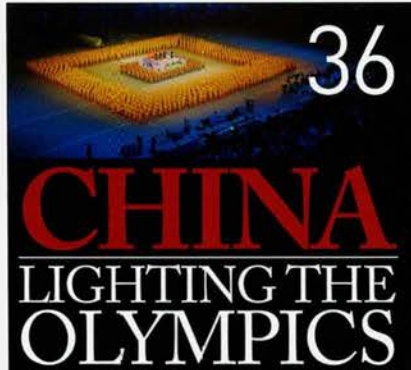


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WAY BACK WHEN



UNIQUE

u-nique –adjective

'having no like or equal; unparalleled; incomparable'



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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

CHICK COMPLAINTS

I wrote Girlfriend the band "were chicks, now chooks" (History, CX37). Complaints came in bang on schedule. Now refer Freedman in Vegas story this issue where women in bikinis at pool party self refer as 'chicks' and choose to be viewed as same. Visit there before writing to me and reflect back to militant feminism. It's dead.

MISOGYNY

There's women, chicks, chooks (in life) and then there's team members at work. At college we teach that there is no gender, a quarter of our enrolment in our technical production course this year is female. If you discriminate on gender at work then you are the loser - our female graduates get hired before the guys.

STUDIO MYTHS

Still on a college theme but one that reflects bad on our industry: a prospective student was told by another college - a large 'audio' college - that live work was in decline and studios were opening everywhere. If anyone can get that blatant lie in writing, bring to me for a \$1,000 cash reward. I'll take it to the ACCC.

LIGHTING WARNING

Love you all and I do it myself (light shows). But I'm slamming some lighties hard this issue, and expect some vicious blog action. Frankly the blogs are almost funny, I don't read them but some kind hearted readers flick them on to me. Just delete, delete. If it isn't positive or offering constructive criticism, then what's the point?

VISIONARY = AV

Can we tighten the confusing lexicon and just call what we do audio and vision? I see 'AV', I see a lot of subsets that cross venue, live, studio, church, corporate, TV etc. We all need to know how it works, how to install it, and how to do better with it. Otherwise, someone will launch some new magazines and distract everyone more.

ANDY'S RANT

As we go to press, Olympic fever has seized the nation (or that's what channel seven want you to think). And since the opening ceremony went down there's been a journalistic frenzy about three things:

The fireworks were faked on the broadcast! And nobody noticed until the Chinese came out and said "Look how clever we are - we faked it and nobody noticed". Build redundancy by pre-recording some of your content? It's not like we've never seen it before in 'live' TV.

The children representing China's ethnic groups weren't all from the ethnic groups they represented! Wow! Do you reckon the journos know that some of the people on telly aren't who they claim to be? They're called actors and they're just pretending.

The girl who could sing got flicked from the program by some aged misogynist and replaced by a better looking one who couldn't! Fair enough, this one fires me right up as well - that's a little girl whose dreams have been shattered by some dinosaur's outmoded attitude. But let's not pretend the Chinese have a monopoly on this kind of thing.

What really gets me is that everyone had a great time with their hypocritical condemnation of the Chinese for all this trivial crap but everybody kept their mouths shut about Tibet, human rights, orphanages overflowing with kids who turned out inconveniently female, a list of environmental disasters as long as your arm and all the other stuff they could have brought up.

Finally China was under scrutiny, but the IOC said it was rude to look and everyone followed their edict. Now that's quality journalism.

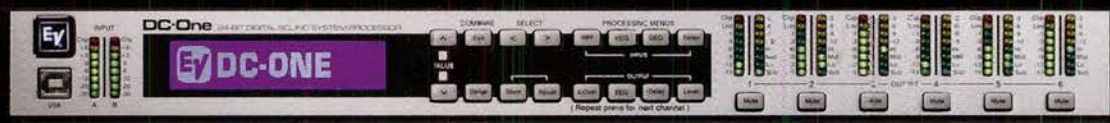
Andy

Julius

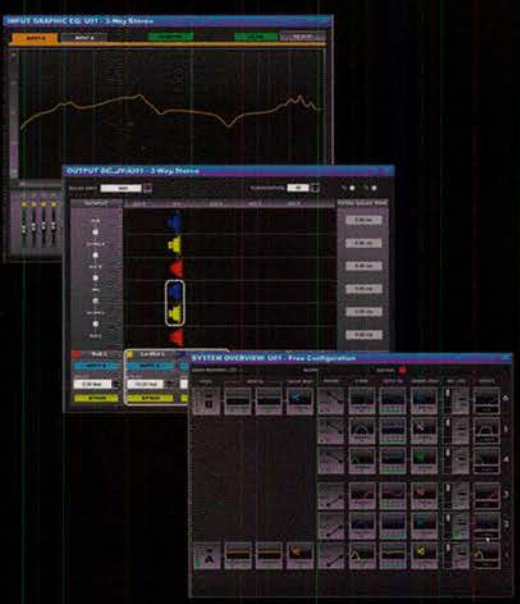


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CX NEWS

DEVICES, PEOPLE AND CONCEPTS

FREEDMAN LAUNCHES LOUDSPEAKER CO



Rode genius wants both ends of the transducer

It wasn't always this great – Sydney's Peter Freedman was down on his luck in the early 1990's. His Freedman Electronics was on the ropes as Peter struggled for direction after the death of the founder – Peter's brilliant dad.

Then he chanced on the idea of Rode, assembling a studio microphone from parts he sourced in China. Because of his background in audio electronics, he hand tested each part and rejected those of low tolerance. Rode got a great reputation.

Fast forward and today Rode manufacture a range of pro audio microphones at a large factory in Sydney's west. Almost all the components are

actually made there – gold diaphragms, coils, magnets, electronics, cases – the lot. Rode is in the top 5, worldwide, and compete at all pricepoints and in most markets across the planet. Rode is an inspirational success story, and employs as many as 100 people.

Two years ago Peter Freedman purchased Event Electronics, an American manufacturer of small studio monitors. He threw himself into Event, and ordered new designs which he micro managed himself. True to the Rode model, he didn't want to buy in parts from other manufacturers – what the majority of loudspeaker manufacturers do. So he set about tooling up.

In July Event was relaunched at a function at the Hard Rock Casino in Las Vegas. They flew in dealers from around the world, including reps from Turrumurra Music, Factory Sound, Soundcorp and

Kosmic in Australia. Audio media were there too, CX made the trip and joined around 400 people for a weekend in the sun.

Significant news came when Peter Freedman announced that he set out to create the best loudspeaker company in the world, coveting both ends of the audio transducer. He pointedly didn't say 'best studio monitor company'. His choice of experienced live audio product designer Marcelo Vercelli, formerly of Mackie, RCF and KV2 tends to point to greater aspirations. There almost certainly will be live audio products coming from the Event facility.

Watch that space. Event has transducer and amplifier assembly lines, and a ferociously determined and cashed up owner who is himself an electronics and transducer engineer.

Read the full story here: go to page 42. ➔

iLive

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Allen & Heath's iLive digital mixer makes set up in any venue a whole lot easier.

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VIDEOPLUS ACQUIRES SHOWCORP

Long established company now claims Number Two spot after SC



Fiona and Colin Baldwin sign deal with Bob Dewstow.

Videoplus have fired the first salvo in an aggressive drive to redefine the corporate presentation market by acquiring Showcorp in Sydney. The move brings Colin Baldwin's Showcorp under the Video Plus banner, and gives the new group a harder edge with expanded production capabilities.

Bob Dewstow is now the CEO of Videoplus, having been hired by founder Laurence Jennings last year to overhaul the forty year old company. "We were supplying a Staging Connections product at a Fairchild price", he told CX while commenting on the news of the acquisition.

"I acquired Showcorp and then folded it in to Videoplus. Now Laurence, Colin Baldwin and myself own it," he told CX. The group turnover is around \$13 million.

All three established Showcorp divisions, 'Showcorp Video Solutions' (SVS), 'Showcorp Production Services' and 'The Great Outdoor Lighting Company' now join Videoplus to form the 'Videoplus Group'.

Videoplus were the first audio visual specialists to provide the Australian hotel industry with professional in-house AV services. Over the last two years, several new event and conference venues have been added bringing the total to twenty.

"The Videoplus Group's philosophy will as always remain focussed on meeting our customer's needs with an ever expanded suite of event services" Bob Dewstow stressed, "Not only in the growing number of high profile conference and event venues where Videoplus provide in-house facilities, but every and any venue."

"Service provision for conferences,

special events and exhibitions mandates that Videoplus place constant emphasis on innovation." Dewstow continues, "Clients persistently ask us 'what is the Plus?' and how will Videoplus add the elusive 'point of difference' to their next gala dinner or product launch. With Showcorp's addition, to the group we now have the 'Plus' to efficiently tackle far larger high end events".

"We have enhanced The Videoplus Group's capabilities by combining Showcorp's audio, lighting, staging and projection inventory, technical expertise and proven production management," adds Bob Dewstow. "I am excited by our increased capabilities, and the fact that we can now effortlessly tackle a much extended range of larger high quality projects".

Showcorp is the long time family company of Colin and Fiona Baldwin. Colin has a long history in technical and event production, and is one of the most experienced lighting directors in Australia. His hands-on experience spans almost four decades, and includes extensive touring.

Bob Dewstow came into the industry from outside, so he has a unique perspective on what he found when he started at Videoplus, 'which was poorly managed' and 'operating below the radar' he says.

"The company didn't know how to grow itself and push forward", he says. "It's a viable asset and there's a world of opportunity out there". He says that the turmoil surrounding Staging Connections works in his favour.

Videoplus have been pursuing larger in


house hotel contracts of late, and already have around twenty sites including the newly won Palazzo Versace's in-house technical production contract on the Gold Coast. At the Palazzo Versace, Videoplus have assigned Garry Sturman as technical production manager.

"As within every venue, forming a true business partnership with your in-house Audio Visual and technical production company is a prerequisite for a proactive and mutually beneficial working relationship," says James Dee, Videoplus' Regional Manager in Queensland. "The symbiotic relationship we foster with venue management and staff is vital to guests enjoying their experience and returning for subsequent events."

"We can put a different deal on the table when negotiating with the hotels", Bob continued, "Staging (and others) offer a percentage of the equipment rental, we do a joint venture with the hotel".

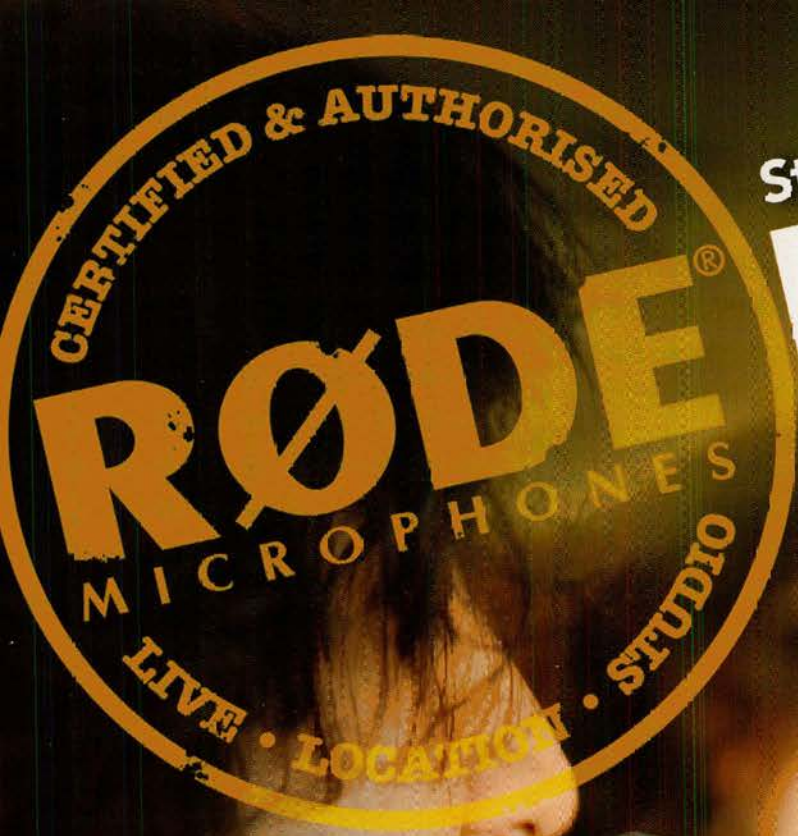
This kind of business has a unique aspect, according to Bob Dewstow. "You can't predict what will happen with a venue - you can think it'll be crap, and then it takes off". He says that the average Hotel Venue is either populated with hard nosed business people or passionate event people. "In business, there's more kick and shove (than in events)", he said.

Videoplus is bidding on hotel contracts with fervor. They come up against Staging Connections a lot, since Staging hold around 80 sites in Australia. Surprisingly, they don't see very much of Scene Change or AV Partners. These two firms were created by disgruntled former Staging management, the latter owned by no less than Garry Hackett - founder of Staging, who has vowed to bring the colossus to its knees. "He's keeping his head down at the moment", comments Bob.

Videoplus Group including Showcorp will shortly relocate HQ to new premises in Sydney's north. 

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RØDE Microphones are proudly designed and made in Australia, and carry a 10 Year Warranty (online registration required)

PRO AUDIO UP 4-6% IN 2007

AMA report shows import statistics

The Australian Music Association is 31 years old, and represents music retailers and distributors. Their annual import report is a good barometer of a significant slice of the CX reader base.

The 2007 report shows pro audio volumes up 6% and values up 4% over 2006, against an American downturn of 3% for the same period. In Australia the star segment is the loudspeaker, in the USA it is the microphone.

The report doesn't adjust for exchange rates, so the increase in value of the

Australian dollar tells another story, where that 6% increase in volume for a 4% increase in cost tends to show a greater cost per item paid. The Australian dollar jumped from around .79c to .87c in 2007, an increase of more than 10%. So we pay 4% more, but with a dollar worth 10% more.

Professional Audio accounts for more than 25% of the entire survey, but as the report notes, much of the equipment doesn't flow through the retail channel – it gets sold direct, or installed.

Overall the musical equipment biz is in good shape, with more and more people turning to drums and guitars after historical flirtations with DJ and boy band styles have waned. CX



Apparently the sound engineer liked to blend the sound from the small top box and the quad. "The top box sounds brighter". Must be the timber resonating?

ENTECH VOW 15% MORE PEOPLE

Industry meeting told ETF will never give up



In the face of another trade show that is squarely targeting its exhibitors, ETF have vowed to build ENTECH beyond its most recent highs with a 15% increase in trade visitors. ETF Director Rodney Cox held a briefing in Sydney where he fired direct from the hip, stating that the firm (fully owned by Staging Connections) were disappointed that former show director Louise Brooks had left to start a new show.

Integrate Expo is scheduled to open at the Moore Park EQ precinct on July 6 next year, while the next ENTECH will not be staged until February 2010, some seven months later. Integrate have launched an aggressive sales drive, offering a floor plan that occupies all of the Hordern Pavilion and the Hall of Industries, which together equal more floor space than ENTECH.

"INTEGRATE is Australia and New Zealand's only national platform bringing together the worlds of Concert Production, Recording, Broadcast, Lighting & Entertainment Technology, Post Production, AV Installation, MI, Staging, DJ Technologies and Multimedia," they say. "We are the people behind AudioTechnology, Venue, AV, House of Worship and Guerrilla Guide" magazines.

Recognising the critical importance of Seminars, Integrate have named InfoComm for a one day conference called 'Future Trends in AV Integration', ALIA for lighting seminars, Meyer Sound for a two day audio seminar, and Tom Misner's SAE college for support of the audio seminar program.

Integrate have addressed the issue of Hotel proximity by promising a shuttle bus service from five hotels in the CBD and on the Eastern side of the city, all within 3k of the venue.

The battle of the shows is reaching full intensity as this issue goes to press, with ETF set to host a Melbourne briefing, and then announce further initiatives. To date they have promised to better harmonise their RSVP and Events trade show, with a showcase at the amalgamated event for ENTECH exhibitors.

ETF say that they have always been engaged with the industry, and that where logistical problems occur with the show organisation or the venue, they are committed to resolving them. They pointed out that rumours that the Darling Harbour Venue would crack down on use of external audio visual equipment in demo rooms was no more than that – a rumour. CX

DODGY TECHNICIANS

Best Backstage Quotes! Our favourite forum is Dodgy Technicians on Facebook, with 4000 members. Here's a few classics for you:

DSM "All go's go on my go, go!"

The blackout is too dark.

No, the other stage right

I'm often heard telling keen new recruits "Lights look good in boxes"

I said "NO" not "GO"!

Loud whine/grind from genny
*muffled whump" just as the breakers trip

Pause....

LX from FOH "Theatre going dark"

Senior Lx asking new tech: "Please bring me some Blackout Gels"

Sound Engineer asking newbies: "Get the box of dB/SPL out of the flightcase"

Junior tech; "This radio mic won't work"

Me; "Ah, it's probably run out of radio waves, hold it next to that aerial for a bit to fill it up again".

(I change battery whilst nobody is looking)

Junior tech; "It works now!"

SM making FOH announcement to audience about performers for the show: "Ladies and Gentlemen.....oh s**t the mics not on.....F**K IT IS"

A Norwegian director said this on a visit in London:

"Me and my wife want to thank you for giving us the claps. We thank you from the heart of our bottom"

TRAINING TOUR 2008

LEARN. MIX. NETWORK. EXPAND.

DIGITAL MIXING 101



In this one-day course, you'll learn the fundamentals of analogue and digital audio systems. You'll have the opportunity to mix on a multi-track and become more familiar with signal flow, hardware and software while receiving hands-on training on Yamaha's LS9, M7CL and PM5D digital mixing consoles. This course is suitable for any audio engineer interested in learning the fundamental skills of basic analogue and digital audio systems. *(Lunch Provided)*

COST: \$100 INC. GST

AUDIO NETWORKING



In this 3-hour course, you'll learn the fundamentals of creating audio networks using CobraNet and EtherSound, the digital transmission protocols that have revolutionised the design and construction of distributed audio systems. You'll build simple networks that transport audio via Ethernet infrastructure while learning about the operation of Yamaha's DME Series programmable DSP range and network audio interfaces. This course is suitable for any system designer, integrator or installer interested in upgrading their skills or seeking an introduction to digital distribution protocols.

COST: \$50 INC. GST

PM5D V2 AND DSP5D



In this 3-hour course, you'll learn the operation and new features of Version 2 of one of the world's most popular digital mixing consoles, the PM5D, and its new expansion unit, the DSP5D. Topics will include how to expand a PM5D's mono input channel count to 144, as well as using a DSP5D as a remote stage box and digital multicore, connected to FOH by a single piece of Cat5.

COST: \$50 INC. GST

QLD	Rockhampton	Digital Mixing 101	Thursday 11 September
	MacKay	Digital Mixing 101	Saturday 13 September
	Townsville	Digital Mixing 101	Monday 15 September
	Cairns	Digital Mixing 101	Wednesday 17 September
	Brisbane	Digital Mixing 101	Tuesday 7 October
		Audio Networking / PM5DV2 and DSP5D	Wednesday 8 October
NSW	Newcastle	Digital Mixing 101	Tuesday 14 October
	Sydney	Digital Mixing 101	Tuesday 21 October
ACT	Canberra	Audio Networking / PM5DV2 and DSP5D	Wednesday 22 October
VIC	Melbourne	Digital Mixing 101	Tuesday 11 November
		Audio Networking / PM5DV2 and DSP5D	Wednesday 12 November
WA	Perth	Digital Mixing 101	Thursday 20 November
SA	Adelaide	Digital Mixing 101	Friday 28 November
TAS	Hobart	Digital Mixing 101	Tuesday 9 December

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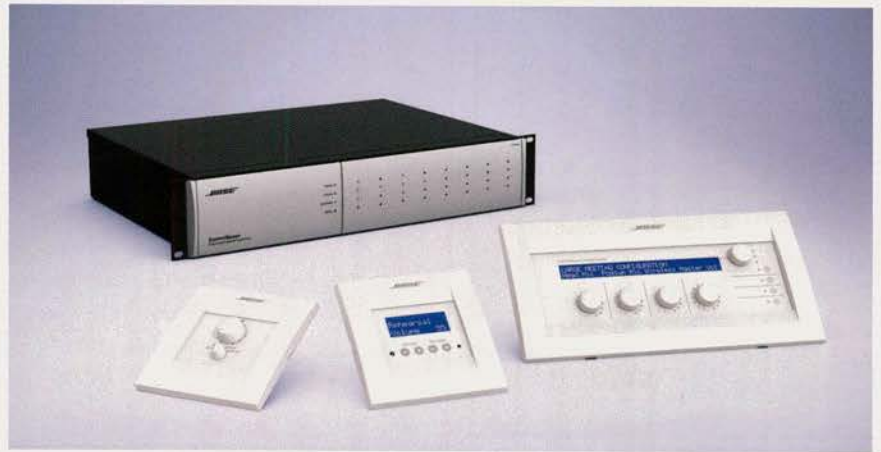
BOSE DEBUT CONTROLSPACE

Bose has launched ControlSpace engineered sound systems, a line of signal processing and control products for houses of worship, hotels, school gymnasiums, auditoriums and other facilities that use sound systems.

This is based on a building block: the ControlSpace ESP-88 which provides numerous configuration options through available expansion cards.

Each ESP-88 allows 8 mic/line inputs and 8 line outputs, with 8 control in and outs as well. Supported algorithms include compressor/limiter, crossover, delay, filters, gain/mute, graphic EQ, matrix mixer, metres, mixer, noise/tone generators, noise gate, parametric EQ, router, Bose speaker EQ and crossovers, ducker, automatic gain control and source selectors. Designers can use an additional 16 channels of audio or control expansion in almost any combination of inputs and outputs.


ControlSpace Designer software allows



system integrators (and the rest of us, since it is easy to use) to create a design, configure user control panels, and simulate operation of the installed system.

A "Smart Simulation" function within the software enables sound system designers to immediately test functionality and verify control programming - without being at the customer site or being connected to the system hardware.

The ControlSpace CC-64 control centre and CC-16 zone controller products are wall-mounted control panels designed to work with the ControlSpace ESP-88 engineered sound processor. They can be programmed so that even highly complex installations can be operated with the touch of a button.

Go to www.bose.com.au for more 

HK AUDIO TRAINING.

Twice a year in Germany HK Audio run a training seminar for Cohedra Users and Audio Engineers and as it will cost a little too much to fly everyone to German, HK are coming to Australia. This series runs in October.

The course involves basics about line array physics, COHEDRA R&D backgrounds, Firnet Controller and stacking and rigging. There's tips for daily life on the road as well. It's a seminar for users and also for non users who are interested in Line Array Technology.

Christian Stumpp for HK Audio will be the guest speaker. He started playing drums in a rock band at the age of 14, recorded three albums, and did several tours in Germany and Europe.

"I started my own rental company back in 1989, mainly local business but also larger festivals such as the Bang Your Head etc", he told CX. "Now I take care of the professional audio side at HK exclusively. The first gig I ever went to was AC/DC's 'For those about to Rock' tour in Nuremberg, Germany in 1982 - that was it - this defined the rest of my life!"

CMI extend an offer to attend, there will be a \$30 charge for attendees and all attendees will be given a T-Shirt as well as a HK Academy Certificate and a CD with all the Power Points, and pic's on it.

Get info from Andy McIntyre, Pro Audio Product Specialist on (03) 9315 2244 or andy@cmi.com.au 

SENNHEISER'S SMALLEST MIC TO DATE

"Despite its tiny size - the microphone measures just 3.3 mm across - the MKE 1 offers outstanding sound quality; plenty of lower midrange and excellent presence with good speech intelligibility," says Astrid Vettin, product manager for Professional Systems. "It has a user-friendly omni-directional pick-up pattern and the microphone picks up predominantly direct sound with relatively little ambient noise; a real advantage for many applications from broadcasting to theatre and musicals."

With high-energy, high-perspiration stage shows in particular, moisture is the natural enemy of any clip-on microphone. Therefore Sennheiser has developed optimal protective measures for the MKE 1: the clip-on microphone can be provided with an outer cover, a multi-purpose cap which simply diverts any humidity past the microphone and doubles as a windshield. And from within, a thin, acoustically open stainless steel membrane protects the capsule. "Thanks to a new mechanical design all the contacts are now housed inside the casing or the moulded coating," explains Astrid Vettin.



The anti-kink sleeve has also been improved in order to increase the life of the Kevlar reinforced cable. With a diameter of just 1 mm the cable is highly resistant to handling noise while a special plastic coating ensures that it tangles less readily.

Also included is a small frequency response cap, which ensures a treble boost of 2.5 dB for applications where the mike is hidden within the costume or when more brilliance is to be added to a voice. Three make-up protection caps and several thin plastic tubes for shielding the cable when attaching it with clips or adhesive tape give the finishing touches.

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NOVATECH GO 50 CENTS



The recent 'Roc Tha Block' concert series saw world famous rapper and entrepreneur 50 Cent ('Fiddy' to his fans) visit Australia for a whirlwind concert tour. 50 Cent teamed up with fellow artists G-Unit and Phinesse for a short 3 concert stop in Australia. Novatech Production Services supplied all production elements for the concerts held at the Sydney Entertainment Centre and Rod Laver Arena in Melbourne.

Curtis James Jackson III (AKA 50 Cent) is a successful artist with 11 Grammy nominations and multi platinum album sales. However this isn't enough for 'Fiddy' his official debut album *Get Rich or Die Tryin'* was literally a way of life and as such he has an empire that goes well beyond his career as a rapper. Some of Fiddy's joint ventures include record labels, clothing lines, books, radio shows, bottled beverages and even his own line of condoms!

50 Cent/G-Unit used the concert experience as a way of showing fans that he is still just as serious about his music and performing as he is about business. Like most tours of this scale the key production staff travelled with the show and Novatech worked closely with the touring team to provide a production to the standard they expected.

Touring Production Manager Roger "Divine" Davy told Novatech: "Thanks so much - We had a blast. You guys make work fun, which does not happen too often on an International run".

Australian Production Manager Steve "Scanners" Scanlon brought the local team to the table in the early stages of planning

the concerts production. As Novatech are regular providers of production services for rap and hip hop artists they what was required and they jointly designed the production elements of the concerts.

The audio system was a full L'Acoustics rig with KUDO line arrays for front of house. The total system including front of house, fills and stage monitoring was 104 speaker cabinets with 42 KUDO, 12 ARCS and 24 SB218 for the front of house system. All of the entertainers used Shure UHF-R microphones and a heap of Pioneer CDJ-1000's and Technics turntables pushed out the beats. The audio was mixed with a DigiDesign Venue D-Show at front of house while a Midas XL3 took care of the stage sound. The guys like it loud on stage and with 6 KUDO for side fill the monitor system would have been a good front of house PA for a thousand people on its own.

Lighting was a mixture of 112 parcans, 12 MAC600, 10 MAC700, 4 Martin Atomic 3000, 8 four way blinders, 24 LED strips and 160 LED tubes. All run by an MA Lighting Grand MA (with a PC back up) and a Jands Hog 1K triggering the arKaos media server. The show focused on some old school looks so there was a shift back to the traditional parcan and away from moving yokes.

With this in mind there needed to be something to give the stage a finishing touch so the 160 LED tubes were fed video signal converted into DMX via an arKaos LED mapper and video server. This gave the stage some eye candy technology without detracting from the intention of the 'old school' lighting

design.

The vision system for the concerts was a key component necessary to maintain the continuity of the show. With custom graphics packages for each of the tracks in the 50 Cent set, the system needed to deliver high quality i-mag camera shots and great graphics. A single projection screen each side of the stage kept the system simple and was adequate for the size of the venues. Barco CLM R10+ DLP projectors provided bright and sharp images. A Sony DFS-700 mixed the vision sources with multiple DVD and computer sources mixed together with four live cameras to create the final vision mix.

CREW

Roger Davy - Tour Production Manager
Shaheed Muhammad - Lighting Designer
Grover Washington III - Monitor Engineer

Byron West - Front of House Engineer
Maynard Snyder - Stage Manager
Stephan Hambsh - Video Director
Steve Scanlon - Production Manager
Karen Scanlon - Assistant Production Manager

James Sacca - FOH Audio Systems Technician

Milenko "Menk" Novakovic - Mon Audio Systems Technician

Leko Novakovic - Ax & Vx Technician and Crew Chief

Tim Bormann - Lighting Systems

Brad Rogers - Lighting Technician

Marcus Watt - Vx & Comm's System Technician

David Bates - Camera & CCU Operator

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If you've been delaying a move to digital because of interface or operational issues, the wait is over. The Yamaha M7CL Digital Mixing Console offers professional digital console performance and features for live sound in a 32- or 48-channel system that can actually be easier to use than a conventional analogue console. It sounds great, too.



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Yamaha's Centralogic interface takes the most direct approach to giving you maximum operational ease and efficiency in a digital console. Rather than trying to simulate the feel and workflow of an analogue mixer, Centralogic goes straight to the heart of the matter, simplifying digital operation to the point where it is actually as intuitive as analogue.



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www.soundcorp.com.au



WIRELESS COMS HANDSFREE

HME, manufacturers of the DX Series of Digital Wireless Intercoms have released the new WS200 Wireless Speaker Station. The WS 200 is a fully portable flexible solution for situations where your production crew cannot wear a headset and for those occasions when a temporary or remote crew location is required.

Features include a built in microphone, high speaker intelligibility, headset jack, mic gain, and sidetone adjustments. The

WS200 is fully featured and operates in a similar way to the HME BP200 Beltpacks. Powered by 12Volts DC (supplied Plug Pack) or Internal AA Batteries the WS200 is a very flexible solution for communications in Theatre, Broadcast, AV Event Management and Sporting Events.

The HME WS200 is fully compatible with either the HME DX100 Portable Base Station or the DX200 Base Station.

For further information Contact: Murray Tregonning Sales Pty Ltd in Sydney, Brisbane, Melbourne or Auckland.

www.mtasales.com.au



RIEDEL DEBUT NEW COM-OVER-IP

Riedel Communications introduce a new intercom-over-IP solution – the Connect IPx8. It's a 19"/1RU unit which converts eight bi-directional AES or analogue signals into IP data and vice versa. It's the perfect teammate for Riedel's Artist VOIP-108 G2 client card, which is also new. The solution provides high-quality intercom interfacing to IP based networks and allows matrix-to-matrix connections, matrix-to-control panel connections as well as the distribution of audio lines over IP.

www.riedel.net



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The D5T sets a completely new standard for theatre sound mixing, with audio quality, intuitive operation and flexibility that are a world apart from conventional analogue or digital consoles. With a 72 buss DSP engine, a 32 x 32 matrix, 41 fader surface and up to 128 channels with full dynamics processing or 96 channels with onboard effects, the DiGiCo D5T combines a wealth of facilities in a compact worksurface that potentially will give back hundreds of seats a year to large productions. The D5T from DiGiCo. A new world of theatre sound.



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- Acoustic Technologies Blackbird Line Array
- Adamson Y10 Concert System
- Dolby Lake Processor
- Lake Conour, MESA
- XTA DP428, DP226, DP224
- Optocore Digital Network
- LabGroupem fp6400
- Camco Vertex 6
- Crown Macrotech VZ5302
- Yamaha PM1D, PM5d
- Yamaha M7CL, DM2000
- Yamaha O1V/96 (40 consoles)
- Digico D5 112/EX
- Midas XL4, XL3
- Midas Heritage 3000, 1000
- Midas Verona, Venice



AKG RELEASES HIGH-PERFORMANCE CANS

AKG announces two new additions to its range of stereo headphones. The K 512 and the K 514 headphones carry a stylish new look. These supersede the time tested K 55 and K 66 models (respectively). The K 512 is available in charcoal; the K 514 in mecca. Sell prices: K 512 \$89.00 and K 514 \$109.00

www.audioproducts.com.au



JANDS LAUNCH CLUB EON

It's a virtual club, not a place where you hang out and buy drinks. That would be too weird. Did you ever have a RockStar moment and throw your JBL EON off a hotel balcony, and it still worked the next day at your gig?

Have you ever seen a JBL EON being used in a weird and wonderful way?

Jands say if you tell them about it then you have the perfect way to score some free merch, and qualify to go on and win a fabulous bigger prize if they think your story or photo is the best! This opens up some very CX possibilities, we will be trying to get the more offbeat shots from Jands to publish here.....

To get this together Jands announce Club EON - a group of people coming together to support, bark, laugh, share, chat about the World's #1 Powered Loudspeaker in the World. You can also become a Facebook fan of EON

You can become a member of Club EON by submitting a story or photo about your EON experience. Then you immediately get a choice of one of two great JBL EON t-shirts... traditional or funky, it's your call. Every second month Jands pick a winner of all the entries submitted, and you'll get a prize.

For more details go to www.jands.com.au and get into the Community section. Everything you need to know about Club EON is in there. www.jands.ccm.au



WEBSITE UPDATES

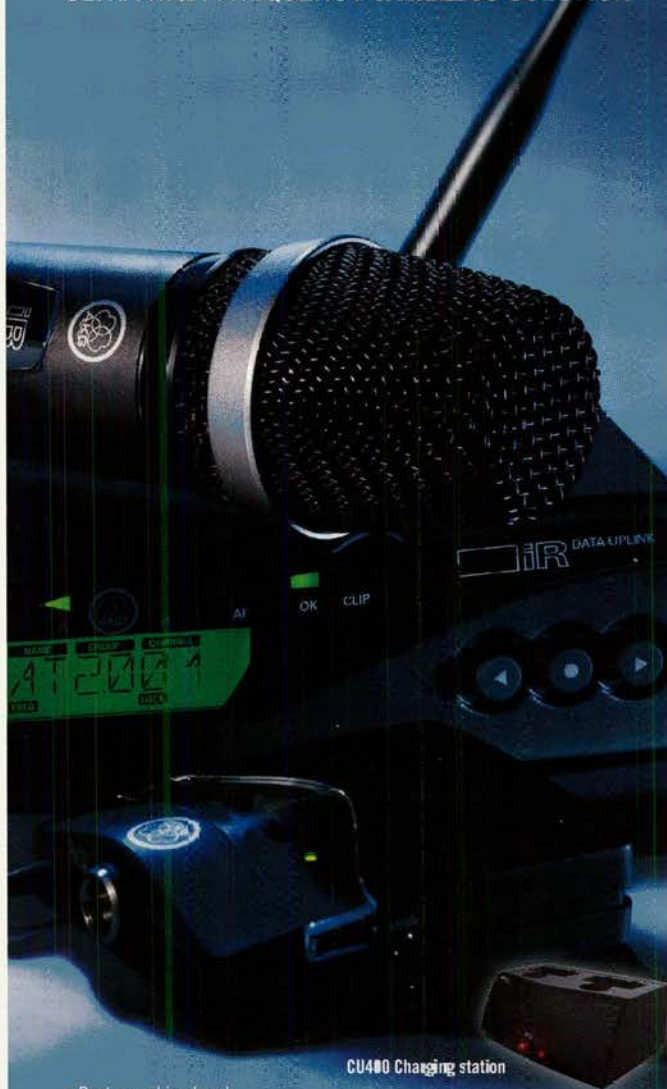
www.lightninglighting.com.au is the new website for Lightning Lighting. "We are selling products that enhance your life, by correcting the atmosphere and lighting of your personal space and work place".

The ULA Group website has received a make-over. The website is now available via mobile internet and PDA's. Go to www.ula.com.au



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ART 315 A	15" + 1"	300W	50W	128dB	20kg	680H 405W 345D
ART 322 A	12" + 2"	350W	50W	128dB	23kg	680H 405W 345D
ART 325 A	15" + 2"	350W	50W	129dB	24kg	680H 405W 345D
ART 522 A	12" + 2"	500W	250W	130dB	18kg	680H 405W 345D *NEW
ART 525 A	15" + 2"	500W	250W	131dB	18.5kg	680H 405W 345D *NEW
ART 705 AS	15"	800W	TBC	130dB	37kg	590H 435W 600D

**All power specifications measured in continuous RMS power.*



RØDE M2 STAGE MIC

The M2 live mic from RØDE features a tailored response to reduce feedback, as well as an integrated shock mounting system to minimise handling noise. A locking on/off switch located on the microphone's body provides the switching feature required by singers with self-operated sound systems, and yet can be locked off when used in larger, dedicated operator environments.

"In the past, sound professionals have been hesitant to use condenser microphones for live applications due to their fragile nature and their susceptibility to feedback. I wanted to change that perception," explained Peter Freedman, President of RØDE Microphones. "By combining studio sound quality in a rugged, feedback-free package the new RØDE M2 will do just that."

www.rodemic.com/m2



PEOPLE AND BUILDINGS

Mark Engel has been appointed President and Chief Executive Officer of Rosco Laboratories. Engel, who had been the company's Chief Operating Officer, is only the third president in Rosco's nearly 100-year history. The company was started in 1910 by Sidney Rosenstein, who remained at its helm until 1958. That year, Stan Miller bought the company, whose primary product was color filters made of gelatin ("gels") and assumed the position in which he has served for 50 years. He remains active as Chairman of the Board at Rosco.

Michael Gardner has resigned as Chief Executive Officer of the Staging Connections Group. Chief Operating Officer Ben Ashton will assume the role of Acting CEO until a permanent appointment is made. Staging Connection Group has suffered on the share market with a very large decline in share value this year. It is thought that a takeover will occur this year, since the share crash has revalued the business.



Altronic Distributors has recently expanded its wholesale sales operations opening an office in Eight Mile Plains to cater for the Queensland market. Daniel Neuss (pictured) is the Queensland state manager. Daniel brings considerable electronics and customer service skills to this position, with over 10 years experience in the industry.



Staging Connections has announced that **Paul Hermann** (pictured) has joined as Director, Major Projects, Staging Connections Melbourne. Paul brings a wealth of experience to Staging Connections following an outstanding career with Harry the Hirer, one of Australia's largest service suppliers for events and exhibitions. He established Harry the Hirer's successful exhibition and conference division in Melbourne 16 years ago and its Sydney operation five years ago. "I believe that the Staging Connections Group is well positioned to capitalise on the growth in the events market and I look forward to working with the team to capitalise on opportunities to further develop and grow the business," Paul said.



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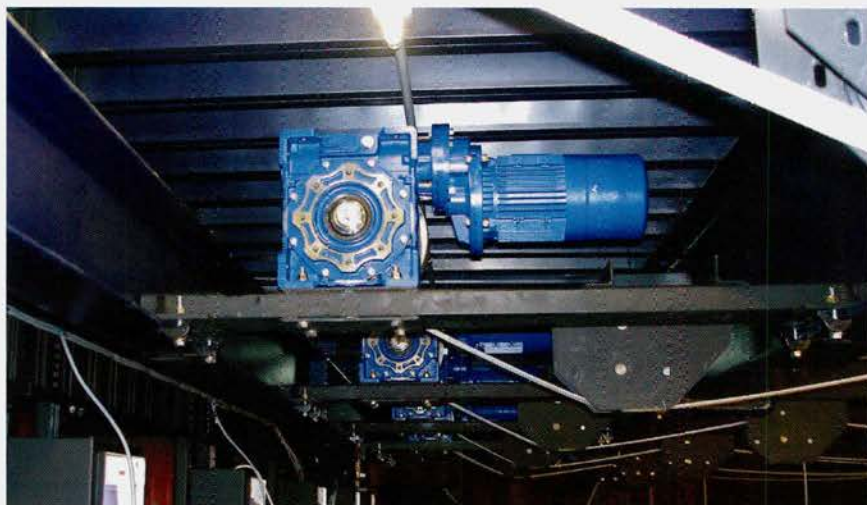
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HME TRANSFORMS SEYMOUR CENTRE

Supplier of rigging, lifting and height safety solutions, Harris Movement Engineering (HME), has completed work on the upgrade of Sydney's Seymour Centre.

The project involved upgrading both the York and Everest theatres with a brief to modernise and automate the existing design.

The York Theatre received a major overhaul, with HME installing motorised pile hoists, lighting bars complete with DMX, Ethernet and cable management, and an aluminium box truss grid with hoists

controlled by HME LCH hoist controllers.

In the adjoining Everest Theatre, HME installed additional lighting bars, carried out maintenance on the hydraulic lines; and mounted a fall arrest height system to provide a safe passage into the gallery from the lower level.

Seymour Centre General Manager David Williams said he has worked with HME over the last six years, watching it develop into a dedicated and specialised company in the arts industry. "HME is what the industry has needed for quite some time, providing a personal and sincere approach to our needs," Mr Williams said.

www.harrismovement.com.au



JARS OF CLAY DEMO POWERFUL PERSONAL MONITORS

Ever since being introduced to Aviom's Personal Mixers, Nashville-based rock band Jars of Clay has been touring the world, making Aviom's Pro16 monitor mixing and audio distribution gear a regular part of its audio toolkit.

"We are going on five years using the Aviom Pro16 rig," says guitarist Matt Odmark.

The six-member band uses various configurations of three A-16II Personal Mixers and three A-16R rack-mount mixers with A-16CS Control Surfaces and Sennhieser belt packs for wireless in-ear-monitoring. All are networked via the A-16D A-Net Distributor, an AN-16/i-M Input Module, and the Aviom-16/o-Y1 card, which enables Aviom to connect directly into a Yamaha mixing board.

"Aviom has given us vastly greater flexibility in monitoring while on the road, has drastically improved the sonic quality of our monitoring experience, has simplified onstage communication and has basically made better performances possible in the most unlikely of scenarios,"



Odmark says. "Whereas before our expectations were something along the lines of 'I hope I hear something,' now I know that no matter how crunched we are, I can always dial up a preset mix that will not only get me through the gig but will allow me to concentrate on the music."

www.productionaudio.com.au



ALCONS INTRO ULTRA-COMPACT RIBBON LINE-ARRAY

Alcons LR14/90 is a passive 2-way ultra-compact line-array module, adding a 90° x 15° version to the LR14 system. It uses Alcons' proprietary pro-ribbon technology for MHF reproduction; The unusually high 800W peak power handling of the RBN401 pro-ribbon driver enables a better sound reproduction at concert SPL's.

The "Morpher" lens in the newly developed Alutec wave-guide of the RBN401, brings the active frontal radiation of the LR14/90 up to 94% for an absolute "spike-less" vertical dispersion, while offering a very precise horizontal projection.

The frequencies below 1kHz are taken care of by two 6.5" Neodymium mid-bass drivers, making the system real full-range in most applications with its lowest usable frequency being 51Hz. Special attention has been paid to the woofer/reflex-port combination, for extended LF output despite the system's ultra-compact size. The total system weight is a mere 15kg/33 lb.

The LR14 comes with a completely integrated flying system, without any separate/loose parts and has a very high safety-rating of 10:1 with 24 cabinets. The Alcons line-arrays have one of the fastest deployable rigging systems on the market.

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ELECTRICAL MYTHS AND CARBON CRAP

Paul Matthews argues that we are all misled about saving power.

Last issue (CX37), featured "Tool of the Month", a 20kW three phase heater. 20kW is equivalent to 2000 x 10w greenie style "energy saver" globes!

At 20kW with current general supply rates of around 20c/kWh, to run it you're looking at \$4 per hour.

I'll chuck out about the same heat as one of those Kennards Hire gas fired industrial space heaters (red bullets) which churns through a 9kg gas bottle in about 3 hours.

A 9kg gas bottle costs around \$35 to swap so by using the electric version you're saving around \$22 to heat your cold backstage using the 20kW power sucker instead of your gas beauty. (Of course you're also shifting the debt onto the venue's books instead of yours but that's another story). That's not to mention that the electric model is also fume and flame free meaning it can easily be used to warm up a frigid council civic centre, tent or venue where the gas version would definitely be well outside of current OH&S rules.

Take a look at the maths closely and you'll realise just how stupid the whole green electricity argument is at the moment. A solar powered Aluminium smelter? I'd like to see that. Wind powered electric trains (2.2MW just for 1 x 8 car set to climb from Wynyard to the top of the Bridge)? I don't think so anytime soon or ever.

Electricity in this country is insanely, criminally cheap. The Aluminium Smelters (where a single pot will happily chew through 50MW (thats MEGAWatts, 24 hours a day) pay around 2c per kWh. In this network madness do you really think your green choice globes will make any difference? Almost 90% of our meters are still 1950s vintage fixed rate models where a meter reader has to physically visit and read your meter every 3 months. Can you believe it? No wonder the NSW Govt wants to sell it before someone finds out the truth!

What creates CO2 greenhouse gases in electricity networks is not what's connected - it's the number of power stations operating. And the number of stations is calculated to suit the maximum demand. The NEMMCO rule of thumb is there has to be enough gennys spinning so that the network will stay afloat in the event of the largest genny failing. If this falls below a certain level an "LOR" is declared ("Lack Of Reserve") and the boffins get their hair in a knot very quickly

and start shedding loads and borrowing power from interstate. If they don't then the lights go out. It's that simple.

Coal plants take a very long time (on average 24 hrs) to spin up and down. Each furnace pukes virtually the same CO2 into the air at 200Mw that they do at 660Mw. So basically the network sits there spinning with enough reserve to meet the 6pm peak and idles the rest of the time. In NSW the highest peaks occur on the hottest day of summer (usually around 3 or 4pm) with the network wasting megawatts just trying to deliver the energy through the network of wires and transformers where heat means more resistance and resistance means more loss. You can track it all in 5 min intervals on NEMMCO's own web site at www.nemmco.com.au. It's an interesting graph to watch especially on the coldest nights and hottest days.

So in short your efforts to save CO2 Emissions by changing light globes and buying energy efficient appliances are a complete waste of time - unless you pay very close attention to WHEN you use them. Leave your porch light on from 10pm to dawn and mother nature will not care one iota. In order to make a difference to CO2 levels you have to make sure your light (or your 20kW heater, or discharge lamp stage lights, whatever) are off during the PEAKS of electricity usage. And that means around 6pm in Winter and 3pm in Summer.

*Wanna be a
real greenie?
Eat a cold salad...*

Wanna be a real greenie? Eat a cold salad and wear a warm jacket on the coldest night of the year and go for a swim or otherwise turn off the A/C on the hottest day. Do so and you've saved more CO2 than you ever could by changing 100 globes or 30 shower heads.

A fan heater that uses 20kW of power for a short time outside of the peaks is a lot more "greenhouse friendly" than a 2kW foot warmer one that presents a smaller but constant load to the network at peak times. Hard to believe but the maths is there for all to see. It's a shame we're not asking a few more power system engineers how to reduce greenhouse emissions instead of economists.



What we will see in the near future as carbon quotas are introduced is a big change to the way we pay for electricity. Just as you pay more to call long distance at peak calling times, those of us that use peak power will begin to pay A LOT more - up to 5 or 6 times more. Those that can change their usage patterns to use power "off peak" will stay much as they are or even save money.

Given that most shows occur on weekends and at times when industry and commercial activity is otherwise not presenting a load to the electricity network - I don't think us showy types have got too much to worry about. Business savvy venue owners will quickly work out that they can make a killing by installing interval meters and getting on a cheap weekend or overnight off peak rate. We might want to review some of our rehearsal times though.

Keep warming your feet with those Par64's... and get those TOU interval meters installed on your venues!

PS: We've been on Integral's TOU (Time of Use) General Supply rate here since 2005. A wonderful 8c per kWh EVERY NIGHT and ALL WEEKEND when everyone else is paying 20c. Go figure.



WORLD'S LOUDEST BAND CRACK NEW SPL RECORD

Epic heavy metal band Manowar secured a place in the Guinness World Records during the 1990s as the loudest band in the world, and sheer volume has remained an integral part of the Manowar concert experience. The band's technical rider specifies a minimum unweighted SPL of 126dB at FOH position, a feat few sound systems can handle and still maintain the sound quality.

During the sound check at the second annual Magic Circle Festival in Germany recently, Manowar achieved levels in excess of 139dB through a Meyer Sound MILO system

The Meyer Sound system comprised a total of 32 MILO and two MILO 120 line array loudspeakers, with massive low end provided by 64 700-HP subwoofers. Twelve M'elodie line array loudspeakers covered front fill, with three CQ-1 loudspeakers handling center fill and outfill duties.

This year's Magic Circle Festival was once again headlined by Manowar, who celebrated the 20th anniversary of the release of their seminal "Kings of Metal"



album with a choir and a crowd of more than 35,000 diehard Manowar fans.

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Belt Pack

HS15
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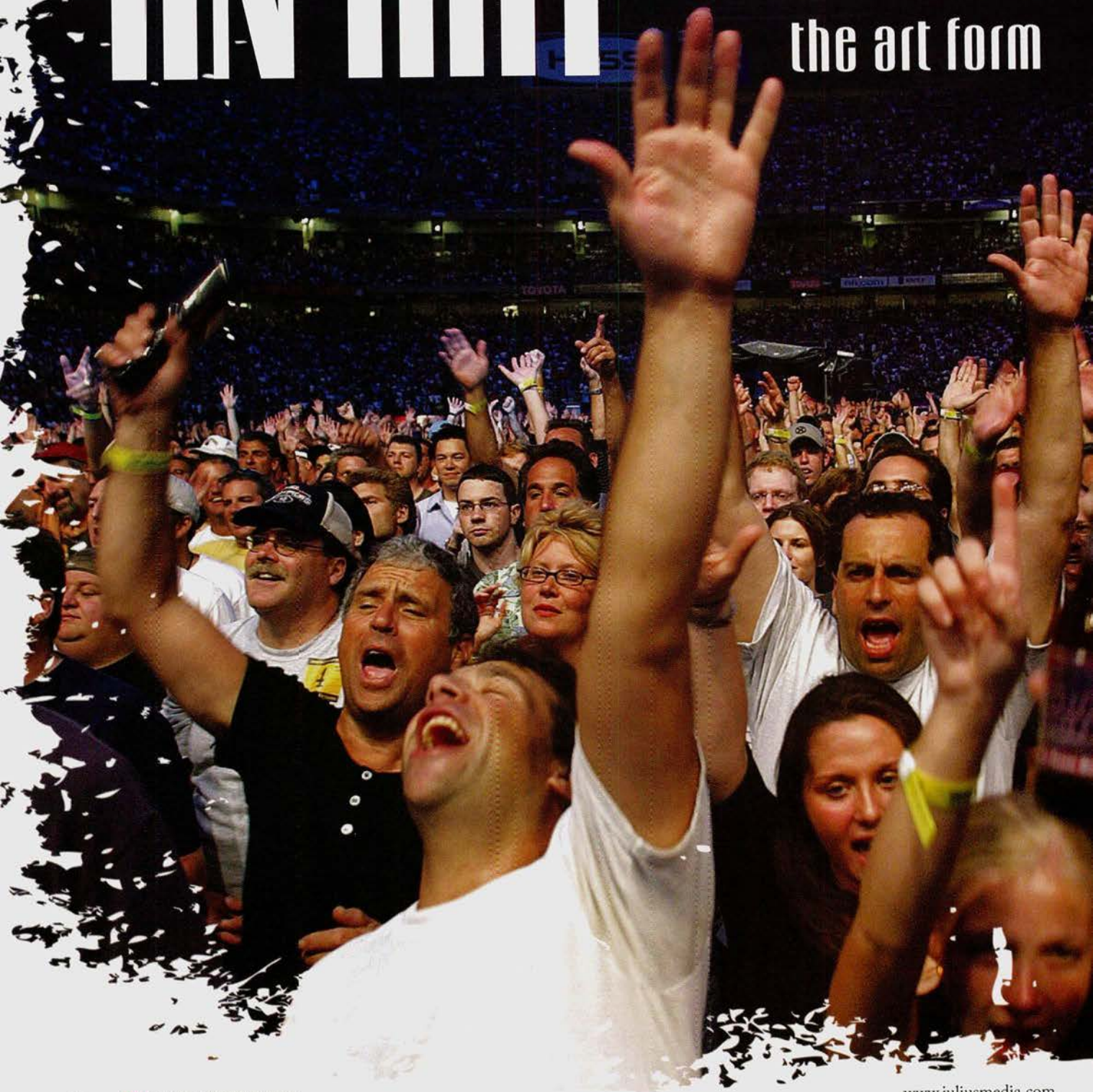




Photo by: Mario Tama

CX went on a pilgrimage one weekend to the home ground of the Boss, and joined 60,000 happy New Yorkers at Giants Stadium.

Springsteen is the genius of rock. Did he bring it all together?

You bet.....

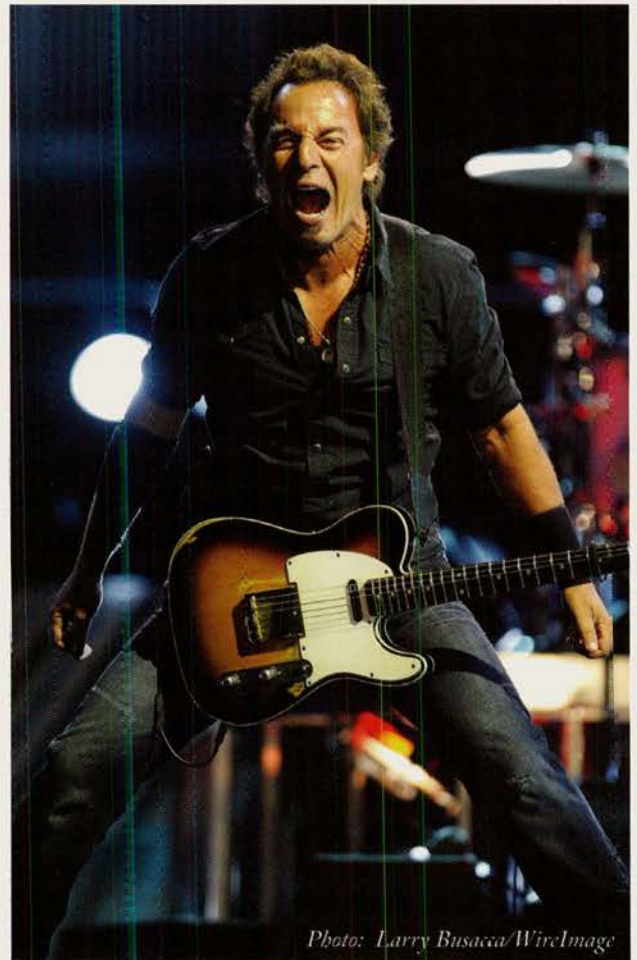


Photo: Larry Busacca/WireImage

BY JULIUS GRAFTON

He is to music what John Farnham is to Melbourne. He did to rock what Niel Diamond did to pop. Whatever, in New Jersey he is simply the Boss and from the opening note at Giants Stadium it was a love that flowed thick two ways.

The logistics at Giants Stadium are impressive. Most people come by bus from the Port Authority Terminal across the river in Manhattan. There, a long line snaked back and forth outside, moving to the side street where bus after silver bus roared away, a permanent convoy through the tunnel under the Hudson river and over to the stadium 9 miles away.

That trip set the scene since the fans were pumped. Not to mention impossibly polite and charming. My lack of a bus ticket doesn't stop the line, as the guy marshalling everyone pulls a spare out of his pocket and just gives it to me. I'm ready to pay the \$6 but he waves me on. The big old guy opposite told me and anyone else listening that Boss did 30 songs last night at his first show, and it ran 3 hours and five minutes. "He comes on at 8.30. Then it took me an hour to

BRUCE SPRINGSTEEN AND THE E STREET BAND

2008 TOUR



get out of there". The info is well received, even if this is Monday night.

Late July the weather is balmy and a little sticky, the fans are all dressed down and I see no work gear. In Australia on a Monday night, plenty would come from work. These people are more sensible than that.

After being frisked, I'm in and snaking up the ramp on the outside of the stadium, which seats 80,000. The field is smaller than back home, where our stadiums host AFL. This makes a tall stadium more intimate, even with a large conventional stage hard at one end, I guesstimate 60,000 punters are here. They paid between \$45 and \$90 each.

Out in the car park is an adorable American ritual where people tailgate, meaning picnic out of the boot. BBQs are burning, tables and chairs set up, it's an ocean of people and cars. The parking is free.

Inside the queues at the concessions are long, there is 'world beer' next to Bud, so I get reacquainted with the ersatz Fosters they brew out of the turgid Hudson River. This is much better than the American stuff which is all froth and bubble. The liquor laws of New Jersey require you show ID which

caught the blond 35 year old in front of me unawares. She politely left unfulfilled. My ID confirmed my 51 years.

The stadium lights go down, and the roar is like a jumbo taking off. 'Tenth Avenue Freeze-Out' starts the show, and the crowd sings along. The E Street Band are almost as revered as The Boss, hulking Clarence Clemons does brass on stage right, 'Little' Stevie Van Zandt on guitar at stage centre and Patti Scialfa with acoustic guitar stage left carry the image. What an elegant and talented woman is this Scialfa, married to the Boss for good measure. The others E Street'ers are Roy Bittan (keys), Danny Federici (organ), Nils Lofgren (guitar) and Garry Talent (bass, joined by hired hands for violin and keyboards. Almost everyone sings backup.

But it's most eyes on Broooooce, who is having a whale of a time and using his stage ramps to get with the people. If the vision of your mum and old dad rocking makes an adult grimace, younger sons and daughters with their kids all singing shows great music bridges those gaps. A ten year old boy sings along to 'Spirit In The Night', drawing a big roar from the mob when

SETLIST, GIANTS STADIUM

Tenth Avenue Freeze-Out
 Radio Nowhere
 Lonesome Day
 Adam Raised A Cain
 Spirit In The Night
 Summertime Blues
 Brilliant Disguise
 Atlantic City
 Growin' Up
 Janey Don't You Lose Heart
 I'll Work For Your Love
 Youngstown
 Murder Incorporated
 The Promised Land
 Livin' In The Future
 Mary's Place
 Working On The Highway
 Tunnel Of Love
 The Rising
 Last To Die
 Long Walk Home
 Badlands
 Girls In Their Summer
 Clothes
 Jungland
 Born To Run
 Bobby Jean
 Dancing In The Dark
 American Land
 Rosalita

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he is on the screen, before the band click into 'Summertime Blues'.

They know the words. They know the gestures. People have their own little code signs and looks for parts of songs that mean things to them. If you were Springsteen, if you wrote your own anthems and made legends, then you'd deserve this crowd. Any performer could only dream how their wildest fortune might, just might, play out this way. For The Boss, this is his life.

TECHNICAL

The sound was world class, and there was enough of it. Possibly drawing on FOH engineer John Cooper's experience since Boss is no stranger to Giants Stadium, there are three hangs of JBL Vertec line array each side of stage (96 + 8 frontfill total), plus a hang of 24 subs each side. It's all Crown powered. The long time PA supplier to this artist is Audioanalysts.

Two thirds of the way back are two 12 hang delay towers. With a full house, there is no perception of slap back and just enough low end stuff getting up to my terrace level.

I sense the SPL limit of the system is nearby, since it is sitting just comfortably over the crowd singing, which they do, all the time. Cooper mixed the Boss on a 96 input Digidesign Profile system.

There's a monitor mix with a Yamaha PM 1D (V2) on either side of stage, Monty Carlo is the monitor engineer on left, Troy Milner on right and a lot of wedges out there. A few uncommanded squeaks and squeals appear to flag that if the Boss is wearing in-ears, they are new invisible ones.

There are two Marshall quad boxes laid flat facing up, with the top angled part facing forward. They each have a large diaphragm condenser mic on them. This is carefully designed stage audio at work, letting Boss turn up the guitar without it blowing apart the vocal mics.

For once I enjoyed the lighting, because I didn't really notice it. That's what should be written on the can. Reminder to all lighting designers: light the dialogue. Mr. Boss and his compatriots were lit appropriately for each segment. Mood was conveyed. This masterful design was executed by long term Springsteen collaborator, lighting designer Jeff Ravitz. The vendor was Morpheus Lighting, and the operator Todd Ricci.

To engage the audience, the lights came out to us. Blinders on stage were matched with blinders on the delay towers, all colour scrolled. If pink number 113 was on the blinders, so too was it dialled into the giant Syncrolites that slowly (note: slowly) panned over us occasionally (also note, not all the time)!

It was a mature, intelligent and traditional implementation of the art of lighting, instead of a costly ego trip that I obviously detest. That's where there are 400 moving lights all working against the person paying far too much for the things in the first place. The artist.

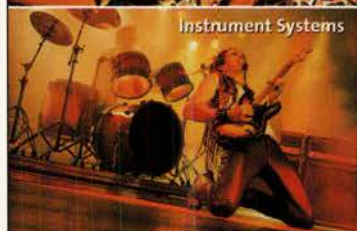
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Also at Giants: there wasn't a war between video and lighting like you see too often, the lighties aghast because video has twice or thrice the budget, plus those video techies come in last and go home first.

What do I mean? Well, the two imag screens (from Pete's Big TVs) carried camera imag so whomever was leading was shown. We could always see the dialogue – whether spoken or played on an instrument. An audience needs to see the mouth forming the words that they are trying to hear. It helps them connect with the dialogue, and perversely it also makes the sound engineer more popular, so with success they can be paid more.

At the rear of stage was a solid wall of LED top to bottom, which sometimes carried graphics complementary to the mood. Other times there was nothing going on which also shows off the fact that when a LED tile has no imagery on it, it is true black. A projection screen cannot be black.

This is why I assert that lighting and video have worked together on this show.

FAR CRY

There is another purpose to my pilgrimage and that is to square up for the events of 2003 when Springsteen suffered a rare dose of bad press in CX town, Sydney. His show opened with



Edwin Starr's 'War'. Later on, someone whose career justifiably suffered as a result, forgot to refuel a generator which stopped the show when it ran dry. (This has happened at other shows – please arrange a tanker drop before the audience arrives and it becomes impossible to drive in there. See my rant somewhere about lighting programmers who work all night and somehow forget to arrange more diesel).

This on top of the really prissy noise laws that pampers those few minging ponces who live near Sydney's Moore Park and whinge. Don't start me on this. The result was the sound engineer forced to turn down the faders, to the point people at the rear were being disturbed by the conversations of those next to them.

It wasn't a happy tour – Springsteen's management got one over the promoter, which is their job, but poor Kevin Jacobsen almost went under as a result.

My story drew furious reaction from

afar when it hit the CX website, so I sure don't have friends in the Springsteen camp. I just write it like it happens. And they are gracious with info for this story, so all is good.

PILGRIMAGE

I timed it with a few hours to spare, but didn't count on the notorious JFK airport. Our flight from Vegas, where I had been attending Peter Freedman's fantastic product launch, was diverted to Syracuse. Where?

Once landed we sat another seven hours on board as the food ran out and the toilets overflowed. I arrived in town as the Boss did his encore.

This meant the loss of a ticket and a story, so I went the following night to the sold out show, determined to buy a seat from a scalper. Luckily for me, there were some late release side seats so I didn't need to feed the bottom fishing scum.

Where are we at? Great music demands great production. Great performers choose great production people. Get the parts right, and the sum is a moving experience. I was still smiling the next day, as I did the 5 hour flight to LA, then the 6 hour layover, then the 14 hour flight to Sydney where it was still freezing cold and a long, long way from New Jersey. CX



The quaint customs of tailgating and beer bonging meet in a New Jersey carpark.



It's been far too long since I was in the USA. There've been so many negatives. The people there know they are currently suffering a nightmare of historical enormity, and they've lined up the stunning Barack Obama to kick out the Republicans for Christmas. Smalltown USA is where everyone knows someone who has lost a kid to the war, the war that no one wanted except W. They've lost more beautiful young men and women than the sum of

everyone snuffed out on September 11, 2001. They have a mountain like an out of control volcano pushing high above the land, a mountain of victims and ruined soldiers who have come home with body intact but mind broken. The insanity of Iraq has just prolonged the intense misery from the attack on the twin towers. I saw grimly determined airport security screening, like what we are used to, but with heightened intensity.

Posters pay tribute to the fallen. Police and Fire trucks are dedicated to lost colleagues. It's a sadness, but with a loyalty and a strength that until you walk and talk with Americans on their home turf, you don't get. I'm loving their tough spirit, their courtesy and generally happy disposition. The events I attended during my weekend in the 'States reminded me just how the Americans celebrate life.



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PROFILE: MICHAEL JANKIE

26 year old Michael is the founder and director of Trafficlight, a successful Melbourne-based production management company. CX was in Melbourne recently and had the opportunity to find out a bit more about him.

Describe yourself to someone who has never met you!

I am a driven and diligent person, with an energetic outlook and 'can-do' attitude, who on occasion can go a little nuts when the pressure is on!

You established Trafficlight – where did the idea come from?

It started off simple enough... I needed an ABN to do casual work, so I thought for \$70 I may as well get an interesting company name. I floated a few ideas for a name by a VCA class-mate of mine and picked the one she told me was stupid.

The serious part of it came at the end of uni. At the time, prospects for production workers were not quite as

good as they are now and the theory was: start a company to get work, make it big, figure the rest out later.

Who helped you get it started?

Back in 2003 the company was established with three partners myself, a lighting designer and my accountant. It's now just me and the accountant, as the lighting designer moved on to a more focused path.

Trafficlight seems to have a diverse base of projects – how did you forge the customer relationships?

I am amazed myself. The guy who my former high-school employed to work on production for our musicals gave me some casual work after I left school. He then passed off a few small jobs to me to manage. I can probably trace almost a third of all my business, through no more than three degrees of separation, back to that guy. I would say that within the same three degrees I could trace almost all of the other two thirds back to two other

individuals.

You studied at VCA – how was the balance between practical and theory in that course?

VCA was weird back then, forget practical and theory, it was about meeting people. On top of that we learnt how to use a whiteboard and also massage classes. There is very little of what I learnt that has proved valuable, but the real value of places like VCA is the people you meet and the things you learn that give you access to different avenues. Although I mention above tracing back to a single person, each step of your career is important, and VCA has been the most important step for the growth of my career.

Describe one exciting work day this year:

To be honest most days are exciting for me, the nature of the work we undertake means that quite often I am not just dealing 9 to 5 with staff, clients or

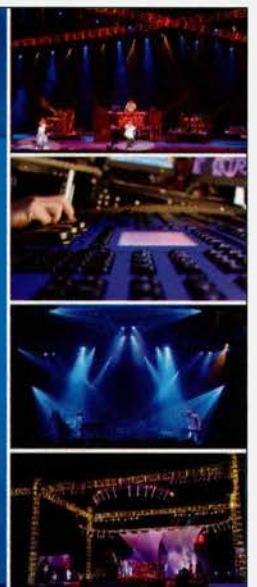
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suppliers, I am talking to, working with or facilitating projects for friends and people I respect. My days can involve anything from writing a budget (they are exciting to start with, when I get to spec the wishlist!), looking at new products from the rental team, heading into production meetings, or chatting with the team here about a new project they are working on. All too often I feel that the day is over too quickly.

What's the worst thing about your job?

The one thing I find very difficult to do is letting a client go, or a project that we have been asked to look into. Sometimes things just don't work out, and making that decision is a very hard thing to do.

And what's the best thing?

I have plenty of friends who have nothing to do with this industry and often when they point out a poster or talk about an event or show they have seen, I can say "Yes, I know it, we delivered the production for it" - that's what I love. It's the ability to talk about all the projects we are involved with, without having to bring anything up myself.

The thing I enjoy the most is delivering experiences that are available and accessible to everyone, and knowing that without our involvement they would have not been the same.

Favourite supplier, and why?

John Mckissock from Clearlight Shows really looked after me just prior to us setting the company up. I suspect that he actually hadn't considered us as a reasonable amount of business for the future, but was more than happy to supply what we needed at the price we needed it. I really respect John and Clearlight for that and every individual dealing we have had with them in the last 6 years.

Biggest threat facing our industry

I really think its going to be interesting to watch what happens with carbon footprints. There is no question that our industry will have to be pulled up not only about our power usage in everything from lighting to stage mechanics, but also that the nature of temporary installations generates massive amounts of waste. One thing I learnt about at VCA was 'thwackers' - a slice of tyre inner tube attached to a short length of dowel, used to wrap around an electric bar to hold a cable to it. No waste of electrical tape!

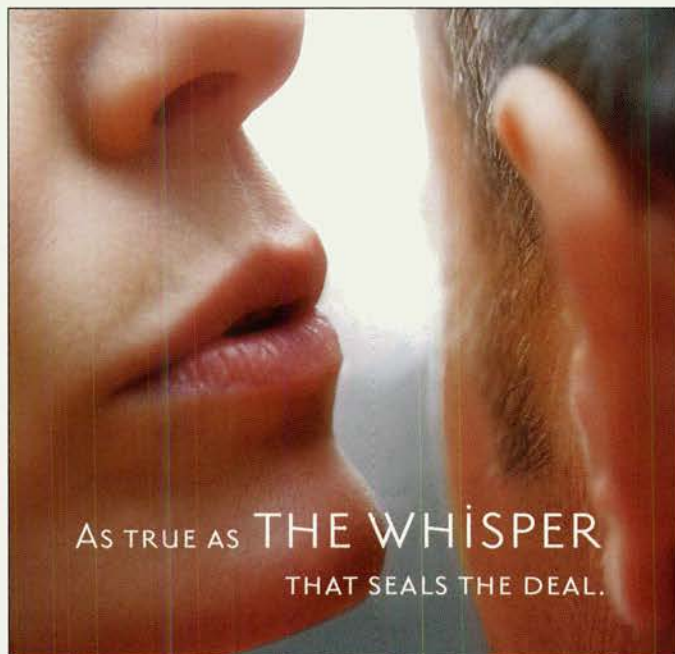
OK, now RANT about anything!

More and more I find myself sounding like the people I used to say were old, but I think people are moving up too quickly. I think they need to remember that experience or exposure can be more important than the money they earn immediately. Think of it like work experience.

And you know what else, everyone (or 'competitors' could be used as another term) should be friends. There is so much work out there, there is no need to be snippy or angry about other companies or individuals. Who cares if one company buys another, it's still by no means a monopoly. They had to grow somehow. Look at that before you say it's not fair, you might learn something about your own position. There really is room for everyone to be successful, at least for the foreseeable future.

And now RAVE about anything!

I really have a fascination with two forms of storage that I deal with regularly. Did you know you can get a road-case that opens up into a wardrobe with mirrors, lights, hanging space, drawers, and power points for an iron? Similarly containers are brilliant, container customisation is even more brilliant, the things you can do with a container are amazing and interestingly a customised container and a customised road case are in the same price range. Who would have thought? **CX**



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CHAMELEON

Open Day

Inside the largest lighting warehouse in the southern hemisphere there's space for thousands of moving lights, ten thousand fixed lights, five semi trailers and enough truss to span the CBD of a large city. Chameleon can't even estimate the weight of the copper in all their cables, but if you smelted all of them down the recycling cheque would equal a happy retirement. For two days in August they threw open the doors to show clients the breadth of their technology. It was a screaming success.

By **ANDY & JULIUS**

Chameleon boss Tony Davies was floored by the support he got from his suppliers, many of whom flew in experts from around the world. Since Chameleon is in many cases their largest single client, CX was less surprised. We imagine it would be a no brainer. And all those who came brought some toys to show off, including some we'd never seen before. Here are a few highlights...

LITTLE THINGS

The custom painted white Mac700s are a huge seller in the corporate and fashion markets. Chameleon stripped them of covers and sent out the covers out to an auto body shop for a really swanky finish.

Jands were showing the new line of ETC consoles including the budget priced, seriously featured and subminiature Smartfade ML – possibly the most cost-effective lighting controller we've ever seen.



Alex Mair.



Arri's mighty fresnel.



ETC Smartfade ML.



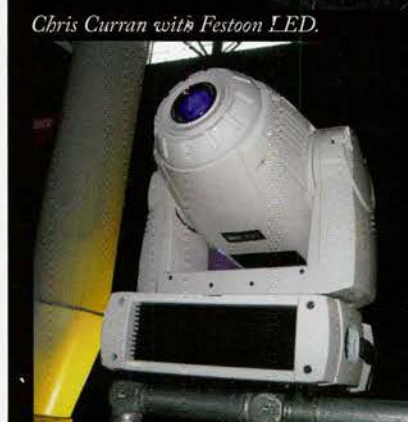
Robert Juliat theatrical fixtures.



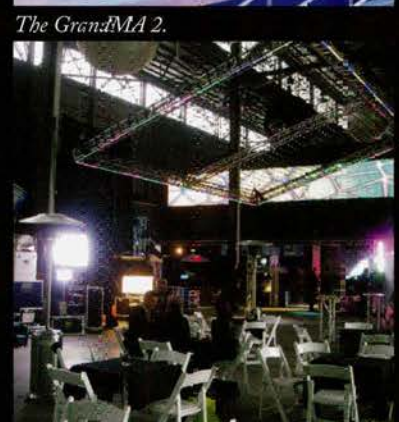
Chris Curran with Festoon LED.



The GrandMA 2.



Whiter than white.



BIG THINGS

The title of most disturbingly large thing in the show goes to the Arrimax 18/12, the largest fresnel on the planet, with an 18,000 watt lamp. We did some math: lamp running cost, \$40 per hour. Generator requirement, ummm, big one! The 18/12 was mated with the MaxMover, a remote pan and tilt control system. Won't be long until you see this puppy on a rock band stage!

High End systems were also parked firmly in bigland with the Showgun, Showpix and DL.3 fixtures. Most people are already familiar with the Showgun, and the DL.3 is basically like a bigger, brighter DL.2 but the Showpix may not be quite as well known. This is a gigantic LED mover which has the additional capacity to have pixels mapped on its LED panel. In the hands of a clever designer, this could be devastatingly effective.

NEW THINGS

Show Technology turned up with a couple of new products guaranteed to attract attention. The first of these was the all new, stealthy black GrandMA 2. That's right kids, it's arrived. Admittedly only as a beta testing version, but it doesn't sound like it's going to be long before everyone can get their hands on one. As with the original, the console comes in full sized, light and ultra-light versions. In an attempt to keep up with the rapidly increasing demands for DMX channels in the modern show, the new console will run up to 256 universes of DMX and it's been beefed up in the media content control department. My favourite feature on the new board? The 'Enter' key has been relabelled 'Please'. It never hurts to be

polite.

They also brought along the prototype MacIII – The next newest biggest thing from Martin. This too looked extremely impressive, with big light output and a pretty convincing feature set. This one's not even into beta testing yet, so you may need to be a little bit patient.

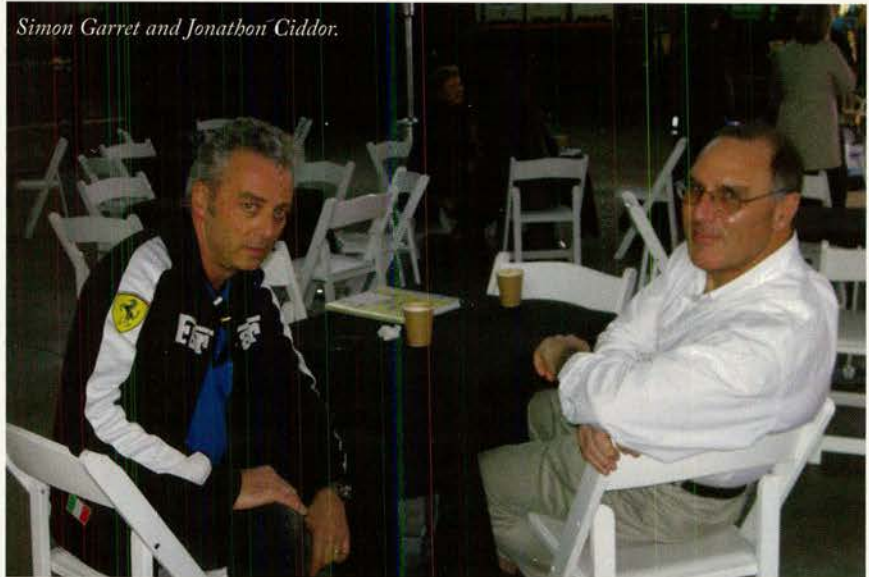
CLEVER THINGS

The ETC Matrix MkII dimmer and control system was very cool – a modular system combining a control module with a batch of different dimming and switching modules to go with it. It all fits into a rack which is fully wired at the back and allows for swapping of dimmer modules. This means you can reconfigure the rack to whatever your show requires, and that any module that fails during a show can be hot swapped for a spare. It's a system that

looks really slick and could suit a lot of applications.

Festoons go high tech with the LED version Chris Curran from TMB had on show. The digital festoon system made by Glasson Electronics in the UK uses colour changing LED lamps connected to a power supply unit using ordinary festoon harness. Each lamp is individually addressable and the control data is modulated onto the power supply cable to make connection easier. Multiple power units can be slaved to make it possible to control really large systems (up to 100 000 lamps).

There were plenty of other things to see, but these were the ones that really got our attention. Well done to Chameleon and all the suppliers for putting the effort in – everyone out here appreciates it. **CX**



Simon Garret and Jonathon Ciddor.

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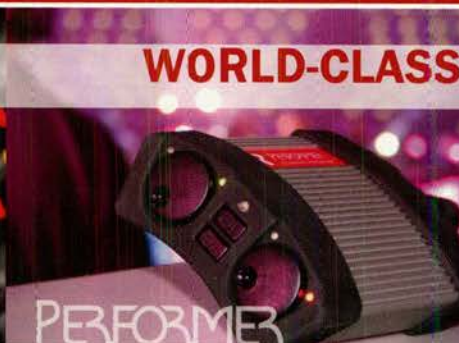
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CHINA

DAZZLES WITH WORLD'S BIGGEST VISUAL SHOW



It was and you saw it on TV. China asserted its place as the world leader in all things LED, and as a savvy implementer of a spectacle of massive scale. It may not have been loaded with irony or fun, but it was very, very clever. CX details the visuals...

By JULIUS GRAFTON

If you believe the publicity then the Beijing Olympic Opening Ceremonies would not have been half as great without the close personal intervention of a lighting manufacturer. The truth is different, but clearly the show was a technical challenge which exceeded all before it.

Mr Sha Xiao Lan was the lighting designer and had overall control, he was assisted by a team that included Sydney lighting designer Paul Collison.

"I was asked to design, implement and supervise the lighting control system. This involved months of pre preparation

to design the optic fibre backbone, data distribution points and overall patch for the lighting system. Following this the design went out to tender. Once it was awarded along with the other parts of the lighting system, I then oversaw the install and helped bring the system online. From this point I monitored the control system and make sure things are stable. I monitored the operators and provided some training.

"I was asked to advise on how the individual lighting states would work on camera. This also extended to liaising with the BOB (Beijing Olympic Broadcasting.) Mr Sha Xiao Lan was indeed the lighting designer and had

overall control. My role was purely as a consultant advising him in areas he felt were not his strong suit. Whether or not he chose to take that advise or even part of it was purely at his discretion.

"As usual with event like this, the collective experience in the control room is invaluable for getting a good end result.

"This is a job too big for most production companies to take on their own, it was a joint effort with overall management from CCTV (China Central Television). An additional five Chinese firms assisted with lighting.

TIMELINE

Initial installation of the fixtures started

in March with most of the luminaires rigged in the roof of the stadium and several hundred lining an upper balcony.

Sha Xiao Lan: "After knowing I would be the chief LD of the Opening and Closing Ceremonies of the Beijing Olympic Games, I spent a lot of time conceiving the lighting design. The Olympics is not only for the Chinese people but for people all over the world, so we had to satisfy not only the Chinese but people from all countries. The problem is that people from different places have different tastes in aesthetics. To be specific, Westerners prefer elegant pastel colors, Chinese are fond of strong highly-saturated color, and this was the major part to be considered.

"You know that the Beijing Olympics gained nationwide support from the very beginning. However, the budget for the lighting design was less than that of the Doha Asian Games. Yet many well-known manufacturers and suppliers promised they would do whatever they could to provide whatever we needed and I was deeply touched by their gratitude.

"After we knew about the Bird's Nest's 14-meter high by 500-meter long brim, which is perfect for positioning fixtures, we adjusted our plan accordingly.

"The Beijing Olympics is being



transmitted in a high-resolution digital signal, so we needed the lighting fixtures to be highly uniform in color temperature. According to our plan, we needed approximately 2,700 moving lights, which is unprecedented. Martin, Vari*Lite and many other well-known brands attended the bid and we had to choose the most suitable ones. Even as the head LD, I didn't have the authority to decide which brand would be used in the Ceremony, though my opinion was important.

"The Martin MAC 2000 Wash was eventually chosen because it's the most stable fixture with the most uniform color wash I've ever known. We used about 1,200 MAC 2000 Washes in the Opening Ceremony, which is also unprecedented. No event has ever used so many units under the same brand before as far as I know. About 90% of the Washes were used to wash the performance area, the ceiling of the stadium and the audience. We also used 110 Washes to add backlighting for the



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NEUTRIK

audience.

"Martin fixtures have the highest value for money and are quite stable with a low dysfunction rate. The nominal dysfunction rate is 2% according to the information from the manufacturer, but the actual dysfunction rate is lower than that. Plus the uniformity of color is perfect, which can not be reached using other fixtures. Besides the foresaid merits, I am very impressed by the MAC 2000 Wash's speed and accuracy in

movement and positioning. In the Opening Ceremony we used wash light to position, that's rare, and the Martin fixtures' performance is excellent; this is widely acknowledged by my colleagues.

WHITE COLOUR

"Even when using the white color, we needed it to be tasteful. If you watched carefully enough you noticed that the white color in the Chinese Landscape Painting



Paul Collison.



Sha Xiao Lan.

HIGH END REDEFINES SERVERS AND VIDEO AT OLYMPICS

High End Systems (a new member of the Belgium-based Barco Group) helped set some records: for the largest quantity of media servers (110 HES Axons) in any live event, and for creating the largest High Def projection — in this instance, one clip covered a screen measuring 1,624 feet long (492 meters) by 45 feet high (14 meters).

All effects were achieved in "real time" using the Axon media servers and projectors with 78 HES Orbital Heads. Four Wholehog 3 lighting consoles controlled the Axon media servers in the ceremonies, connected with 12 DP 2000s. Another Wholehog 3 worked in the TV broadcast booth.

HES Axons created a number of non-stop visual effects in the show: from the projected visuals encircling a video ring around the top of the stadium (the screen measures 1,950 feet long by 45 feet high) to the projections on the Globe.

There are many people involved in

the production. Just to mention a few: Olympics Lighting Designer is Sha Xiao Lin. Dennis Gardner is the Chief Lighting Programmer and Digital Lighting/Video Programmer. Steve Kellaway is Gardner's programming assistant. Scott Chmielewski of Digital Media Designs was involved in pre-production design with the Axons. Paul Collison handled the broadcast lighting and control system, with John Pappas as lighting director in the International Broadcast Center in Beijing.

HES distributor Leifull in China purchased and installed the HES equipment into a massive media server room. HES sent five product specialists to help with set up, with Zach Peletz from Austin serving as product support on the scene from May until the closing ceremonies.

Projection was done through 86 x Christie Roadster Projectors with H.E.S Orbital Heads and 63 x Cinema Christie Projectors.

LIGHTING FIXTURES

980 x Martin MAC 2000 Wash™
 162 x Martin MAC 2000 Wash XB™
 112 x Clay Paky Alpha Wash
 308 x Var.*Lite 3500 Spot
 316 x Var.*Lite 3000 Spot
 180 x Var.*Lite 3500 Wash
 12 x High End Show Gun
 20 x Ushio 2k Xenon Follow Spot
 16 x Kupo Super Sol 3k Xenon Follow Spot
 204 x PureLight City Color
 32 x FineArt LED Par Can
 46 x Sliver Star LED bank

Lighting Control - grand MA

3 Sessions consisting of two full-size consoles in multi user mode.

Two MA Lite consoles acting as remote surfaces for focusing.

Session 1 (Red): 15921 Parameters, 834 Fixtures, 4 NSP

Session 2 (Green): 13503 Parameters, 884 Fixtures, 16 NSP

Session 3 (Blue): 15987 Parameters, 624 Fixtures, 16 NSP

3D Visualisation

Software - E.S.P Vision & MA3D
 Hardware - MA Media PC. NVidia Geforce 8800GTX

MA Video System: Three Graphic input cards to overlay the displays from each session in to one.

Network

HP Pro-Curve 2626 Field Switches
 Main Switch HP Pro-Curve 8212zl
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scene was different from the white color in the Movable Typography scene. In the Road of Silk scene we used the amber color to simulate the atmosphere of deserts and in the Rites and Music scene we used the royal golden hue to create an atmosphere of the Imperial Palace. During the Tai Chi and Zheng He Fleet scene we used highly saturated deep blue. I dare say without the Martin MAC 2000 Wash, none of the above would have been possible. The wash effect of the MAC 2000 was so perfectly uniform; light from the 1,200 units was just like light from one single unit. And the saturation of the MAC 2000 was fantastic as well. Remember when Lang Lang and the little girl began to play piano together? The colorful light was just like an impressionistic painting.

"I believe through the Opening Ceremony we successfully showcased the lighting design ability of China. All factors including organization, back-stage, control, and lighting design are quite satisfying and we have gained the praise from the Western media."

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VIEW FROM THE COUCH

I watched the ceremony at home with the family, and right from the start I was impressed. I expected to see a million moving lights, I expected to see monumental amounts of pyro, I knew there were going to be a stupendous number of performers and big vision was on the cards as well. This opening delivered, on paper, exactly what I expected – so what was it that impressed me?

To start with, there was some awesome use of technology. The lighting and vision stuff that Julius has talked about were all great, but I'm more interested in the way LED technology permeated the whole show. It's definitely in China's interests to promote LED use (a quick Google search tells me there are more than 15000 manufacturers of LED products in China), and the way they did it showed some new approaches to the use of LED practicals in lighting design. Beyond the obvious use of LED in the scroll, LEDs made appearances in drums, drumsticks, performers' costumes and all kinds of other places. Low power consumption and heat generation mean you can put

lights where you never previously could.

Then there was the precision of the performances. I guess when you're in the middle of a giant economic boom and have an almost unlimited supply of people you can run a pretty rigorous casting and rehearsal process, but that doesn't make it any less impressive. Some of the choreography was very complex, but the performers carried it all off admirably.

My final point is that it was all put together with subtlety and coherence – performers, lights, vision and pyro all banded together in a way that made sense. Very, very nice.

And Channel Seven's coverage? I've got a couple of little comments to make. When covering an event like this, it's difficult to show the whole thing effectively – TV is all about getting in close. Even so, I sometimes felt that the closeness of the shots was robbing me of the magnitude of the spectacle. I feel for the mystery tech whose voice went to air asking "Have you got it?" after the audio disappeared. And I didn't like the cheap, tawdry cross promotion for another channel seven program. AM

TRANSFORMING FOR TV

The event was perhaps the most watched television event in history. Paul Collison was responsible for ensuring that the broadcast lighting aspect for the Opening

and Closing was optimized.

Paul comments, "Lighting for television on an event like this can be quite a challenge. The performance area is huge and when you add the audience in as a background you have almost a full square

kilometer of surface area to light. Even though the show, at times, is orientated to one side, the cameras can be pointing in any direction. We are very aware that every area of the stadium is a part of the show.

"The MAC 2000 XB's have been great. They are bright. Really bright. They sit in perfectly well with the other 900+ standard MAC 2000 Washes. We have used them out wide on the level 3 balcony position to get some extra kick in from the sides when the performances are orientated towards the VIP/on camera side. They also have a slightly longer throw to the center of the field from that position.

"All of the Martin fixtures have performed well under trying conditions. High humidity and high temperatures are hard on lighting fixtures. Not to mention the huge amount of dust that we encountered through the final stages of the construction of the Bird's Nest. I'm sure these fixtures have seen more dust over the last four months than most vacuum cleaners see in a lifetime!

Despite this the fixtures are still working well. We have a much lower fault rate with the Martin fixtures than any others in the system. Martin's commitment and support has been exceptional and certainly helped to make this project run smoothly.

"Personally, this has been an amazing experience. Even though culturally China is very different from many other countries I have worked in, the level of knowledge and willingness to learn has been quite refreshing. Everyone I have come in contact with on this project has been friendly, caring and above all most professional. I'd come back to China in a heart beat to work on another project...if only for the fantastic food!"

LIGHTING POLITICS

CX asked Paul about the decision to favour Martin Professional and the Mac 2000.

"I can not sing their praises more highly. Their support on jobs like this is paramount to the success. No other manufacturer (with the exception of MA Lighting Technologies) offers the same kind of support. To publicly acknowledge this is my pleasure. I have also sung the praise of MA. They also have been very supportive on not only this job but others as well. In the last two months I have also been quoted as saying nice things about DTS Lighting and Nova Lights. There are a few companies I won't support and that is mainly due to their shoddy products or lack of customer support. The latter

being the most important in my book”.

“I will only actively promote companies if I have had exceptional service or their products are of a standard that defines them as leaders. Usually it requires both. I am fully aware that companies like Martin, MA, Vari*Lite and High End use comments by professionals such as myself to sell their gear. I hope they reap financial gain from it and in turn make better equipment for less money and don't waste profits on people like me who already earn enough to survive in the world. Sure I'd be happy with USD\$20k in the bank each year for saying nice things about a company, but what happens when they make a dud product? I'm sure you'll be hard pressed to find me saying a nice thing about a Mac550 or a Jem 24/7 Hazer!”

“I like to think I am frank and honest. I have no problem with my comments in this article or others regarding any manufacturer. I only ever want to speak the truth. To be clear, aside from the odd dinner and maybe a free T-Shirt here and there, I receive no financial assistance nor want any from any lighting/ video or control system manufacturer”.



CAMEO BY THE BLUE SCREEN

Is this failure a damning indictment of the hardware used in the system? Or the operators? Or the software or content? No, of course it isn't. Everybody who works in production knows that things go wrong, and that no piece of gear is fitted with a 'Failure Imminent' indicator, and we plan our shows accordingly. Every critical element has redundancy built in, but there's always the possibility that something may take a second to switch over.

Given the quantity and complexity of the technology used in this production, one failure like this is a pretty good outcome. Other things went wrong too – one performer's LED suit went out, there were a couple of pixels out in the opening drumming sequence, one of the panels in the scroll went mad and yellow without warning.

Across the production, the observable failure rate must have been way less than one percent. As an industry we must defend our professionalism and never let anyone use this as a negative example.



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EVENT LAUNCHES OPAL STUDIO MONITOR

World-wide debut in Las Vegas



Nothing was spared as Peter Freedman rolled out his Event Electronics Pièce de résistance, the Opal. It isn't often we see this level of commitment to a product launch. So, will the other brands 'fill their pants', as Peter promises? CX was there to find out.....

By JULIUS GRAFTON

Peter Freedman is known the world over as a microphone guy. His Rode brand, made in Sydney and sold across the world, is in the top five. Rode is a remarkable story – proof that grit and determination can produce spectacular results. Now he is set to do the same to studio monitors.

Several years ago Rode purchased Event Electronics, a Californian firm which had moderate success in the mid to low end studio market. Russel Palmer at Event was Rode's first international distributor in 1992. He had started Event after running Alesis.

Buying Event was a bold move for a Sydney based company, more because it now emerges that Peter Freedman has sunk some millions into research and development.

He spent another big chunk of a million launching new products in Las Vegas, flying in the world media and his dealers. The launch weekend at the Hard Rock Casino could be best characterised as a love in, not dissimilar to what happens when Steve Jobs appears onstage to introduce a new Apple device.

Two years R&D and two intense days of launch now sees Event Opal on the world market, seeking to position Event in the territory of Genelec, Tannoy and Dynaudio. Previously Event was selling against Mackie and Behringer.

Along came the speaker designer Marcelo Vercelli, who was instrumental in crucial designs for RCF, Mackie and then KV2. "He asked me: 'What do you want to achieve with Event'", said Peter, "I said, I wanted to build the world's best loudspeaker company".

"This is so exciting for me as I am an audio technology junkie, and have always looked at the big companies over the years who came out with really cool technology and engineering to change the industry and could only dream. Now the dream has come true for me".



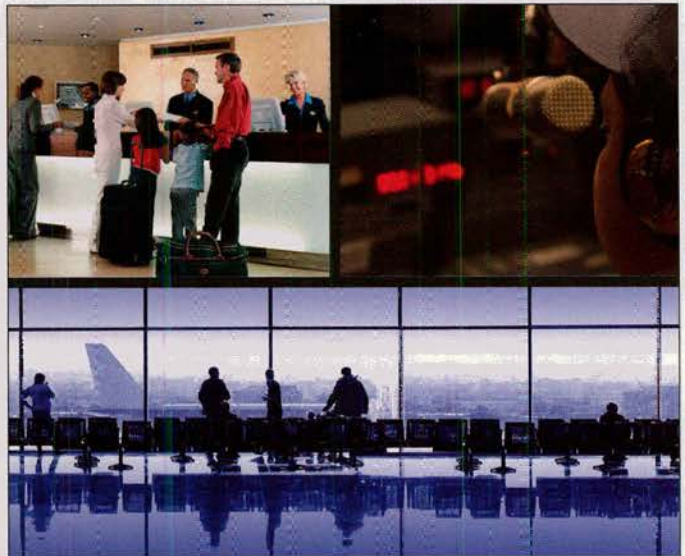
VEGAS LAUNCH

To best describe this place, start at the finish. I am checking out at 5am Sunday. Sleep is optional. The Hard Rock, with flocks of hookers and drunks up and down the corridors all night, despite the best efforts of a small army of security. A guy is passed out on the floor, either dead or unable to enter his room, mobile phone flung in the middle of the passage. I stop briefly to check that life continued. Something was moving inside him so it was OK. I step over his body.

The elevator is pumping out rock classics at 5am! AC/DC's Girl's Got Rhythm: "I've been around the world..... I've seen a million girls...." That'd be Bon Scott's bio. This is while I'm going down with my bags to catch the 7am flight to New York. And it is twice as loud when the doors open to the casino floor where a hundred drunks are still going at it and each other. The checkout area has a drunk that loudly protests something. He says he works for Pfizer we make Viagra and he is threatening to sue the casino and shut it down. The clerk is a cute young lady with a tight T-shirt that says Rehab stretched r-i-g-h-t across her Vegasic chest. Rehab is the Sunday morning pool party that the Hard Rock is famous for. I'm leaving a little early. The drunk won't clear out, so I push him out of the way to check out. Then he says he'll sue me or something, until an overworked door ccoon takes him away.

The raffish style of the Hard Rock isn't lost on this old roadie, the hotel room was very comfortable and trendy. The place is like a huge Manzil Room, with five star frills. The chicks look the same, 25 years on. I'm the oldest guy there.

Backing up to Friday and Mr Freedman has generously put on a pool party for us, in the 105 degree heat. Corona Extra in a tub of melting ice goes partway to acclimatising me as I take in the famous Hard Rock pool. The eight story hotel arcs



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Peter and Lou Freedman. Lou is a significant partner in the business.



around the outside with double doors open in many rooms and party people hanging out, looking down through the palms at the masses. Swimwear, booze and rock music from a stage at one end. This is one of three rock gigs at this casino on this night.

The Event Opal crew are camped at one end of the pool, in a string of Cabanas, each with its own Vegas babe who dishes out the drinks. They clone them somewhere, all teeth, tan and taaa's. Over the other side there's a Yamaha PM5D plonked at the side of the pool with a serious looking Vegas dude mixing the three piece band who are cranking through a line array and a series of delay stacks – one of which is in between our cabana and the next. Weirdly it faces back to the stage, so the time delay thing is disconcerting.

A female lifeguard is there, by the pool. Which is not really a pool for swimming, it's a kind of wading pool where ladies can be wet but their hair stays out. There's two genders here, men and chicks and never the twain shall be confused.

After seeing who is here, with beer, I retire to sleep off the flight from Sydney which reacquainted me with United Airlines and their elegantly aging business class. It is holding its own. Call

me what you like, I just don't fit international economy. A man must have standards.

THE OPAL DREAM

To start with, Peter wanted what he calls 'disruptive technology', and the dream was defined as starting with a reference monitor, 8 inch woofer, 2 way. Peter says it had to have the performance of the very best and most expensive three way system. "Jaw dropping bass ... the widest sweet spot available Seamless integration Lowest distortion on the market Arc with clear SPL that will cut your head off."

Marcelo Vecelli set up research and development in Seattle, and was joined by Anibal Yusem, formerly from QSC who was charged with the amplifier and electronic design.

On a stage flanked by a pair of silk-covered Opals, Peter acknowledged EVENT's history and explained how the Event 20/20 BAS provided inspiration for the new EVENT Opal.

Before exposing the new speakers, Peter continued to build anticipation by explaining the innovative technologies behind the Opal. The woofer, tweeter, amplifier and cabinet all feature innovative and unique design and

technology elements.

The EX8 driver provides characteristics previously unheard of in any other 8" speaker. It provides a raw response of 30Hz - 10KHz and a peak power handling of 1000 watts. The neodymium motor offers 24mm of linear excursion which results in up to four times the output of some of the most expensive studio monitors. Peter says this gives the listener an extremely detailed and high level of high-speed bass.

The Opal's patented X-Coil configuration (there are at least two patents pending) increases the EX8 driver speed and lowers harmonic distortion by up to 18dB, which results in mid-range accuracy that if correct, truly surpasses even the finest three-way studio monitors. The EX8 unique cone material provides extension and control to complete this all-new driver.

Opal's EBT1 tweeter combines ultra-light and rigid beryllium with one of the most powerful neodymium motors of any system available to provide the Opal with very high SPL capabilities while minimising any distortion. It is mounted in a fully rotatable waveguide to provide complete versatility in application.

The Opal cabinet is completely machined from aluminium to minimise

resonance, and curved in a combination of complex radii, completely minimising flat or cornered sections that can cause diffraction issues. An interesting approach to port design has resulted in front mounted variable impedance bass reflex ports that eliminate problems created by rear reflection ports that rely on room acoustics, and also air distortion artefacts found in conventional front ported systems. This gives the Opal fast, deep and accurate bass.

The electronic system is purely high fidelity analogue, providing 750 watts of power in two-way configuration and giving the Opal a transient response and low distortion that they say surpasses even the very best hifi systems. Multiple levels of protection for power and over excursion allows the user to drive the Opal hard. A proprietary expansion system allows for the addition of interface modules, including AES/EBU.

At the climax of the evening Peter Freedman called on some Vegas clones to unveil the new EVENT Opal to overwhelming applause. As a final surprise for the evening Peter then introduced two additional speakers within the new EVENT product range. Both the Type 28 and Type 25 share the audio

DNA of their big brother Opal, and will be available shortly after the Opal's release.

Following the keynote guests were given a demonstration of the Opal in a dedicated sound booth guided by chief engineer Marcelo Vercelli and celebrated producer/engineer John Merchant.

So now there are three speakers in the Event range, made up of Opal, Type 28 and Type 25. The latter share many of the revolutionary technology elements of the Opal, but have been designed to allow a better price point. Slightly less power, a different tweeter and traditional timber cabinets set them apart from the top of the range Opal. The important things like X-Coil, discrete ultra low distortion amps, special wave guide and patented ports are all there.

"Not that I want to put shit on the old Event line, but the new Type 28 and 25 absolutely KILL the old stuff", Peter told CX. "If we had launched them as the flagship models with no Opal, we would still be doing some serious business, and it would be very exciting. With the launch of Opal, it's a whole different ball game".

"All parts are proprietary. Nothing is made as a product for us by a third party. That doesn't mean we don't use sub

contractors, but it's our designs, our tools, our parts down to every nut bolt and spring! OK, there are no springs! There are patents on the woofer and ports and they are strong. I have plans to use these innovations in lots of new product".

What about prices?

"I haven't set the Type 28 and Type 25 yet, but they will be competitive in the area we want to address. Opal will have a US list of \$2,995".

"The market for monitors is now so crowded, I realised it would be insane to come out with yet another 'good' monitor line. Everyone has a pair of monitors and the only way we are going to make these people consider buying another pair is to give them a major improvement. These monitors will change how people mix, and the quality of that mix. Now that's worth investing in".

So who are you gunning for, Peter? "Genelec. Not Tannoy. They don't really rate in sales in the pro near fields from what I have seen. Adams are doing good business as are ATC in the UK and of course some of the Dynaudio. We have something with these speakers none of the former companies have - and they're going to fill their pants!"

Event Electronics paid for the trip to Vegas.

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KEY FEATURES

- 8, 12 or 20 mono + 2 stereo channels
- 2 sub groups
- Lexicon FX on fader
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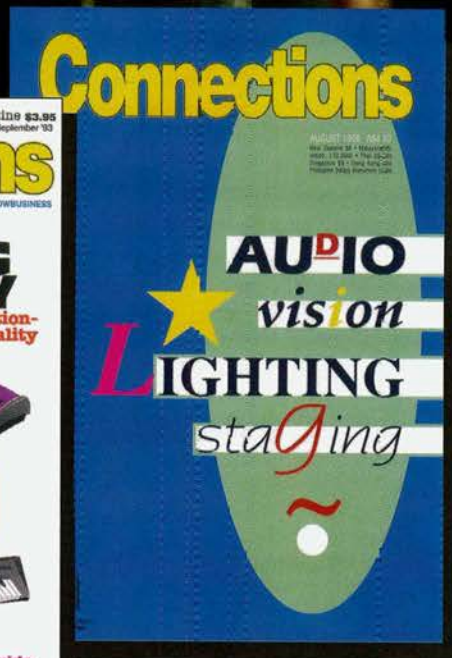
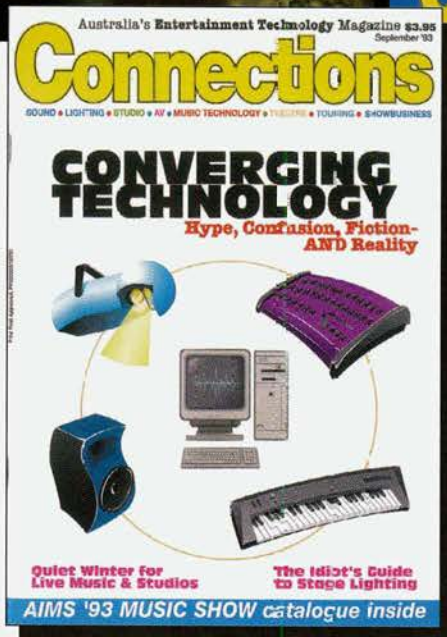
Study history, study history. In history lies all the secrets of statecraft. A quote from Winston Churchill. In CX (and its predecessor Connections) lies all the secrets of some, revealed for all. We have all the magazines dating back to August 1990. This means we will be hosting a 20th anniversary party in less than 2 years from now. Prepare!

15 YEAR AGO: CONNECTIONS SEPT 1993

History is the sum total of things that could have been avoided, said Konrad Adenauer. Clearly he was reading Connections Magazine a while AFTER September 1993! 'Converging Technology: Hype, Confusion, Fiction AND Reality', promises the cover.

Meri Took from Staging Rentals was featured, looking younger and with long hair. He prophesied Sydney would win the Olympic Games bid – we did.

Audio Visual 1993 was to be a new trade show, arranged by Expertise Events. It was cancelled. "Interest and overall support from the majority of companies



has been tremendous", but ... It was called off.

The big concert loudspeaker inventory in Australia in 1993 went like this: and had 100 S4's, 68 TMS 3's and 40 Concorde. Troy Balance had an arer a system of MSL 3's. PA People: ACP, A1 and Audex were shuffling around 48

TMS 3's. Tha: was it. Far cry from 2008.

Phil Tripp wrote that gigs were too loud, and crew tried to put too much equipment into small rooms. He also phoned a bunch of 'audio engineering schools', and asked them whether students needed to take an audio test before enrolling. Apparently not, just pay

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the fees, he said.

Celco lighting consoles were doing well. They went broke later on.

Evan Kill from Wollongong wrote to complain about the mix for a Spy V Spy show. "The engineer was eating a pack of Twisties, dancing around, and hitting on women". Then there was a confusing letter about the distribution of Cerwin Vega in Australia. It appears two agents were on the case, unknown to each other.

Finally, capping a good month for human tragedy, Greg Simmons featured in a story about Rich Music Studios and his attempts to buy same. It seems like just yesterday.

WHAT WE PAID:

- \$1,800 for a replacement head on a Fostex 16 track recorder.
- \$190 for an AKG D90S microphone.
- \$299 for a Shure SM58.
- \$1390 for an LSC Precept 12 lighting desk.

10 YEARS AGO:

CONNECTIONS AUGUST 1998

Kosmic cover eh? But inside: here's that old chestnut AGAIN, a lead story about the decline of the recording studio. Hardly a revelation, but: there's still a bunch of magazines out there devoted to the recording community.

Reading this ten year old issue of CX, your publisher is struck by how good it was. I think 1998 was a high point, and have taken some of the reflections garnered in preparing this column forwards. It had a lot of real current people writing columns: Brett Bower (ICIA), Tom Misner (SAE), Michael Orland (TPAC), and more. We also had the colourful and well connected Madeleine Murray out there on feature patrol, along with the lovely Mandy Jones.

The Australian Music Association announced the AMAC show, and history proves it is a winner because it represents its industry – the musical equipment distributors and retailers. It doesn't try to do more than that.

Also ten years ago: AWA bowed out of audio distribution, and Audio Products started their pro division, now known as Audio Products Australia.

The Rolling Stones endorsed the EV System 2000, or at least that's what the double page advert implied. It showed the Bones, playing with a Showco PRISM PA, and carried the tagline: 'Playing for 100,000 screaming fans could only be a stones throw away'.

'Spot the Mistake' was an international pastime, with Amanda McKenzie from Singapore writing in to say that she enjoyed finding error in our word. Shrew! What's wrong with 'Shirey and Murray have a new grilchild....'? Amanda asserted that she preferred hers potbroiled.

Another letter showing nothing much changes over a decade: Anton Hubble from Gold Fields Arts Centre in Kalgoorlie wrote to say that production people never met his deadline for supplying riders and specs.

WHAT WE PAID:

- On page 31 is an advert for a Yamaha GA 24 channel mixer – and just two days before I wrote this column, I mixed a show on exactly that beast. Retail price: \$4,995 in 1998.
- Speaking of mixing consoles, the Buyer's Guide reported that you could purchase a new Tascam D8000 40 in, 16 out studio console for \$17,999.
- P Audio were advertising a pro 2" high frequency compression driver for \$337, and a 600w 18" woofer for \$428.
- There were 200 EV X-Array concert speaker boxes in use across the region.
- Jands GP12 touring dimmer rack: \$2454.91 (that's the price excluding sales tax!)



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THE INSTALLER



The white vans are busy and the dollars are flowing. Our hero knows the key to making money on the installation coalface is to work fast and to get it right the first time. It doesn't always work out that way.

THE ENTERTAINMENT MANAGER

This had to be the best gig in music. A registered club has a drip feed direct from gaming, and if the managers get that right, then the gravy flows freely. In theory they use entertainment to get extra punters who inevitably visit the pokies before, during and after the show.

This club hired Blow Wave, so named due to his hairdo. Blow has been around forever and has pictures of himself with all the old club singers, usually with a bourbon in hand. Somehow his reputation and his reality became separated a decade or two ago.

We know Blow because we always service the audio visual in his club. The latest one closely matches the one

before: a mid 1980's PA system with a mixer in a bio box up high on the back wall. Any show with any kind of production values comes with hired production.

The best thing about Blow is how he subcontracts responsibility. He has an agent who books acts on a retainer - for 6 grand a week, the club gets two lounge acts, a Friday night DJ and a walk on celebrity, plus a weekday midday golden oldie. We figure the 5 grand goes about 50/50 to the acts and the agent who is hopeless.

Aside from getting 3 grand for doing little, the agent gets the first 15% of anything offered to the club. If a large club tour is offered, Blow flicks it on the agent, who takes his cut. The tour agent then takes their cut, and somewhere down the pecking order the act gets paid.

Much as we love Blow, we do wonder how he spends his days. He doesn't do anything except drink bourbon and waffle about how he and Johnnie O'Keefe were mates. Plus have meetings with The Agent.

We got lucky after about a decade of putting up with the low profit, high hassle repair work. The club had a new secretary manager win the election, and this one had been a wonder kid at a huge club. His makeover included a new auditorium, and after plans were drawn and redrawn we got a 900 grand tender for new audio in a 700 seat venue.

Of course the architect won so the mix position is uselessly up on the back mezzanine which means the system is run too loud as the sound operator is at the extreme and quiet end of the throw. Friends: fight against this!



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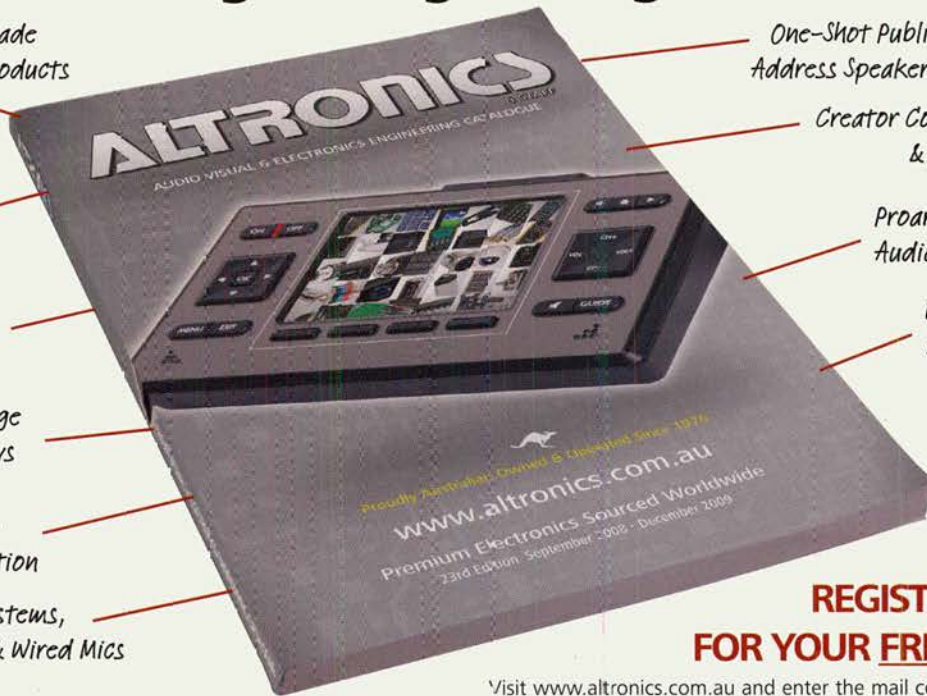
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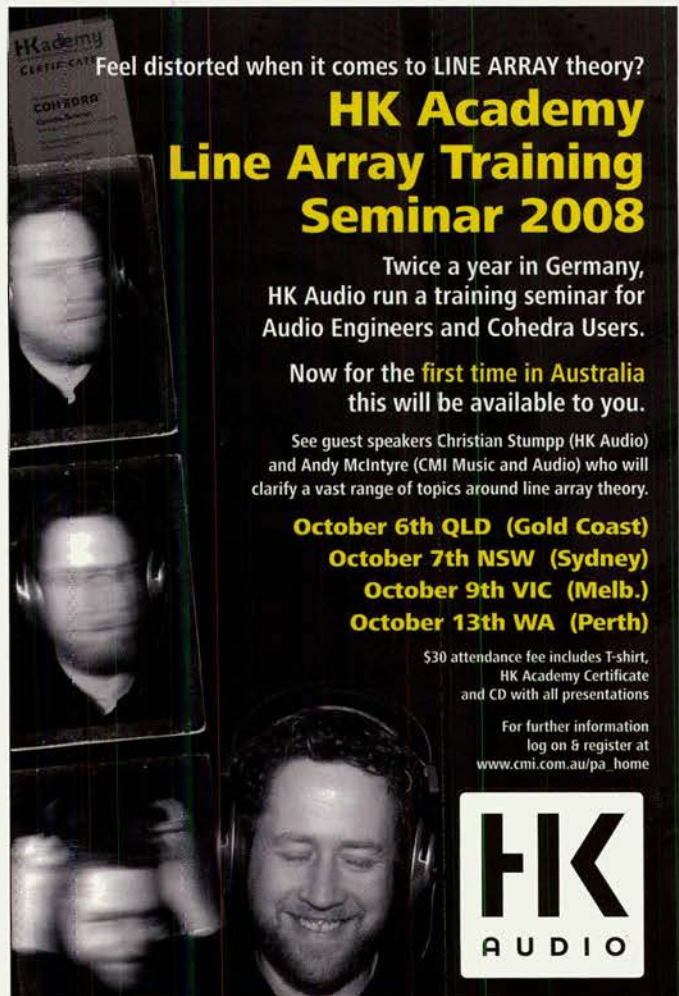
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STREAMING DMX: Taming the Cable Monster

“Oh no, it wasn’t the airplanes. It was beauty killed the beast.” – Carl Denham in “King Kong”

BY RICHARD CADENA

There’s a new movie in the making that will soon be playing in theatres and performing arts spaces everywhere. It’s about a new protocol that goes up against a monster bundle of cable. The winners in this battle are the techies and end users of large lighting systems.

The movie is actually a sequel. The original version came out in 1986 when 0-10V analog control was getting out of hand. Lighting systems went from tens of dimmers to hundreds of channels of control, not only for dimming, but also for automated lighting. What once was a very manageable bundle of cable because a huge ugly beast that terrorized roadies and techies everywhere. Along came DMX and suddenly there was a new hero who conquered the analog cable bundle beast. In its place was a single twisted pair that could control up to 512 channels – enough for even the larger lighting systems of the day.

But as we all know, in the movies, even when the evil villain dies that’s no guarantee they’re gone forever. And that’s why we have sequels.

CABLE MONSTER – THE SEQUEL

In this case, the monster cable bundle started rearing its ugly head again in the late 1990s when lighting systems reached epic proportions. But the thing went positively steroidal after 1998 when the monster’s sidekicks, the DMX-controlled media server and the RGB LED luminaire, entered the stage. Suddenly we went from hundreds of control channels to thousands of control channels. The single twisted pair was overthrown by a massive



bundle of DMX universes and the monster cable bundle was back in power.

Fortunately for us, the smart people in the Controls Protocol Working Group of ESTA saw the proverbial writing on the LED wall. The cavalry mounted and rode to meet the monster head on. Several years into the battle, ACN was born and the industry had a standard by which many DMX512 universes could be transmitted over a single cable. They had slain the cable monster once again. Or had they?

In an unexpected plot twist, manufacturers stayed on the sidelines in droves while the ACN train pulled out of the station. While it’s too early to say that few of them are on board with ACN, it’s not too early to say there’s not a lot of evidence to the contrary (other than ETC’s Eos console, which outputs ACN). Meanwhile, several third parties built their own platforms to slay their own cable monsters by streaming DMX over Ethernet with a proprietary protocol. Some of these solutions including Artistic Licence’s ArtNet,

Pathway Connectivity's Pathport, ETC's Net2, Strand's ShowNet, and probably a few more.

STREAMING TO THE RESCUE

So, while there are plenty of white knights ready to slay cable monsters everywhere, there is no single solution that plays well with all systems. If you're on a big job with lots of nodes, it would be much easier if you could mix and match across manufacturers. With proprietary protocols, that's not an option.

"Ethernet can handle dozens and dozens of DMX512 universes across a single cable, which is how the monster cable bundle is finally put to rest."

But the folks at ESTA aren't satisfied to sit on the sidelines and watch the parade go by. Instead, they re-mounted their trusty steeds and they are now working on a standard to stream DMX over ACN.

The draft version of BSR E1.31 – Lightweight streaming protocol for transport of DMX512 over ACN is out for public review, and it promises to slay the monster cable bundle once and for all (or at least until the next sequel – Streaming DMX512 Versus ACN: The Cable Monster's Revenge). As the title

says, this protocol will allow the transmission of DMX512 data over an Ethernet network using part of the ACN suite of protocols. It can also send and receive RDM data as well.

NEW CABLES, OLD GEAR

The advantage of streaming DMX512 over Ethernet is that an Ethernet network is a much bigger pipe than a DMX512 network. Ethernet can handle dozens and dozens of DMX512 universes across a single cable, which is how the monster cable bundle is finally put to rest. You've heard of Cat 5 cable, no doubt. A Cat 5 cable can support data rates of 100 megabits per second, which can reliably run up to 200 DMX512 universes, or 1000 megabits per second, which can run up to 2000 DMX512 universes. Cat 5e cable is a better choice for 1000BASE-T, or "gigabit" Ethernet, which is what we call Ethernet running at 1000 megabits per second.

The disadvantage is that Ethernet networks can only be run a maximum of about 100 meters before it runs out of petrol. It is also a star topology, meaning that a cable has to be run to each device, negating the advantage of slaying the monster cable bundle.

The best of both worlds is to use a combination of DMX512 and Ethernet infrastructure. We start by using an Ethernet network over which we stream DMX512, but then we change it back to DMX512 before we distribute it to all the devices on the network. This allows us to take advantage of off-the-shelf hardware like routers, switches,

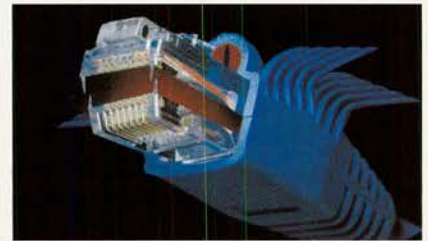
hubs, and wi-fi, but we still get the advantages of DMX512, the biggest of which is probably the fact that there are millions and millions of dollars worth of DMX512-compatible gear already in use every day. We don't have to trash our gear to take advantage of the new technology, as was largely the case in the original movie when DMX512 supplanted analog control.

THE BEAST - R.I.P.

For these reasons, DMX512 will probably be around for a long, long time while the monster cable beast might rest in peace for as far into the future as our crystal ball will allow us to see. Is streaming DMX512 over Ethernet for everybody? Not necessarily. But for applications where there are multiple universes of DMX512, like the Opening Ceremony of the Games of the XXIX Olympiad in Beijing where 2,300 DMX512-controlled devices used 45,000 parameters – the equivalent of 88 DMX512 universes – it's an Oscar-winning technology.

What does a bundle of 88 DMX512 cables look like? Thanks to Ethernet, we may never know.

Stream an e-mail to the author – rcadena@austin.rr.com. 



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BIG VIDEO



Christie Roadie HD+30K

By JULIUS GRAFTON

CX gives you the now info on ultra large projectors and media servers. This is the pointy end of the big screen biz, folks.

Go back a little and remember the screens at concerts. They were never as bright as they are now. In fact, they were so dim that the lighties needed to be restrained. Most of the time, imag (big camera images) were on screens to the hard left and right of the PA. Hung out where there was no stray light.

Fast forward to now and go look in the convention centre at Hillsong Baulkham Hills, three screens totally dominate the back of the stage, and video is in your face. This is from three Digital Projection devices, rated at up to 22,000 lumens. You get huge video that is bright enough, from a projector costing around \$100

grand with a \$10,000 lamp. Add on some very expensive lenses and you are still spending around half what it cost to get a quarter of the light five years ago.

But big projection is a big dollar, high skill area. And big projection, at time of writing, means around 22,000 lumens. The theoretical limit of current technology is 30,000 lumens, from a 6000 watt discharge lamp.

That same lamp powers the current batch of 20,000 and 22,000 lumen projectors, the largest that we have seen in Australia so far. Here we detail the 30,000 lumen latest releases.

BANG FOR BUCK

The exciting trend in projection is more for less. More light, more resolution, less cost and less size. The not so exciting trend is the running cost, where a new lamp costs \$10,000 and a refurbished one

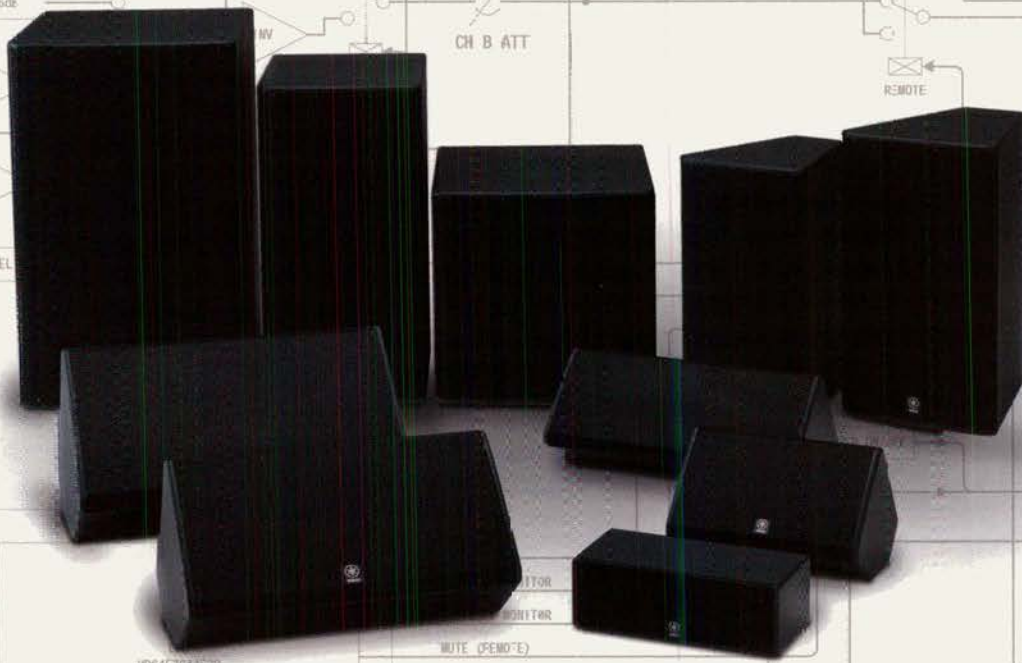
comes in at around \$6k. This covers 700 to 1,000 hours of use, so depending on how you do your sums you'll be taxed as much as \$10 per hour per projector for lamp costs.

A bigger cost issue with very large projectors is the depreciation. Sydney based TDC is the largest power user of projectors in the southern hemisphere. They have around 60 projectors that are of the 10k and over persuasion. When they buy one, they assume it will not be worth very much in three years. Projectors are the fastest depreciating electrical device in the showbiz lexicon, and perchance also around about the most expensive.

TDC head Michael Hassett struggles to remember the numbers because it's too scary, but he reflects back to the Barco 5000 series, where for \$100 grand he got 1500 lumens. Things looked a little better

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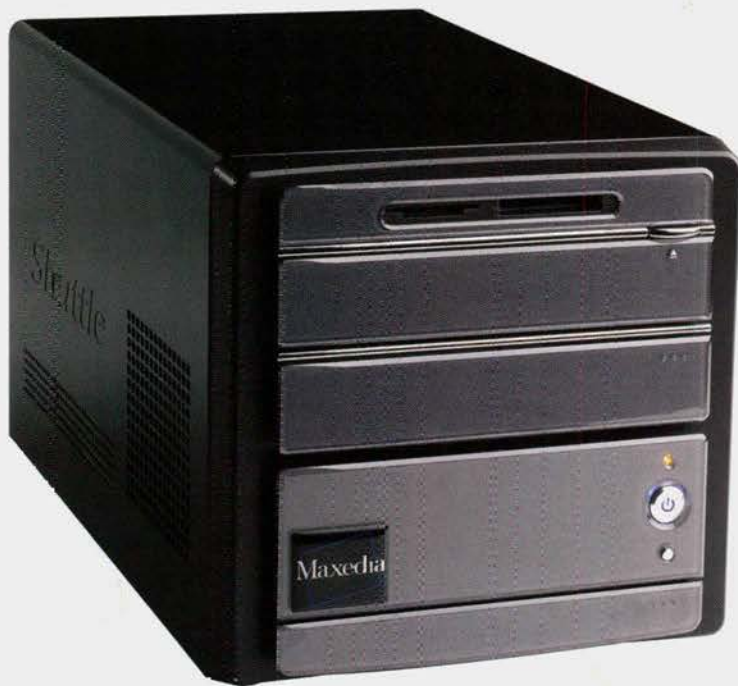
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Martin Maxedia Compact.

with the 8000 and then the 9000 series, where 5000 lumens cost around \$120,000. Today he is almost sanguine about his R22 projectors which cost a modest \$80 grand or so. Plus \$10k for a lamp. Oh, and plus a lens.

He says "DC have a million dollars worth of leases to support their 60 high end projectors.

All three mega projector vendors below now have 30,000 lumen monsters on sale. At this time in our region, the biggest we can see is 22,000 lumens. All the mega devices use DLP technology, a 6000 or 6300 watt Xenon lamp, and require a fat mains feed. Weight is between 140 and 190kg. Cost similarly between 100 and 150k, depending on whether they are supplied with or without lamps and lenses.

BIG BARCO

It's really no contest: Barco have the top end of the top projection business sewn up in Australia. Somewhere in second place are Christie and Digital Projection, and all these vendors are pushing the 20k+ lumen category as hard as it will go.

Barco's biggest projector is the XLM HD30. It has a light output of 30,000 Centre Lumens, and operates at a native resolution of 2048 x 1080 pixels. Brightness uniformity is greater than 80%. The unit uses a 3 chip DLP display device, which achieves a contrast ratio of 1600:1. It comes with features such as advanced multi-windowing, 4 source picture in picture, motorised tilt, carrying handle and rigging point. It uses fully

sealed optics and a safe, quickly replaceable lamphouse.

Video inputs is one thing, but control is another. Not lacking in any way in this area, the projector has 2x 10/100 ethernet ports, RS-232 ports, and some proprietary remote ports too. Ethernet based software allows remote control of the projector as well as diagnostic functions.

According to the specifications, the 6.3kW Xenon lamp is good for a picture size between 1 and 16m (and higher) and is warranted for 750 hours. Weighing in at 180kg, the XLM HD30 pulls around 8400W of power. A bunch of different lenses are available with ratios between 1.45 and 8.5.

Barco are used by more staging and production houses in Australia than any other brand. They have an office in Melbourne.

CHRISTIE

Christie gives you the Roadie HD+30k. Strangely all vendors claim that theirs is the brightest projector. Roadie dishes up 30,000 ANSI Lumens and 2048 x 1080 native resolution make the Roadie another option when you need big bright images.

Brightness uniformity is 90% across the screen, and the user replaceable lamp has a typical lifespan of 750 hrs. Lamp options include 2, 3, 4.5, or 6kW. Contrast ratio on this projector ranges between 1600:1 and 2800:1, and the projection head is separate from the ballast enabling easier rigging.

Input selection includes RGBHV, YUV, DVI-I analogue, RGB/YUV digital

(HDCP), composite and s-video as well as 2 option slots for additional inputs. There's an IR remote, as well as RS-232 ports and Christie-net RJ45 connectivity. Lens removal can be done without the need for tools.

Sydney based mega image specialists Electric Canvas recently diversified into video, and chose Christie. They specialise in fixed images from massive PIGI projectors, allowing buildings and landmarks to be transformed. The limitations of fixed projection start to be reduced when video projectors (call these what you will, some people have given up and called them simply 'devices') get to be as bright as they now are. Electric Canvas rent Christie projectors, because they can tip them on their side, letterbox them and get mega resolution in a blended image.

Staging Connections are another major user of Christie projectors in Australia, but to date no one has implemented the new 30k unit. Christie are represented via an office in Singapore.

DIGITAL PROJECTION

Digital Projection International (DPI) offer the Lightning 45HD-3D. Advancements within the projector's prism and optics enable the device to produce 35% higher lumens without any increase in lamp wattage, thermal dissipation or fan noise.

Featuring 30,000 center lumens and 2000:1 contrast, the 2048x1080 pixel resolution Lightning 45HD-3D is identical in size, weight and functional capability to the previous Lightning 35 and 40HD-T projectors, which are already in widespread use throughout the worldwide staging industry and in major venues around the globe.

The Lightning HD-3D is capable of displaying active 3D content at up to 2048 x 1080 resolution and 120 frames per second through twin-dual DVI inputs. DPI say the Lightning HD-3D is the highest color-depth projector of any product available today.

Total chassis power consumption remains less than 4.5KW, which allows the projector to be operated from single-phase power.

DPI have projectors installed at Hillsong in Sydney, and currently all enquiries are handled by an office in Singapore.

VIDEO (MEDIA) SERVERS

These are the greatest thing to happen to lighties and the worst thing that could happen to vision professionals. Think simple: a video server is also known as a

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- Increased flexibility in Compressor and Gate assignment
- Addition of 8 Matrices
- Direct channel output assignment for increased flexibility when using a personal mixing system and recording splits
- Tap tempo for delay settings
- Additional number of shortcuts for faster access and quick setup
- Numerous user interface enhancements for accelerated workflow and ease of use.

This new software is a free release for all registered M-400 V-Mixer owners and can be downloaded at www.rolandsystemsgroup.net

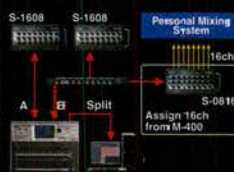
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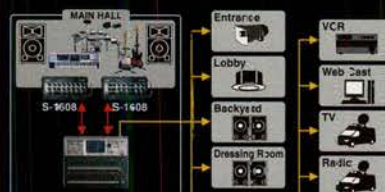


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Gate/Comp Free Assign to 1-48CH

Addition of 8 Matrix Buses



Addition of Short Cuts

Allows quick access to Effects/GEQ edits or Mute/DCA groups etc. helps faster setup of the console.

Additional Effect

Tap tempo is added as delay parameter setup for more intuitive operation and ease of use.

Hippotizer.



Barco XLM-HD30.

media server. It is a computer that plays out video packages. The video package is usually a graphical effect.

Why these came into our lives is so that lighties could fire effects packages from a lighting desk, using DMX or ARTNET.

Throw your mind back a decade ago when the moving head / moving light revolution revolted, and suddenly lighties were needing, gasp, nine DMX channels to operate a Track Spot. The lighting consoles of the day weren't geared up for that, just like now they aren't geared up for media servers when the media server also happens to be strapped to a moving video projector.

Fortunately this issue we aren't detailing moving head media servers, so we don't need to go into the need for 120 channels of DMX to work the things.

We'll just give you a 'heads up' on which is what, with standalone video hardware capable of being driven by DMX512.

So: why are they dreaded by video professionals? Well, who controls what? If the lighting people just want to send effects to their own LED displays then life is easy. If they want to start sending them onto the image screens, then who decides? The vision switcher has cameras up there, and then gets an effects package fired off from the lighting dept. If the media server is plugged into the vision mixer, there's a few frames of latency (delay) to deal with.

Anyway, it's a fascinating tussle and so long as the show is better for it, we say bring it on!

CATALYST

Now High End offer the Axon, 110 of which was used in spectacular style for the Olympic's opener in Beijing. High End kind of started the Media Server revolution with the Catalyst, and went on to impress the video world to the point

that Barco purchased the company earlier this year.

Axon ships with more than 1,000 stock media clips and has 200 folders for custom media clips. Stock Content is locked down using the XP Embedded Operating System. That means all stock content is protected and consistent among all units. The XP Embedded O/S also protects Axon from drive corruption and O/S degradation over time. With the on-board content management software, you are able to move and manage the local media as well as any Axon or DL.2 on the local area network.

Axon operates the same way from a DMX console or via Art-Net. High End can be purchased from Bytecraft in Australia.

HIPPOTIZER

Founded in 2000, Green Hippo Ltd specialises in the development and manufacture of real-time media servers for the Event Industries. Their Hippotizer is used on many theatre shows, concerts, TV-sets as well as corporate events throughout the world.

Hippotizer is a very flexible media server designed, they say, "To enable Video Designers from the entertainment industry to realise their most outlandish and wonderful designs". That sums it up.

Working in real-time, the Hippotizer allows the user to control and manipulate multiple layers of video or static images through geometry, colour and effects. Furthermore a range of additional components (all inclusive) boost the list of potential applications. the Hippotizer has various options for sound, device control and automation. Being now widely accepted by both Lighting and AV departments the Hippotizer will always have a solution for your most demanding environments, they say.

Hippo is supported and sold in Australia by Clearlight Shows.

ROBE

Like High End Systems, Robe offer a digital head on a media server. This story doesn't cover those devices, but Robe also have the media server segment on offer via Media Fusion Software. It's for lighting designers wanting to mix images and video clips in the same way as handle their lighting visualizations and setup. It allows video playback, looping and processing from the library of 60 Real time video effects on up to 8 layers.

All the parameters such as visual selection, positioning, mapping, tiling, blending and masking, and effect selection are accessible via DMX.

The Robe Media Fusion software gives access to video loops and pictures, entering text messages, and setting up of the interface between computer and DMX lighting desk.

Robe is represented by ULA in Australia.

MAXEDIA

Last but not least is the Martin Maxedia solution, which comes in three flavours. The Pro is for touring, Compact for not touring or slow touring, and Broadcast is designed to try to appeal to that most fussy person, the broadcast tech.

All of them come on a Windows XP platform, and it is extra happy if addressed by a Martin Maxxyz console. Many Maxedia users don't use the Martin console, Maxedia is out there being commanded by many other brands of lighting desk.

It is said to be relatively easy to program, but it demands content which is formatted properly. There's a concise review at PLSN.com.

Martin is represented in Australia by Show Technology.

OTHER:

Pandora's Box comes from Coolux Media Systems in Europe..





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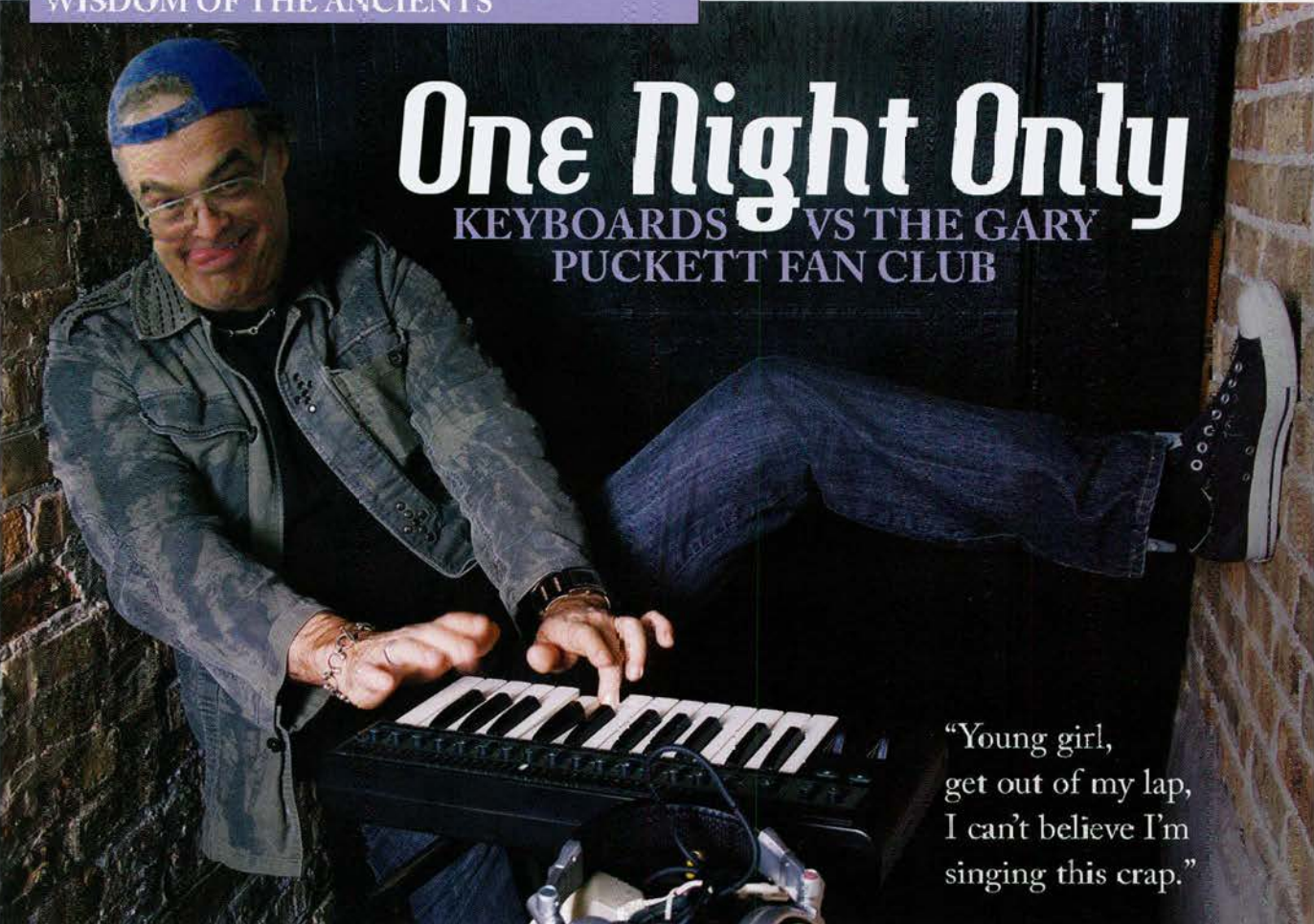


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KEYBOARDS VS THE GARY PUCKETT FAN CLUB



“Young girl,
get out of my lap,
I can’t believe I’m
singing this crap.”

BY DUNCAN FRY

We were sitting around the office last week, reminiscing about gigs of our lives, band members, and naturally enough, the conversation turned to keyboard players!

Why keyboard players? Well, why not? We had already been dissin’ every other band member, so they were the natural successor to drummers!

It’s always been my one regret in life that I was never encouraged (i.e. forced) to learn to play the piano when I was young. And I admit, I probably would have hated it. But the nerve pathways from my brain to my fingers would have been keyboards oriented, instead of the guitar orientation that they have now. (No guitar, Durk? A tragic loss to music. Ed)

It’s a bit late to learn it now, as the pathways seem to be definitely hard wired to guitar, and no amount of practice appears to change that.

So, when a band needs keyboards, they have to get a keyboard player, and that’s where the fun starts. There is something about keyboard players that makes them want to play lead, rhythm, bass, and possibly drums too, in every song. I call it Pitar Man syndrome, an amplified version of the guy sitting in the bar tinkling the ivories. There’s only him, so

he has to do it all

The trouble is, in a band they already have the other members; all they need is a particular keyboard sound either as an intro or solo or just gurgling away in the background filling in the spaces. Good keyboard players realise this, bad ones end up in a lighting cage being pushed down the stairs!

Let’s face it, for most musical applications you only need three keyboard sounds:

- One, a basic piano,
- Two, a Hammond/Leslie box combination,
- Three, a gurgley Jupiter/Prophet type synthesizer – think Men Without Hats “Safety Dance”,

And lastly four. (OK, four sounds – I didn’t expect a kind of Spanish Inquisition) a ‘Nutcracker City Limits’ synthesizer solo sound (wow – say that after a slab or two!).

That’s all you need to play about 99% of songs requiring keyboards. To tell the truth, the \$89 Casio belonging to my daughter Fifi Trixie Belle Sunday Roast makes a pretty fair stab at all four of those. Run it through a little Marshall combo – awesome.

So why does the keyboard player in a band need so much stuff? I’ve carted Hammond / Leslie combinations up and down the East Coast for various bands, as

well as Yamaha CP70 and CP 80s (oh, the horror), Rhodes, Wurlicizers and enough synths to keep even Rick Wakeman happy. All weighing a ton, and all subject to humming, buzzing, crackling, stopping, and hernia-provoking for the crew.

I’ll have to exempt the Hammond X3 (I think) that James Black plays in the Rockwiz orchestra. A little skinny mini B3 that fits under your arm – that’s my kind of organ!

And, no matter how many power outlets you run out to them when they’re setting up, they always manage to find a different one to plug into at the back of the stage. The one with no Earth, the one with the positive wired to the Earth pin as well, or the one with the socket hanging out of the wall that the management uses to plug in the jelly warmer for the jelly wrestling nights! Euzzzzz... Splat! Then they proceed to need so many channels of the mixer that you wish you’d invested in a DI factory. Oh, wait a minute – I did!

Many years ago in a galaxy far far away, I was in a band, and we had the classic vocals, guitar, bass and drums lineup. We were already strip-mining a heap of 60’s and 70’s culture, but felt that if we could find a keyboard player who fitted in with our musical direction, we could play some Small Faces and some



Deep Purple stuff as well. Itchycoo Park (no relation to Colin) was just waiting to be beaten into submission by us, and why should we be the only band not to have a stab at Highway Star? So we asked around, advertised, hung out at rehearsal studios looking to poach someone, but to no avail.

Then someone told us of a guy they had seen playing solo at a pub. He had a big keyboard setup, his own little studio at home, and could sing as well. We tracked down this guy, contacted him, and agreed to come over and have a listen to stuff, and see what he could do. He lived way across the other side of town, but we were young and keen, and if he turned out to be any good, then it wouldn't matter where he lived because we were

gonna be big stars, man. Yeah right, as the young folks say!

At the appointed time Dazz the singer and myself rocked up to the guy's place.

He lived with his Mum and Dad still (despite being 35) and had converted the garage into his own musical space, with about 3 or 4 big keyboards and other stuff. I've no idea what they were, but they looked impressive. He also had a small PA system that he had them plugged into, as well as a vocal mic for himself.

We chatted for a while, he banged out a few sounds, and then asked,

"What sort of stuff do you guys play?"

We showed him a song list, and his face lit up.

"Wow, some 60s songs – fantastic – I

love that stuff!"

We smiled, and thought to ourselves this guy looks like he might slot in pretty well.

"And do you know my all-time favourite?" he continued, "Gary Puckett and the Union Gap!"

I shuddered. Patronising 'man meets girl' songs with cheesy lyrics masquerading as cutting edge female empowerment anthems. If there is one band that makes me want to slash open my belly and inspect the entrails, that's the one.

"I know all the songs," he gabbled excitedly, while flicking a few switches, "And I can sing them too!" He turned away from us and sat down at one of the keyboards, and launched into 'Young Girl', perhaps the dorkiest of all of the songs, oblivious to our presence.

Dazz and I looked at each other, shook our heads, and slipped out the door, closing it quietly behind us. As we got in the car and drove away, we could still hear him playing and singing his heart out!

How long he kept going before he realised that we were no longer listening or even there, I have no idea! Probably scarred him for life.

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Millions wasted, show budgets blown, and plenty of waffle spoken. Welcome to the new generation of nerd lighties, many ruined by recent history.

BY JULIUS GRAFTON

I'm on record as voicing issues relating to the new era of automated lighting and how it affects the art and science of performance. It's made me unpopular in some camps, especially when I've highlighted (no pun) mediocrity. Tough luck because while I suck air things won't change.

Here's my summary on the challenges facing the industry caused by the lighting professional.

First a brief history. Before 1990 there was Vari*Lite, and Morpheus and they offered rental systems with specialist engineers and rackup consoles. You knew what you were paying up front, and it all came professionally packaged. Theatre didn't do automated lighting.

When the Golden Scan arrived with DMX control of pan, tilt, gobo and colour we were excited. I had shares in a lighting company at the time and took a second mortgage on the family home at

Epping to buy eight from Rod Salmon, the founder and creator of Show Technology.

My lighting credentials stand on the record, and go back to 1973. Don't argue with me: I know enough about lights and I have the passion for the art. Paid my dues.

The 1990's were all about bringing automated lighting technology to the people, and by the end of the century the Vari*Lite business model of renting, never selling, was a smoking ruin. They got the idea from Howard Hughes, also Texas based, who made his pile renting proprietary drill bits to the oil industry.

Along the way there were a big bunch of law suits over patent infringements, where Vari*Lite sued everyone including Martin, High End Systems and Altman - who sunk ten million on the brilliant AltStar system and then deep sixed it. I visited the Altman family in New York and saw the whole AltStar inventory mothballed in one of their warehouses.

They would not talk on the record about their disappointment.

As I write this, Production Resource Group (PRG) are suing Martin Professional, probably over the Mbox Media Server.

The automated lighting business globally is yet to turn a profit. Yes, that's what I said - here have been some recent profits made by some firms, but these are way less than what was spent on lawyers by the industry. The financial wreckage is such that when you add together all the losses, writedowns and legal fees, then add together the minuscule profits, you'll probably break even around the year 2025.

WHAT WENT WRONG

Lighting is the easy job to get, and the hardest to do in terms of long hours - the hours are now longer than ever. Lighting crew today are the least qualified people on a show, and generally get fragments of cluster training at manufacturer seminars

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and via osmosis. Many don't understand much outside of dmx. Some are sump heads who can't do anything else except breathe, drink and hang at strip joints.

Many lighting crew are professional and understand reality, but the largest single maladjusted community of technicians in the industry sits in the lighting camp, and they are a dangerous, undisciplined rabble.

Example: The professional lightie who specced \$28,000 of LX rental for his old school production, then burned out the volunteers with all nighters that failed to program or fully utilize all the technology. **Outcome:** school turned off big musicals.

Example: The production degree graduate who became head tech at a performing arts high school and spent \$20k on a lighting control system that no one could use - except her. It's what they had at Uni. **Outcome:** school distrust of techies.

Example: Lighties program an outdoor concert all night with the whole rig running and then during the televised concert the generator runs out of fuel.

Outcome: severe embarrassment as broadcast is trashed.

Example: At the leadup to the Commonwealth Games opener in Melbourne, multiple crew and riggers were rostered on every morning to pull down malfunctioning lights and fix them.

Outcome: a very real and significant ongoing cost to the production.

These are just the tip of the iceberg - every day there are shows out there where a lot of unwarranted expense is going into an underperforming lighting system that is full of complex technology. Where the spec is beyond the needs of the show.

Here's another horrible reality: I asked the same question of a group of young (twenty something) lighties at ENTECH: "What is the primary job of the lighting designer?" and not one got anywhere near the answer we teach in my college. The answer is: 'To light the dialogue'. These young techies were all focused (no pun) on the complexities of technology.

At college we have two different lighting software rendering systems and we've given up on both of them. One system was borrowed recently by two leading lighting designers who both spent two working days trying to get it to do what it says on the box. They both gave up as well.

Then there is the common and sad sight of 200 or more automated lights at a concert all turned on and dower'd shut while the crew eat dinner.

WHAT WENT RIGHT

In the right hands, automated lighting has revolutionized lighting and safety. You can remote focus, pan and tilt a light that replaces a number of fixed lights. The theory is that you can program your moves and walk in with the show on a disk.

Shows are lit a lot brighter these days, at a time when broadcast needs less light. This could be in the 'wrong' section above, since the trend towards more flies against the need for less. When I first saw *The Lion King* ten years ago on Broadway, I was dazzled at the hue and saturation of the colours and the overall luminance. It was then, and is today, overlit. That's a trend.

You can fly a truss and not need to go up there because the lights are

automated. That's a massive leap in safety. Optical efficiency has never been better.

LEDs burn cold and save power, so there's some great leaps happening right there.

WHAT HAPPENS NEXT

It may be there is actually a generation lost, who only know automated lighting and who are so obsessed with DMX streams and programming that they are going the way of the I.T. specialist. They need to look and see what happens in the I.T. biz - those people need to do complete retraining every decade, and learn new things or they get boned on Friday.

Lighting is about lighting the dialogue, if the audience can't see the performer's face, then it's all over. Lighting isn't about programming and special effects. The 'now' generation of lighties who only do programming and special effects are a blight on the rest of us.

Lighting is an art form where mood is created to complement the performance, which is lit so people can see it.

Finally the accountants have wised up about all this and they really don't like writing a big lighting cheque. They will pay video 100 cents in the dollar, and lighting 40 cents. Now the challenge is to make it pay at 40 cents, and to stop obsessing about technology.

I'm not calling on existing lighties to get training from me at my college. I'm calling on everyone to stamp out excess and waste. I don't want to see any more special effects extravaganzas because no one leaves the show humming the lighting. CX





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During the argument about what gear we should get in for this issue, I said it was about time we saw some foldback. When the big blue box from TAG rolled in a couple of days later I thought to myself “How nice, a pair of little wedges – wedges are so small nowadays...” How wrong I was. How very, very wrong.

By ANDY MACKENZIE

IT'S BIG

It would appear that not all modern wedges are little. Martin Audio's LE2100 is a very substantial unit by any standards. Since the first thing I noticed about it was its sheer bulk, I'll talk about that first. The spec sheet claims a width of 826mm, height of 385 and depth of 582. Martin also claim the weight as a shade under 40kg. I'm not neurotic enough to take to it with a scale and a tape measure, but their specs seem about right to me.

In an era when audio gear of all types is getting smaller and smaller, it's quite striking to see something like this.

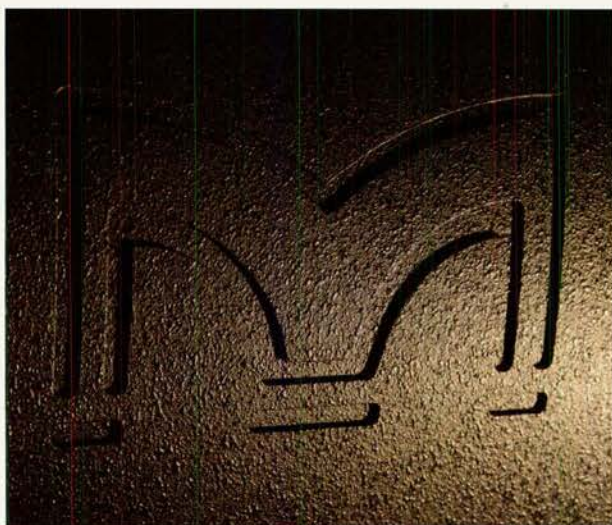
So why is it so big?

Because if they made it any smaller, all the speakers wouldn't fit in. This is a big box, yes, but it's full – and it's full in an efficient, well designed way. Pop the cover off and you find yourself faced with two twelves, a phase plugged six and a half, and a one inch throat horn. The shape of the horn is a little eccentric – more on this later.

GOOD LOOKS

It's also a really nice looking box. The ends are flat, but the rest of the cabinet is based on curves – The front and back of the wedge both curve smoothly down and roll into the underside of the wedge. The handles are integral parts of the timber construction and the stippled finish adds to the aesthetic.

Martin have also come up with an answer to one of the more vexing issues of the speaker design world: 'Is there any way we can avoid these ostentatious blue plastic connectors sticking out of the side of our shiny nice speaker?'. The two Neutrik NL4 connectors are recessed in a hole in the



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underside of the cabinet. As well as looking nice, this protects them from being jumped on by performers or tinkered with by punters. A neatly carved little gutter under the back of the wedge gives the cables an exit route. In a perfect world I'd like to see cable paths going to the front and sides of the wedge as well, but the world's not perfect and this is a fairly minor gripe.

There are also four rigging inserts fitted around the base of the wedge. Rigging points are not really the first thing you think of when it comes to wedge design, but Martin have identified a secondary application for the LE2100 as a flown infill cabinet.

AND IT'S SERIOUSLY LOUD

Oh yes indeed it is. At low volumes it sounds fairly innocuous, even a little bland, but when you tip some power in it quickly becomes clear that this is a wedge which blurs the line between equipment and armament. I don't know how loud it goes, mainly because I chickened out before it got there, but the specs claim a maximum peak SPL disturbingly close to 140dB. The fact that this is identified as 'calculated' could signal that Martin's engineers are no braver than I am.

So while it may not be loud enough to make your ears bleed, it can definitely make your eyes water, and it's going to want quite a bit of amplifier power in the process. For a start, it's a bi-amped system (no real surprises there) and there is no facility for running it with a passive crossover. Added to that, the LF section's nominal impedance is 4 ohms – the default standard for boxes that don't like to share amplifiers.

Martin recommend that you use an amplifier with a power rating of 800-2000W into 4 ohms, and I think I'd lean towards the upper end of this range rather than risk running short of headroom. Our demo model was supplied with a QSC PL236 amplifier, which seemed to fit pretty well.

AND THE SOUND?

This is an unreconstructed brute with all the subtlety of a Brit in Ibiza. The lows make your bowels quake, the highs make your teeth buzz and the mid-range tears your head off and throws it out the window.

This is not a criticism. I'm not looking for subtlety in a wedge. I've heard some wedges over the years that sounded great and had the kind of warm, smooth tone that made me think about taking them home as hi-fi boxes. Only problem – they weren't worth a fart in a bucket as

wedges. A good wedge needs to have the capacity to rise up through 100dB plus of stage noise, grab you by the throat and say 'listen to me!' These have that, and I like it.

Stage coverage is also good – the 'differential dispersion' horn gives a nominal coverage of 100 degrees at its top (when you're directly over it) narrowing to 60 at the bottom of its vertical 60 degrees. The idea is to increase the throw and reduce spill. Conceptually similar designs from other manufacturers have proved popular.

THE PRICE?

The RRP on one of these is \$6 995, which stacks up reasonably well against the competitors. If it's a bit much for your tastes, the LE2100 has two smaller siblings – the LE1500 (15" 2-way) at \$5 995 and the LE1200 (single 12" 2-way) for \$4 995. The three boxes in the range share many characteristics in terms of general appearance and horn design, so it should be possible to use them to construct a nice cohesive monitor system.

THE VERDICT?

This is not a wedge for the faint of heart, nor is it really suitable for small stages or venues – the footprint is too large and you'd never use it to anything like its capacity. But on a concert stage in a large venue, the LE2100 will really come into its own. I've used a lot of different concert wedges over the years, and this is up there with the best of them. It has the capacity to deliver terrifying amounts of noise, including serious low end, with sufficient bite to cut through any stage sound you might be up against. It's also reasonably compact for a box with so much in it and

the build is solid and sensible. Martin set out to design an enormously powerful stage monitor capable of covering a large concert stage, and they've definitely achieved their goal. **CX**



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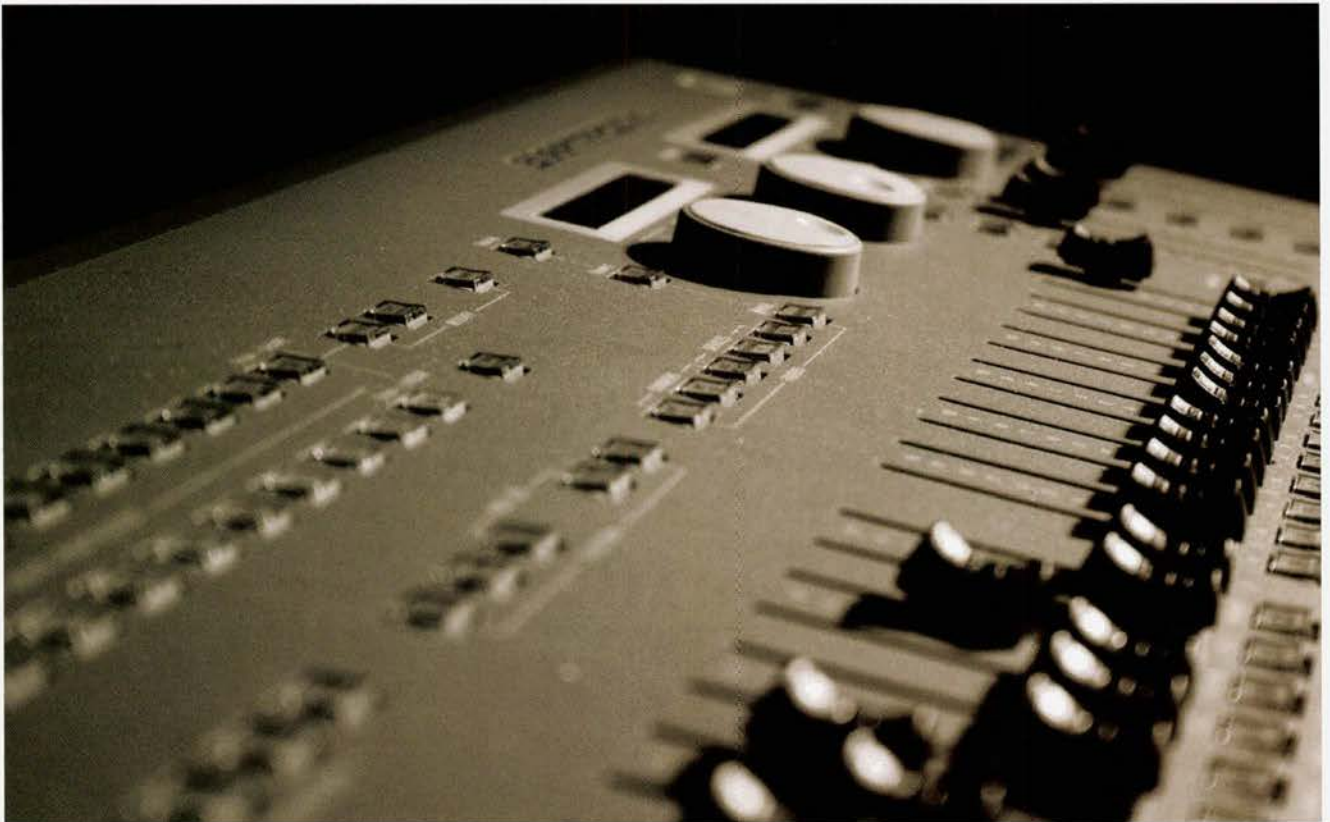
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ETC SMARTFADE ML LIGHTING CONSOLE



Every time I turn my back for five minutes, the lighting consoles of the world seem to exponentially increase in both control power and operational complexity. But whatever happened to the little consoles for ordinary people doing little shows? ETC's latest little console gives the power back to them.

By **ANDY MACKENZIE**

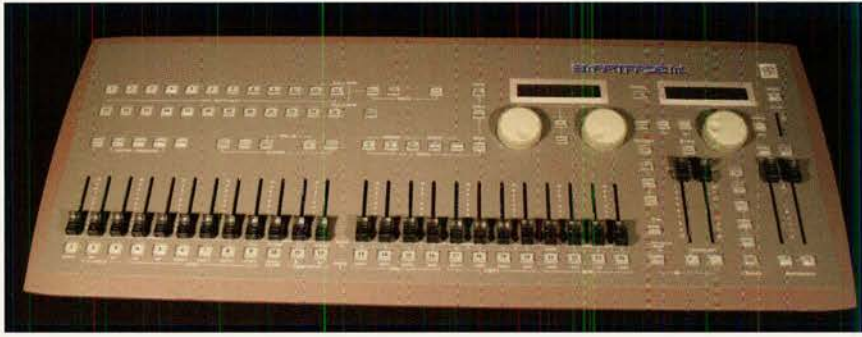
Not every show's a big one, and not every show needs unlimited lighting control capacity. New consoles at the cutting edge of the market may well have the capacity to output DMX channels into the hundreds of thousands, but is that really what's needed by someone looking to drive a couple of dimmer racks and a few moving lights? And what percentage of shows do you reckon fall into this category?

ENTER THE SMARTFADE ML

With the Smartfade ML (the moving light version – there's an ordinary Smartfade as well), ETC have jumped into this market with both feet. The console is designed to control up to 48 dimmer channels and 24 automated fixtures, and that's the end of it. In deference to their target market, ETC have also put some thought into demystifying some of the processes

involved in programming lights. And it's got really nice shiny colourful buttons with RGB mixing LED backlights.

The control surface is compact and is neatly laid out to fit in all the required controls – 24 channel/parameter faders, master and stack faders, 24 group/palette buttons along with a fistful of other control keys, two small LCD displays and three encoder wheels. The layout is sensible and while it is impossible to give everyone the layout they find intuitive, this will make sense to users with less



DMX universe one, so you can just plug the cable in and get to work. This patch can be changed easily enough if you want, but I imagine that most users will be quite happy to run with it. The patching process for other devices – automated lighting, foggers, whatever you like – is not difficult and the desk comes with pre-loaded library files for an impressive array of devices. These can be patched in one of the 24 fixture slots available or, in some cases as an independent. The independent patch is a neat idea – there's an independent fader that controls either one of the two independent channels regardless of what fader mode the rest of the board is in. ETC suggest that this is ideal for applications like controlling hazers, and this seems a pretty fair suggestion.

I patched in a bunch of movers on the second DMX output and hooked up to them and the dimmers and settled in to see if I could make it go. Once I got the lamps struck, which involved a little bit of confused messing about on my part, things ran fairly smoothly. Controlling dimmers was no trouble at all – simply select either 1-24 or 24-48 and control intensity with fader. Confidence restored, I got stuck into the movers...

experience in the automated lighting world. Lighties used to keypad and encoder based consoles may find the focus on faders disconcerting, but it's not that big a leap.

Also on the main control surface is a slot for an SD memory card which can be used to save or load show data. Everything on the control surface is clearly and simply labelled. It's got two DMX outputs – despite the fact that I suspect most users will run out of fixture slots before they run out of channels, I can see convenience benefits here. The console itself doesn't support an external monitor, but there is a free software download from ETC that allows an ordinary computer (connected to the desk via USB) to

provide a quite sophisticated monitoring interface.

It's at this point that I arrive at my one major dislike about this console. The electricity gets in to it via one of those horrible black plastic plugpack things and I HATE THEM! And so does everybody else. I did a quick poll of people I know and found that every single person I spoke to would prefer to see an onboard power supply, even if it cost a few dollars more. Manufacturers pay attention please.

INTO PRODUCTION

So that's it for the general overview. Let's take it for a drive.

For those looking to start off simple, the 48 dimmers are default patched 1:1 on

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The colour mixing LEDs preview the palette colour for colour mixing fixtures



If you don't like using the faders, the encoders can be used to control fixtures. They also provide access to menu and patching operations.



Control parameters are mapped to the faders. Green buttons indicate parameters available on this particular fixture

FADER CONTROL

There are several ways to control your automated fixtures. If you select the 'Device Intensity' mode for the faders, then you get direct control of the intensity of your 24 fixtures. Alternatively you can switch to the 'Device Parameters' mode which maps the control channels of the device to the

faders. I had a bit of a play around with this, partly in a sort of tribute to the dim and distance past when this was the only way to do it, and found that while it worked for some things it was less than ideal for others. It feels right to have intensity and colour on faders, but for some reason it just felt a bit weird trying to do pan and tilt stuff.

Fortunately for me, you're not forced to control everything by fader – you can use the three encoder wheels instead if you like, and they do pretty much what you'd expect the encoders on a lighting console to do.

Moving to the subject of colour control, I really like the approach ETC have taken to dealing with CMY fixtures. The first thing they've done is set it up so that every time you patch a CMY fixture, the console generates a set of colour palettes for it. These are accessed through the 24 palette keys which light up in the appropriate colour using their RGB mixing LED backlights. You can overwrite them if you want, but it's nice to get a starting set. The other thing that I found extremely cool and much more intuitive than using CMY encoders is that when they've mapped the parameters to the faders they've only given you two parameters – hue and saturation. To me this seems far more intuitive than using three encoders. Although you can do it that way as well if you really want to.

The 24 palette keys can also be used to store positions and beam effects, as you would expect, as well as being used for device selection and accessing the internal effects engine. Scenes and sequences can be recorded into the faders for playback, and there's a stack memory for those who like to work that way.

WHAT ABOUT THE PRICE?

This is the best bit. This console is seriously inexpensive. At a list price of \$4295 including GST, you get a whole lot of control for your dollar.

LEVELLING THE CRITICS

There will be people who level criticism at this console – some will complain that the faders don't fly when you switch modes, others will bitch about the limitation in numbers of fixtures, some won't think the screens are big enough. To those people I say: these are all perfectly reasonable complaints to make about a much more expensive console.

Taking into consideration the price and the target market, this is an extraordinarily powerful and functional piece of control hardware and I won't be at all surprised to see plenty of lighting companies using these to free up their pricier consoles for the big gigs. I also won't be surprised if I see them popping up in schools, churches, small theatres and all those other places where value for money really count.



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W-DMX WIRELESS DMX SYSTEM

When DMX first appeared, we were all delighted to say goodbye to the nightmare of multicore cable it replaced. One little lead dealt with the whole mess. Time has passed, and these days we even want to be rid of that one. DMX without wires...



BY ANDY MACKENZIE

WIRELESS DMX?

Well, why not? After all, we've got wireless just about everything else. DMX is probably as good a signal as any to go wireless – it's already digitised, so interference shouldn't present too big a problem and we don't need to worry about additional signal latency. These two things can create plenty of problems for both audio and vision, but they've been wireless for years.

The W-DMX wireless system is designed to transport a single DMX universe from one point to another (or a group of others) as easily, cleanly and reliably as possible. It consists (as tested) of three different units in identical casings – one is a transmitter, one a receiver and the third is switchable between the two modes.

IDIOT PROOF

The concept is simple enough, but how does the execution work? You set up all your lighting rig as per usual and plant your receivers wherever you want them, then you press the big red button on the front of the transmitter and all the available receivers will lock onto it. They stay locked on until such time as you press the function button on the receiver to free it up – you can switch the transmitter or the receivers off and on and so on, and you won't lose the lock until you choose to.

Sounds pretty much idiot proof, doesn't

it? We gave it to Julius to find out. He hooked it up, pushed the red button as instructed and it worked. Test passed.

The only faintly tricky bit is that on the back of the dual purpose unit there is a little switch to push that selects the mode – and little LED indicators on the front that show which mode it's in. The potential confusion resulting from all the boxes looking the same is resolved by clear, friendly labelling identifying each as a Tx, Rx or Pro (the switchable one). All up, it's very simple and approachable.

APPLICATIONS

The applications for this system are pretty obvious really – use it anywhere that you need to transport DMX but can't (or can't be bothered to) get a cable. In our barn test we put the transmitter at the console, one receiver at the dimmers and the other receiver up in the rig for the movers, thus saving ourselves some effort. During the APEC launch on Sydney Harbour last year, W-DMX was used to control the Palcos on the yachts, thus making an impossible task possible.

The issue of dealing with multiple universes is also not so complex as you may first think. A couple of people I've spoken to have immediately gone "Yeah, but it only does one universe – not much use really..." But here's the trick. In much the same way as you can use multiple cables, you can use multiple transmitters as long as you ensure that each receiver is locked to the correct transmitter.

THE PRICE?

This system comes in a stupendous range of variants, and they're all priced slightly differently. In the Black Box series tested, the transmitter lists at \$1635, the receiver at \$869 and the Pro transceiver at \$2044. For those wanting more channels, there is a two universe transmitter available in the same casing. For those who can sacrifice a bit of range to save dollars, the micro version with internal antenna might be an answer (the range comes down from 700 to 400m). There are high gain antennas and boosters available, and on the off chance that you happen to be a manufacturer you can get an OEM version to install in your hardware. It's a comprehensive range and the distributors, ULA, will be able to help you sort out exactly what you need.

THE VERDICT

The idea of wireless DMX is so obvious, it's amazing we haven't been doing it for years. One of the key concerns people would have in using wireless technology for something as critical as DMX is reliability and potential for signal dropouts, but these issues seem to have been comprehensively dealt with by the impressively named AFHSS (adaptive frequency hopping spread spectrum) wireless system used here. It's easy to use, saves some work and increases the range of control possibilities available. What's not to like? CX

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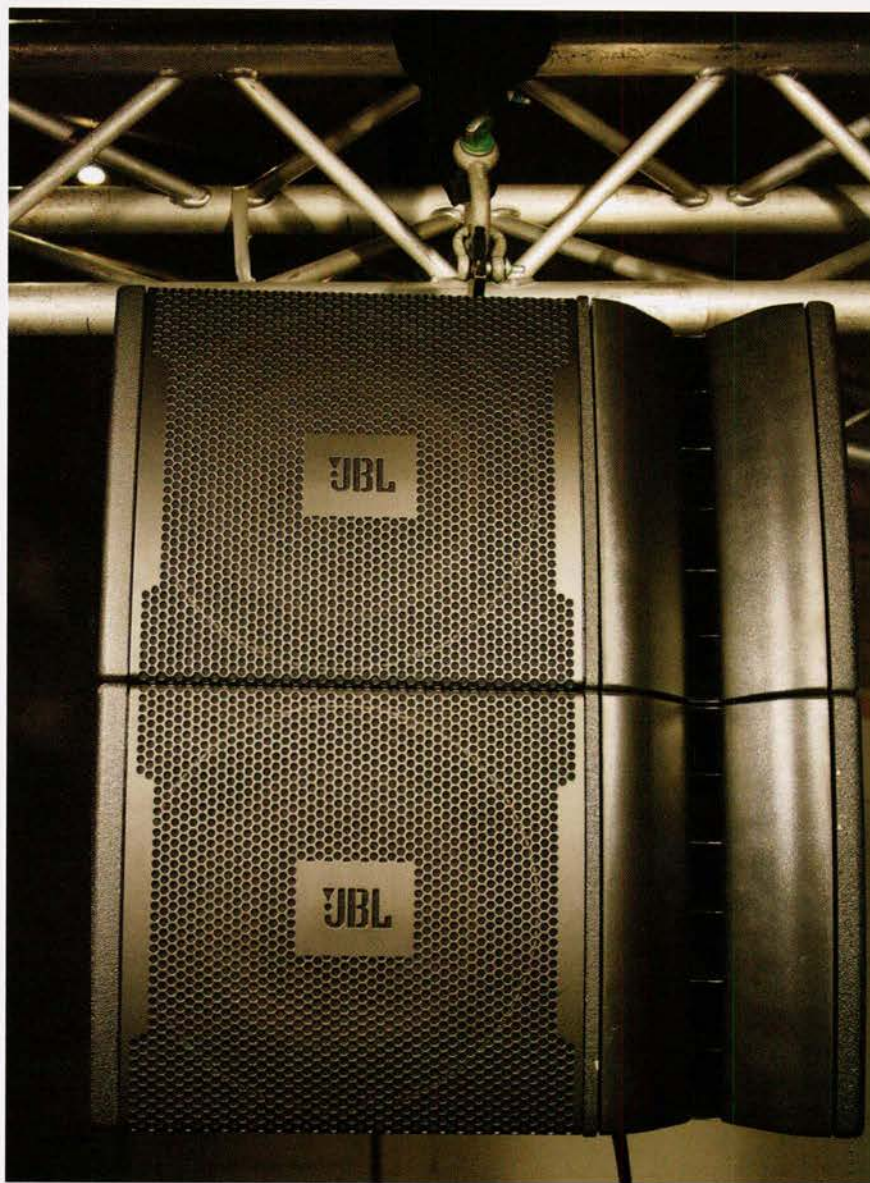
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JBL VRX

Powered (compact) line array



By **JULIUS GRAFTON**

Franksly this is a very exciting market segment, because it puts the amp in the box AND brings scalable line array benefits to the small venue. JBL released the unpowered (no amplifier) VRX a few years ago and it was embraced by production people who don't need the horse power of the Vertec line array. Then they put the

amp in the box.

Vertec is a successful concert and theatre line array product, which in recent times has expanded downwards with mid and small format boxes joining the original VT4889 fullsize 3 way element. That device is now on the top five requested rider lists across the world, and is embraced by an A to Z of major artists.

JBL released midrange and small

format Vertec boxes and subwoofers for production people to use with larger Vertec, such that there are sizes for different throws and applications. Most likely, a production house would have several models and configurations of Vertec, starting with eight boxes and counting up. The Springsteen show reviewed elsewhere in this issue used 128 full size Vertec, and 48 subs, for a crowd of 60,000. Typical 10,000 seat arena shows use 32 elements plus subs.

Downstream from the kind of precision market where Vertec and its competition slug it out is the smaller show or event, where until recently a bunch of stand-alone speaker boxes and subs would be used. In some cases, stand alone boxes are a better option than a compact line array, typically if the venue is shaped wider than long and needs boxes pointed in nooks and crannies for coverage.

Most gigs are good for a line array, if you can get it set up the right way and not compromise the positioning. Then you get that magic line array benefit, which is a continual high frequency beam that isn't all chopped up like you get from a bunch of stand alone boxes where the horns interfere with each other.

ENTER VRX

First comment from all of us who used this was how little it weighs. The VRX932 LAP top box weighs in at 24kg – and that's with a Crown amplifier built in. If you know about pro audio, you'll know a number like this was a pipe dream five years ago.

The 932 is designed for use alone, or in combinations up to a vertical hang of five boxes. This is because it comes with "Constant Curvature" – the box angles are fixed. You can't straighten the array to create a long throw configuration. 932 is suited to midrange to nearfield design, not the longer throws that Vertec delivers. One 932 box delivers a high frequency beam that is 100 degrees wide in dispersion, and just 15 degrees vertical. This is somewhat more

vertical distribution dispersion than any larger line array element, including Vertec.

Because the 932 was never intended to be used in hangs of more than five, JBL have preset the angle between boxes – unlike larger line array designs, where there are options allowing you to tailor the coverage.

Using a single 932 each side of a stage, you'd need to aim the box carefully so that the top and bottom of the high frequency pattern hit the audience. Using two, the vertical doubles out to 30 degrees. Use five, and you'd have a larger footprint that would suit a raked theatre with a mezzanine.

WHAT'S INSIDE

The 932 is loaded with a 12" woofer and 3 x 1.5" high frequency devices. The high frequency drivers marry with a constant curvature waveguide, which is the magic part of this line array. When you marry another 932 underneath, its waveguide picks up where this one leaves off. Three, four and as many as five 932's in an array produce a unified high frequency pattern that quite simply works way better than a cluster of stand alone boxes.

JBL are masters of the transducer, the 12" device has a neodymium magnet and will withstand 750 watts. (JBL rate this using Pink noise for 100 hours), while the high frequency array is rated at 125 watts. These days the specified number is less important than the actual performance.

Out back in the Crown electronics module, with 2 amplifiers (one high, one low) delivering a total of 1750 watts peak plus digital signal processing (DSP). JBL call it a Drivepack DPCD-2 module.

Now the sub: the VRX 918 SP is loaded with a JBL 2268FF 18" dual voice coil woofer, in a front loaded, vented box. With a two channel amplifier module in the back delivering a total of 1500 watts peak, it weighs just 38.5 kg which is not much at all, in subwoofer terms.

PUTTING IT TOGETHER

There's a variety of ways to use this product. Simplest is to put one 932 (top cabinet) on a speaker stand. To do it, there's two receptacles on the bottom of each box. It's designed for one or two box configurations. The Straight socket is for one box aimed parallel, and shooting a tight 15 degrees of vertical dispersion. The angled socket is for applications with two top boxes. It tilts them down so that the top of the pair is parallel to the ground and the bottom one angled down to cover closer audience with the now 30 degrees of vertical dispersion.

Each 932 has captive rigging pins which easily connect to the box above. At 22kg, it is easy for one crew member to hold the box, and another to connect the pins. You can connect two boxes together, on a speaker stand.

Better than a stand, is the pole. This screws into the top of any 918 subwoofer, and lets you run one or two 932 top boxes in this way, without the fuss of flying.

When it comes time to fly, we did it. We got the little Array flying frame slung off a lighting truss, and dropped three boxes underneath. Three is a good number in VRX terms, it gave us a staggering amount of SPL in our Barn.

JBL say that it's easy to fly one or two 918 subwoofers above a bunch of 932 top boxes. That's an option, we choose the ground stack since we don't have the height and we like the low end to come get us at floor level.

Connecting up is way easy, there is a PowerCon in and a PowerCon out for mains, and an XLR in and an XLR out for signal. It's the same down at the sub, so you can buy one

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long mains cable with a long XLR cable strapped to it; and then a bunch of jumper cables which simply can't be messed up. It's schoolkid easy.

Then we discovered the one possible design flaw, when one of our students got one pair of subs to sound half as loud as the other pair. (More on this later....)

CONTROL OPTIONS

On the back of the 932 top box are two switches for high frequency shading. This is a no brainer, you can attenuate the high frequency. JBL call this Amplitude Shading. It's where if you have 3 boxes hung, you will want the lowest one closest to the audience to run less high frequency than the top box which is throwing furthest. The two switches have three possible outcomes, so there is a -3dB, 0dB and +3dB (short, medium, long throw) setting for each box.

Other than that, there's a circuit breaker and a volume control. The default setting is full clockwise, just like on a power amplifier.

But it's down on the 918 sub where options arise, and this is where we came unglued for a moment with one pair of subs compared to the other pair.. There are two switches for crossover selection. The first is simply selecting the subs cross whether the sub will work above 80Hz or not. If so, it runs up to 120Hz. 80Hz is the recommended setting, but it doesn't matter too much which is chosen.

The second switch governs what happens at the Audio Out XLR. You can let the audio out go through

unaffected by the switch (full range). This is what you want to do if you have second 918 sub above the first one. That second sub wants exactly the same input (full range) as the one below it, so that its internal crossover can dish up the same recipe to the 18" woofer amplifier.

When you push the Audio Out switch to HiPass above 80Hz, you're doing the right thing if the next box in the chain is a top box. This means the top box doesn't get anything under 80Hz, which is the stuff that the sub is there to deal with.

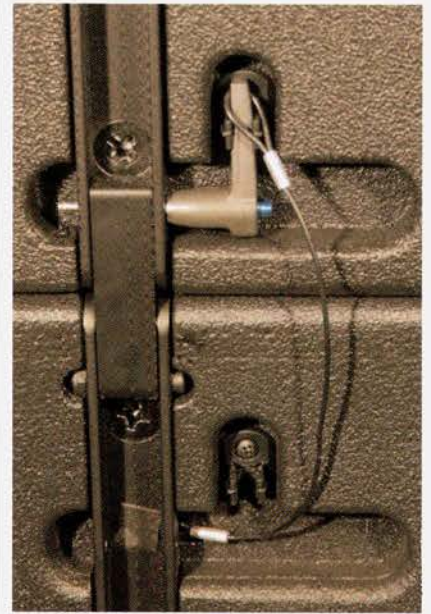
If you push the switch on the bottom sub, then the top sub is getting not much at all to work with, so it sits on idle. That's what happened to us.

JBL could fix this if they added a second XLR out, and relabeled them, so that there was one that was labeled 'loop to sub' and one that was labeled 'top box'. Then you wouldn't need the switch. It'd cost about the same, except I suspect that the Drivepack for the sub is almost identical to the Drivepack for the top box. Only the front end differs, the amp is almost certainly the same animal.

But of course it's always possible someone would then plug the XLR into the wrong connector! And remember, it's only a potential problem when there's two subs used together.

AMP & THE REST

The Drivepack is thermally cooled, so there are no noisy fans to deal with. The idea of putting a cooling fan on a loudspeaker is less than brilliant, since it sucks in stuff from outside and gets

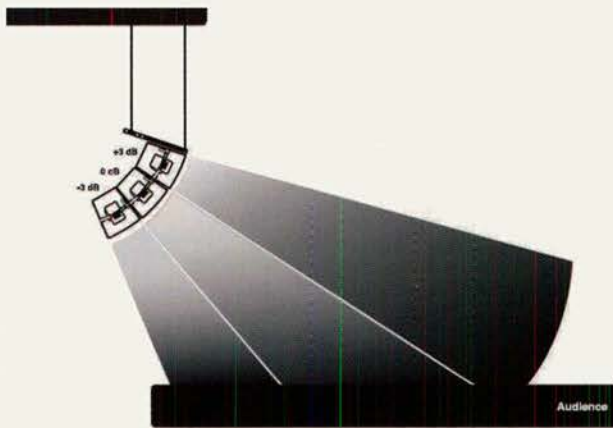


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clogged up. At idle, the Drivepack consumes around 30 watts of mains power. At full tilt, it sucks 1440 watts. We hooked two subs and three top boxes off one 20 amp mains feed and didn't manage to get the breaker warm.

When input levels approach clip, the red peak light comes on. We used this as a sign that things were loud enough. They sure were: with ear plugs fitted, we measured 120dB A weighted, 5 metres in front of the system, with the tool set at slow response. We could get it louder.... but wow – why would you? The room had already gone past its trip point, where the sound was incoherent due to excess volume.

Down in the sublow, we were as happy as we can be in our node riddled barn. No sub has yet really suited our strange concrete box, which is intentionally acoustically challenging so that our simulations are real world.

To validate the subs, and because we could, we took two to Ruby Rabbits, a horrible little band gig with a hideous house PA on Sydney's notorious Oxford street. Run without the VRX Subs, the house PA was so-so with our live band. With the VRX918's on an auxiliary send from a grimy old GA12 desk, the low end came out and got me.

CONCLUSION

We validate what JBL say in their promo and user manual. We like the low weight. The sound is nice, the dispersion ultra accurate – standing alongside off axis, you only hear the highs slapping back off the back wall. That's a good thing.

It is versatile for the market – A.V. dudes will like it for corporate work, we like it for band work, and van PA types will like it for power to weight performance.

We think it will last a long time – based on the lineage and brand, and also based on the feel of the construction. **CX**



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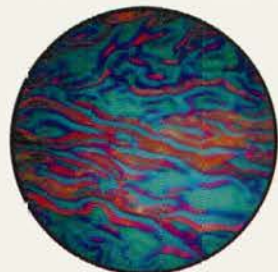
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