



CX109 NOVEMBER 2015 \$5.99 AU

WOW 2015
The World of Wearable Art

ROADSKILLS
Maroon 5
Queen Extravaganza
Rockwiz Tour

Sound and Vision
The Tech of 'David Bowie is'

Adelaide Convention Centre
The new West Building

GEARBOX REVIEWS: PR Lighting XR1000 Framing • EAW Redline Series • Mackie ProFX22v2
• PRG ReNEW • GaffGun
CX NEWS: Studios 301 to move • Novatech connect with Riedel Mediornet
• 2016 Fulltime Course Guide

Great Sound Should Be Elementary

Line Array solutions for install or portable applications



Discreet, high quality systems, no matter the venue. Elements allows you to build and customise a unique line array system to realise the full sonic potential of any space.



Installation Models

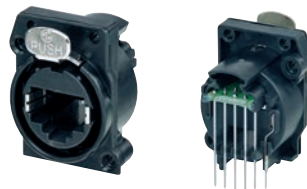


Portable Models



Find your nearest Elements dealer at: www.cmi.com.au/hk-audio-dealers

etherCON
the new range of
data connectors for
CAT5e and CAT6A



More than just connectors.

We put 40 years of experience and our passion into our products. The etherCON Series is a ruggedized and lockable RJ45 connector system, optimized for pro audio, video and lighting network applications.

Join us on facebook | www.neutrik.com | www.experience-neutrik.com

NEUTRIK
SETTING STANDARDS SINCE 1975

For product enquiries, contact the Australian distributor,
Amber Technology.

www.ambertech.com.au



SHURE®

LEGENDARY
PERFORMANCE™

STEREO SOUND. CUSTOM CONTROL. AT EVERY CORNER OF THE STAGE.

PSM300 Stereo Personal Monitor Systems introduce the clarity and precision of 24-bit digital audio processing to personal monitoring, while bringing reliable wireless freedom and custom mix control to the stage. Easy to setup and use, PSM300 systems offer a choice of features that get any level user – whether new to in-ear monitoring or well experienced – up and running with a personal mix quickly and confidently.



PSM300
Stereo Personal Monitor System
with SE112 Earphones



PSM300 Professional
Stereo Personal Monitor System
with SE215 Earphones

Distributed by

JANDS

www.jands.com.au



CX109 2015. CONTENT

Inside this edition

CX DIGITAL CX NEWS CXtra CX TV CX EVENTS CX MAG BLOG CX GEARBOX CX TheHUMP CX LIGHT Tonight

CX EDITORIAL

6 CX109 - Courses, The Big 3, Which is the best college?

CX NEWS

8 Studios 301 to move, Novatech connect with Riedel Mediornet

10 2016 Fulltime Course Guide

11 2016 Fulltime Course Guide

CX NEW GEAR

12 Martin, Meyer, PR Lighting & More!

CX FEATURES

18 The World of Wearable Art - WOW 2015

28 Sound & Vision - The Tech of 'David Bowie is'

36 Adelaide Convention Centre - The new West Building

66 FOH Engineer - Michelle Sabolchick Pettinato

CX GEARBOX

40 PR Lighting XR1000 Framing

44 EAW Redline series

46 Mackie ProFX22v2

48 PRG ReNEW

50 GaffGun

CX REGULARS

24 The Mill Report - with Andy Stewart

34 Listen Here - with Andy Stewart

52 Roadskills - with Cat Strom

68 BizTalk - with Julius Grafton

70 aceta - with Frank Hinton

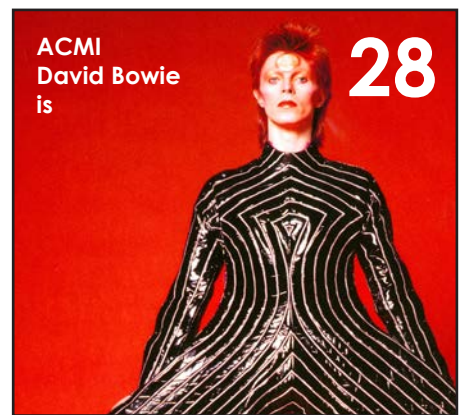
73 M F Lights - with Duncan Fry

• Cover Image: Maroon 5 - Adam Levine
Photographer: Troy Constable



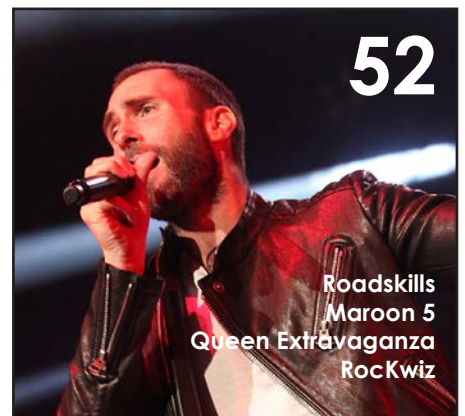
18

WOW 2015



ACMI
David Bowie
is

28



52

Roadskills
Maroon 5
Queen Extravaganza
Rockwiz

amazon kindle



Available on the
App Store



DIGITAL NETWORK

cx-mag.com, cxmagblog.com,
cxevents.com.au, cx-tv.com : CXtra, Gearbox,
News, TheHUMP, LightTonight, Roadshows



Buy CX Magazine on your chosen device today!
New Interactive platform, even more dynamic
layout, full of new interactive features.

Just US \$4.99 • Annual Subscription US \$38.99
Search CX Magazine on
Apple Newsstand • amazonkindle • Android



UNLEASH THE POWER

INTRODUCING LEOPARD AND 900-LFC

Tremendous power-to-size ratio, ultra-low distortion, and unprecedented clarity define these new LEO Family members. You'll hear the difference.

MEYER SOUND AUSTRALIA | AUS 1800 4 MEYER | NZ 0800 3 MEYER

sales@meyersound.com.au



COURSES

Five years ago I took the hard decision to shut Julius Events College and wear a \$1.5 million loss. It snuffed out my interest in training for a while. The decade I spent inside the VET (Vocational Education and Training) industry gave me a unique insight into technical training.

Several years ago I spent a year on the advisory panel for the new CUA training package, which was painful and ultimately unrewarding. I formed the view that the new package, on which all technical production VET courses are based, does not meet the needs of the live production and events industry.

Our COURSE GUIDE in this issue elaborates on this. VET courses are now overloaded with 'core' units that are scarcely relevant to industry. This one size fits all approach intends that any student achieving a Certificate IV or a Diploma under the VET system will have similar learnings no matter what industry they are trained for.

THE BIG 3

Our guide discusses the rise and rise of the big three letter colleges – SAE, JMC and AIM. Soon they will be joined by the mysterious Abbey Road Institute which will almost certainly also charge nearly \$50,000 for a two year bachelor degree in studio audio.

During my time running a live production college I met hundreds of potential students who considered a 'big 3' studio course alongside my one year Diploma course. Many went to the big 3. I haven't met any since who've landed a relevant job in the live production industry, let alone in a studio.

The Course Guide with the table of courses should help school leavers decide where to spend their money. Earlier this year we did a big survey on skills and the guide contains a link. Read that article and check out the survey – it is good research.

WHICH IS THE BEST COLLEGE?

None of them. Neither was Julius Events College. It is impossibly costly to have enough technical equipment and space to properly train students. To do it properly renders a college unviable. We chased costs and quality all day every day and almost went insane.

The training system is broken, VET courses are overloaded with core units. Higher Education does not answer to industry needs. They will say they do, but they don't. H.E. is not accountable.

How is it that the universities cry about lack of funding while they continue to build and expand?

Live Production training is the engine room for almost all technical roles across the audio visual industry. The majority of professionals working today do not hold a relevant qualification.

If it were my 18 year old reading the guide in this issue, I'd encourage a suitable generalised bachelor degree. In their considerable downtime, as Universities are very time limited (30 contact weeks a year, 20 hours a week maximum), I'd encourage casual work anywhere, with any one, to get hands-on experience.

Good luck to the class of 2016!

- Julius



PUBLISHERS PANEL

LOCATIONS

SYDNEY OFFICE & PRODUCTION STUDIO

Email: juliusmedia@me.com Phone: +61 2 9882 6727

Mail: Locked Bag 30 Epping NSW 1710 Australia

MELBOURNE OFFICE

Email: jason@juliusmedia.com Phone: +61 407-735-920

PEOPLE

Publisher: Julius Grafton

Business manager: Steve James

Technical editor: Jimmy Den Ouden

AV editor: Jason Allen

Creative director: Lee Murray

Digital content editor: Jack McSweeney

Regular contributors: Andy Stewart, Cat Strom, Duncan Fry

CX-TV hosts: Meg MacIntosh, Sophie Eshman CX-TV [www.cx-tv.com]

Accounts: Emily Lim

Accountants: Kieren Martin, Watkins Coffey Martin

Official airline: Virgin Australia

Lawyers:

Gibert + Tobin (Defamation),

David Rydon DPR Legal (Commercial)

Banki Haddock Fiora (Copyright)

CX Magazine is published in Australia

by Juliusmedia Group Pty Ltd (ACN 134170460)

under license from CX Network Pty Ltd (ACN 153165167)

Web: www.juliusmedia.com

Printer: Printed in Australia

dLIVE



Design for Live

The phenomenally powerful XCVI Core puts dLive at the heart of tomorrow's sophisticated live audio systems, while its class-leading user interface keeps the engineer focused on mixing in the moment.



Distributed system with separate MixRack and Surface
DEEP processing embedded plugins
Redundant hot swappable power supply standard across the range
Redundant connections throughout
814 system inputs and 824 outputs max
Up to 5 audio networking cards - Dante, Waves SG, ACE, MADI

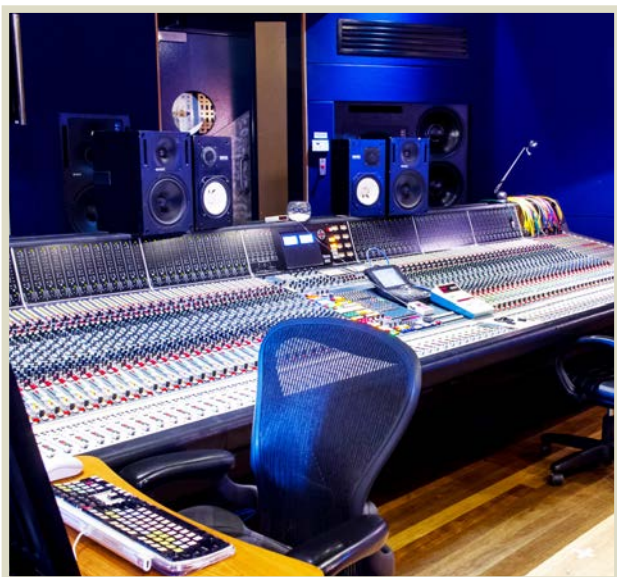
ALLEN & HEATH

DLIVE.ALLEN-HEATH.COM

More info? Contact TAG

(02) 9519 0900 info@tag.com.au tag.com.au

Studios 301 to move
Abbey Road race for accreditation



Confusion surrounds the future of Australia's largest recording studio complex, Studios 301 in Sydney, after the facility was sold in August to Abbey Road Institute. Now a development application has been lodged to rebuild the site as residential units.

Owned by former SAE chief Tom Misner since 1998, the studio was sold to GBC Europe Limited from the UK in August. Then a company called Eunomia Developments Pty Ltd, owned by five property developers, lodged the application for residential units over the whole 301 site. The project is valued at around \$18 million.

Studios 301 staff and customers remain largely uninformed, one hirer contacted CX to report they had a booking for the facility next year and had no idea whether it would proceed.

Meanwhile the new recording studio college Abbey Road Institute are pushing hard to enroll students in Melbourne, despite not yet having accreditation or registration as a training organization. Once registered they can offer students the generous Government Fee Help scheme.

Last month CX reported the Abbey Road Institute has a facility at Stuart Street Southbank, and will open within the 301 Studio complex in Sydney. We suggested the omnipresence of Serbian born Dr Tom Misner (60), which now seems even more likely. Misner sold SAE to listed education giant Navitas almost five years ago.

Novatech
Connect with Riedel Mediornet



Novatech Creative Event Technology have become the first Australian production company to add Riedel's Mediornet, the leading signal distribution system, to their hire inventory. Mediornet revolutionises the way video, audio, control and communications are distributed at an event, with its dual redundant fibre optic cabling system radically cutting down on complexity, set-up-time and costs, while providing more flexibility and capability than any other system.

Novatech recently deployed Mediornet at the 2015 Netball World Cup in Sydney, where 1km of fibre optic cable ensured that all video, timecode, audio, control and network traffic was delivered wherever it was needed in Allphones Arena.

Novatech have purchased two Mediornet Compact Pro frames, fitted with extra SDI inputs and outputs for broadcast quality video distribution. The Compact Pro can handle virtually any kind of video input or output, with Automatic Format Detection, Frame Synchronizer, Framestore and Sample Rate Converters built-in.

Audio can be input and output from analogue or digital sources, including two MADi ports. Gigabit Ethernet, Serial Interface, and even GPI can all be sent or received via the frame. With multiple installations of Mediornet at venues around Australia, Novatech can simply connect via in-house infrastructure. Mediornet is also compatible with Riedel's Artist communications system, creating a powerful combination of signal distribution with integrated event comms.

Mediornet's flexible topology and scalability made it perfect for managing the production demands of the Netball World Cup. Held at Sydney's Olympic Park, with events taking place not only in Allphones Arena, but also neighbouring Netball Central and around the precinct, the ten day event was a logistical challenge that could change from day-to-day.



REDLINE

Some things your clients should notice.
Others, they shouldn't.



To find your nearest EAW Dealer, please visit
www.pavt.com.au and click on Where To Buy



Whether in hotel ballrooms, tents, outdoor stages, clubs, festivals or houses of worship – your clients will notice how the pristine fidelity, coverage consistency and output capability of Redline™ enables everyone in their audience to experience a connection.

They probably won't notice the subtle hyperblack logos, the absence of fan noise, the hidden amplification on the cardioid subs or the back panel LEDs that have been muted with the push of a button. But we're confident you'll agree that's okay.

With Redline in your arsenal, the reviews of your company will be glowing. The drapes won't be.

Redline. Engineered by professionals, for professionals.

Find out more and enquire about a demo at EAW.com.



Production Audio Video Technology Pty Ltd

4/621 Whitehorse Road, Mitcham 3132, Victoria PH: 03 9264 8000 sales@productionaudio.com.au

2016 FULLTIME COURSE GUIDE

by Julius Crafton

Course costs skyrocket Confusing choices await students

The government student loan scheme called Fee Help has led to high prices for degree courses at the three big private college chains, SAE, JMC and AIM. All three now charge slightly under \$50,000 for a two year bachelor degree. All three offer a degree based somewhat on sound, and music production. All three make vague representations on job outcomes.

By contrast a three year Bachelor course in theatre production costs \$12,000 per year at NIDA, the leading national university provider for theatre skills. Other university backed theatre courses are run by WAAPA (West Australia), RMIT and VCA (Victoria).

This guide is for full time study only, and does not cover Certificate III courses which are generally aimed at traineeships. It does not cover qualifications awarded by RPL (recognized prior learning) or RCC (recognized current competencies).

Students looking for a career backstage need to be careful. A higher education degree (or diploma) is radically different in nature to a Vocational (VET) certificate, diploma or advanced diploma. Higher Education (HE) was the province of universities until a decade ago when private colleges (registered training organisations or RTOs) were allowed into the sector.

A VET qualification requires a student be 'competent' in all units of study. Higher education on the other hand has pass requirements that can be as low as 51%. For that reason H.E. offer distinctions and grades, whereas VET cannot.

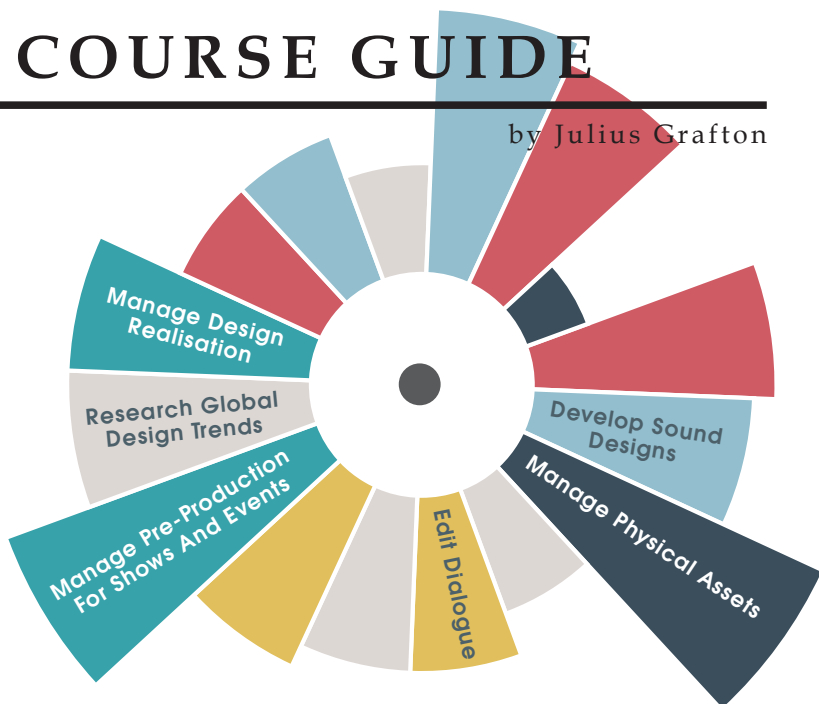
Students in VET courses sometimes grow frustrated at the equality of the pass, where a brilliant student and someone who has just scraped through as competent, are recognized the same.

Worse still, often the best student has trouble meeting the competency standards for one or several units. VET courses contain a cluster of inflexible core units, such as 'Incorporate creative and technical needs into management processes' or 'Develop, implement and maintain WHS management systems'.

A VET course is always loaded with more 'core' units than electives - and the word elective here is only relevant for the college (RTO), which chooses how to structure the 'elective' side of the course. For example the Advanced Diploma of Live Production and Management Services (course code CUA60213) has eight core and only six elective units.

This means a student is buried in core units more often than electives - and six electives may not necessarily produce enough practical technical training.

There is only one RTO delivering the Advanced Diploma, and it allows a speciality. But again the available elective units in the national training package (CUA) mean that the sound speciality, for example, contains these: [above]



The breakup of these units leaves a student well short of basic audio knowledge, despite the Advanced Diploma carrying an audio specialty. This isn't a problem specific to WAAPA, rather it is a failing of the whole vocational training framework which has degenerated into 'one size fits all' where Advanced Diploma courses in completely different industry sectors must carry similar core units. Examples: 'Develop and manage a budget' and 'Manage Projects', leaving not enough time for industry specific training.

In Higher Education the uni or college have the freedom to structure their Diploma or Degree programs as they see fit - and apply their own marking and pass regimes. Although they stridently deny this, I believe they carry less compliance costs than an RTO delivering a VET course.

For students this means an easier pass, where a degree may only require 51%. The competency scheme in VET training requires each student be assessed several times, usually via tasks and tests, across each subject (unit); and if found 'Not Yet Competent' given the chance to redo the assessment tasks or test component that they failed.

What is best for the student? Either system carries compromises, especially if the provider uni or college or RTO has little industry credibility. In April CX surveyed 500 industry folk and published the results. Read about it at cxmagblog.com on this link:

<http://cxmagblog.com/2015/04/17/minimum-technical-skills/>

The survey can be read from the article link on the blog. It is fairly damning of many training providers, in particular SAE - which has the greatest number of graduates as it has been operating for three decades and is now worldwide. JMC and AIM followed SAE to market with similar courseware, based on the fundamental that a student, usually direct from high school, will not be aware of the extreme difficulty transforming a qualification into a job.

HURDLES

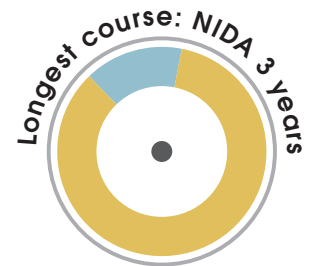
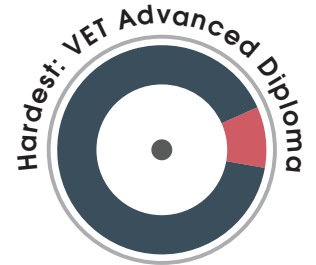
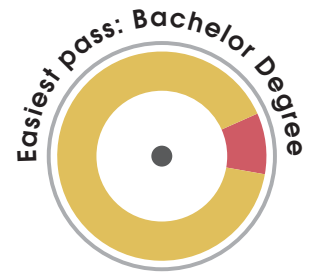
Additional complication comes from understanding the various courses. VET courses from the CUA training package carry CUA at the start of the code. Courses from the Music training package are sometimes sold as 'Sound production. These carry the code CUS. CX does not regard any CUS course as industry suitable for professional live audio work. Bachelor Degree courses also mix up 'music production' with live sound. Music Production skills do not usually lead to employment outcomes in live production, theatre and events.

Fulltime courses containing live production elements - Certificate IV and above

[Does not include Certificate III, does not include 'Music Production' courses deemed unsuitable for live work]

PROVIDER	STATE	COURSE	TYPE	DURATION	COST
SAE	Multi	Bachelor of Audio	HE	2 years	\$24,742 p/a
JMC	Multi	Bachelor of Creative Technology (Audio Engineering & Sound Production)	HE	2 years	\$24,000 p/a
AIM	Multi	Bachelor of Music (Audio)	HE	2 years	\$24,300 p/a
Adelaide College of the Arts	SA	Diploma LPTS	VET	2 years	\$6,336 p/a
Southbank TAFE	QLD	Dip Sound Production	VET	1 year	\$16,000
RMIT	VIC	Cert. IV LPTS	VET	1 year	\$12,750
VCA	VIC	Bachelor of Fine Arts (Production)*	HE	3 years	\$9,000 - \$10,500 p/a
Box Hill TAFE	VIC	Diploma LPTS	VET	1 year	\$16,103
Melbourne Polytechnic	VIC	Diploma LPTS	VET	1 year	\$14,257
WAAPA	WA	Advanced Diploma LPTS, audio or lighting*	VET	1 year	\$7,800 est
Sydney University	NSW	Graduate Dip in Architectural Science (Audio and Acoustics)	HE	1 year	\$21,000
Charles Sturt (Wagga)	NSW	Bachelor of Stage and Screen (Design)	HE	3 years	\$6,240 p/a
Newcastle TAFE	NSW	Diploma LPTS	VET	1 year	\$13,700
NIDA	NSW	Bachelor of Fine Arts (Technical Theatre and Stage Management)*	HE	3 years	\$12,000 p/a

LPTS: Live Production and Technical Services *Denotes course contains lighting



Due to Australia's very generous student loan scheme, most students sign up without proper consideration of how they will repay, or indeed how much. A fifty thousand dollar debt is a lot to hang on a school leaver.

From our survey article in April: "Asked which training institute they would 'trust to consistently provide best possible training outcome BASED ON your direct knowledge of its training', the answers were different, with WAAPA in Perth holding top score, and SAE rating poorly."

More tellingly 81% said that their current position does not require that they hold any technical qualification.

Many employers in the theatre and events industry were engaged with vocational training in the early 2000's, but appear to have lost faith since.

Our table of courses (above) shows very little opportunity for anyone wanting lighting training.

See Editorial

New &
Note Worthy...

CHRISTIE

CROWN

EXTRON

LIVESTREAM

MARTIN

MEYER

PENN ELCOM

PHILIPS SHOWLINE

POWERSOFT

PR LIGHTING

ROBERT JULIAT

Robert Juliat
Dalis 860

Australian Distributor:
Show Technology
www.showtech.com.au
or (02) 9748 1122

Dalis is an asymmetrical 300W LED cyclight, designed to deliver powerful, smooth coverage and a variety of pastel and saturated colours. Dalis incorporates eight coloured LED emitters consisting of red, green, blue, royal blue, amber, cyan, warm white (2200K) and cool white (6500K). The choice of these six colours in association with the two whites gives access to a wide colour gamut. In addition, the white emitters facilitate colour desaturation, resulting in a range of pastel tones. Each colour can be controlled in 8 or 16 bit mode. Additionally, four groups of LED emitters can also be controlled independently by 16 bit on each colour in the batten. Dalis' exclusive optical design uses patented asymmetrical micro reflectors to spread the light evenly over vertical surfaces and deliver output across the full colour spectrum.

Meyer Sound
Amie

Meyer Sound introduces Amie – the first studio monitor from the company in more than two decades. Developed to meet the needs of Skywalker Sound, Amie brings a level of clarity ideal for critical production environments where accurate translation to larger systems is imperative. Designed as a linear sound system to reproduce every sonic element with accuracy and consistency, Amie extends the translation of the Meyer Sound Acheron screen channel line to studio monitoring. Amie features an innovative waveguide design that offers uniform coverage and precision imaging. With its flat frequency and phase response and low distortion, Amie allows sound professionals to listen for long periods of time without the typical strain and fatigue.

Australian Distributor: Meyer Sound Australia
www.meyersound.com.au or 1800 463 937

PR Lighting
XR 330 BWS

PR Lighting's XR 330 BWS is a high-output moving head which integrates three features (Beam, Wash and Spot) into a single unit, powered by a Sirius HRI 330W discharge lamp. All models support wireless DMX and offer CYM colour mixing with macro. Weighing 22.2kg, the XR 330 BWS outputs 15,000 lumens. It contains two rotating prisms (8-facet and 16-facet), colour wheel with 13 colours (plus CTO) and white. It boasts a fixed gobo wheel (with 13 fixed gobos plus white, shaking and bi-directional scrolling at variable speeds) and a fixed wheel with nine interchangeable rotating gobos. Other features include individual frost filter and uniformity lens, mechanical dimmer 0-100%, mechanical shutter 0.3-25 fps (with macro) and motorised linear focus and zoom.

Australian Distributor: Jands
www.jands.com.au or (02) 9582 0909



**Philips Showline
SL BEAM 300 FX**

The SL BEAM 300FX is a high performance moving head luminaire powered by 19 RGBW LEDs. Used as a wash luminaire, the SL BEAM 300FX can deliver blended washes of colour, and can create fluid lighting effects with the lens and effects wheel. Used as a beam luminaire, the SL BEAM 300FX delivers a crisp, tightly collimated beam between 4° and 10°. Individual pixel control and carefully designed optics remove the need for inconvenient third-party beam control accessories.

Australian Distributor: Philips Selecon
www.seleconlight.com or 0419 133 342

**Crown
XLS DriveCore 2**

Crown has introduced four new XLS DriveCore 2 models; the XLS 2502, XLS 2002, XLS 1502 and XLS 1002, with power ratings from 350 to 775 Watts per channel at 4 ohms and 1100 to 2400 watts at 4 ohms bridged. Crown's XLS DriveCore 2 Series amplifiers feature HARMAN's exclusive DriveCore amplifier circuitry that combines high power output with exceptional energy efficiency, all under 5kg. Crown XLS DriveCore 2 amplifiers now offer a bandpass filter on each channel in addition to the previous low and high pass filters. All models allow the front-panel LED indicators (except the clip and thermal indicators) to be turned off if desired, reducing distraction in dark venues. All the amplifiers have selectable input sensitivity of either 1.4 Vrms or .775 Vrms, facilitating their use in a wider variety of applications and enabling the amplifiers to be driven at full power.



Australian Distributor: Jands
www.jands.com.au or (02) 9582 0909

**Extron
TouchLink Pro Touchpanels**

Extron Electronics are shipping the new 15" TLP Pro 1520MG and the 12" TLP Pro 1220MG wall mount TouchLink Pro touchpanels with capacitive, edge-to-edge glass touchscreens. These new, customisable touchpanels feature faster processing and more memory. The capacitive touchscreens provide a vibrant look and a more responsive control surface. Both touchpanels feature video preview inputs that support high-resolution video from HDCP-compliant HDMI sources and Extron XTP devices. The convenience of PoE+ allows the touchpanels to receive power and communications over a single Ethernet cable. The TLP Pro 1520MG and TLP Pro 1220MG have bold, clean, high-tech designs and features that make them ideal for control applications requiring fully-customisable touchpanels with flexible mounting options, large control surfaces, and multi-source video previews.



Australian Distributor: Extron Australia
www.extron.com.au or (08) 8351 2188

- CHRISTIE
- CROWN
- EXTRON
- LIVESTREAM
- MARTIN
- MEYER
- PENN ELCOM
- PHILIPS SHOWLINE
- POWERSOFT
- PR LIGHTING
- ROBERT JULIAT

**Philips Showline
SL STRIP 10 IP**



The SL STRIP 10IP is designed for outdoor entertainment applications and wet environments. Ten cells of homogenised RGBW LEDs deliver a blended wash of colour, emulating the traditional halogen strip light effect, with reduced power consumption, lower heat output, and minimal maintenance. Optional lens kits are available, and the unit is tested and rated to IP65.

Australian Distributor: Philips Selecon
www.seleconlight.com or 0419 133 342

**Penn Elcom
RADM-23 Raclite and MOL3
Latches**



The new Penn Elcom RADM-23 1U Raclite is designed to be fitted to any 19 inch equipment rack providing an elegant and practical solution for illuminating equipment in dark and dingy environments. Twenty-five super bright cool-white (6500K) LED emitters provide a crisp wash optimised for clear vision of the kit in the rack, allowing the status of equipment to be checked at a glance. A 130 – 150 degree variable beam angle on the LEDs offers further versatility and a universal 12 Volt power supply means that it can be plugged in anywhere in the world.

Penn Elcom’s next generation MOL (mother of latches) range is the world’s first automatic cantilever latch. When the key of the butterfly is turned it opens automatically and is held open with a leaf-spring. When the butterfly is turned anticlockwise for closing, the new cantilever slider engages with a low-friction injection moulded Nylon guide, which automatically engages with the catch plate. This versatile invention means no more fumbling around doing up flight case catches in the dark, semi dark or cramped conditions like the back of the truck and side-stage storage. It also makes opening / closing a one-handed operation – infinitely useful in a myriad of live event and installation situations!



Australian Distributor: Penn Elcom
www.penn-elcom.com or (03) 9335 6455

**Powersoft
DEVA**



POWERSOFT DEVA is a patented multifunctional device that enables audio messaging and video recording. DEVA can be used in a wide range of applications, from background music to paging, in combination with video and/or audio surveillance. It is equipped with sensors including a microphone, presence detector, twilight switch, and accelerometer. Its design limits power consumption to the point of allowing uninterrupted use powered by the internal rechargeable battery alone. A solar panel can quickly recharge the battery even in low light conditions. DEVA’s enclosure has been specifically designed to protect the internal circuitry from exposure to atmospheric elements, making it an ideal solution for outdoor applications. With standard WiFi 802.11n communication, DEVA is independent from any existing infrastructure. Lightweight and compact, the unit can be installed quickly on walls or poles, permanently or temporarily.

Australian Distributor: Production Audio Video Technology
www.pavt.com.au or (03) 9264 8000



PRODUCTS RELY ON
PASSIONATE PEOPLE

Meet your new companion

Eve works with MAC Quantum Profile as
System Tech for Resolution X

resolution X
LIGHTING + RIGGING



Martin
by HARMAN

- CHRISTIE
- CROWN
- EXTRON
- LIVESTREAM
- MARTIN
- MEYER
- PENN ELCOM
- PHILIPS SHOWLINE
- POWERSOFT
- PR LIGHTING
- ROBERT JULIAT



Australian Distributor: Show Technology
www.showtech.com.au or (02) 9748 1122

**Martin
VDO Sceptron 40**

The VDO Sceptron 40 is a linear outdoor-rated LED video fixture for the rental market with 40 mm pixel pitch and an extensive range of optical accessories for a wide variety of looks. The VDO Sceptron 40 is driven by the Martin P3 System Controller family for easy configuration, mapping and setup, and is also backwards compatible with DMX for smaller setups. The integrated power and data cabling allows for long daisy-chains with many fixtures per cable run, while the power supply can be located backstage (up to 50m away) for a clean setup avoiding messy cabling and several driver boxes.



**Christie
Flat Panels**

Christie has launched the Christie FHQ552-T, Christie FHQ842-T and Christie FHQ981-L flat panels. All three are suitable for meeting rooms, offices, lobbies and architectural displays, and can be banded with Christie Brio, Christie Spyder and the Christie Pandoras Box media server. The Christie FHQ552-T features 10-point touch capabilities, built-in speakers and an Open Pluggable Specification (OPS) slot. Replacing the FHQ841-T is the Christie FHQ842-T, a versatile 84-inch display, for large-format presentation and collaboration applications, with built-in 10-point multi-touch capability. Providing an alternative to traditional 2 x 2 tiled 46-inch displays, the versatile Christie FHQ981-L 98-inch flat panel is compatible with digital signage devices and media players. The FHQ981-L is equipped with built-in speakers, multi-window capability, along with an OPS slot for compatibility with digital signage devices and pluggable media players.

Australian distributor: Christie Digital Systems
www.christiedigital.com or (07) 3624 4888

**livestream
Studio HD550**

The livestream Studio HD550 is a portable video and audio recording, streaming and switching unit. Features include Interview mode, Animated Graphics, Bonding (the only switcher in the world with this capability), up to 10 remote cameras, 4 ISO record as well as streaming to any CDN or external data sources such as Twitter, YouTube, Livestream, Wowza, or Adobe Media Server. With its portable body, the Studio HD550 makes it easy to set up wherever your event may be. The Studio HD550 comes with 5x SDI/HDMI inputs, 1x SDI/HDMI output, 1x Extended screen output using HDMI, analogue audio in and 2x balanced XLR inputs, built-in chroma-key, and is capable of 20 hours of broadcast quality recording.



Australian Distributor: Corsair Solutions
www.corsairsolutions.com.au or (03) 9005 9861

RØDELink™

F I L M M A K E R
W I R E L E S S A U D I O S Y S T E M



Series II
2.4GHz digital
transmission



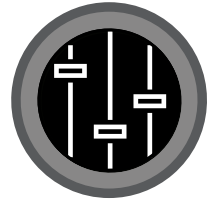
128-bit encrypted
signal



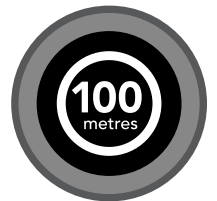
Omnidirectional
lavalier microphone



One touch
pairing



3 level gain
control



Up to 100m
range

RØDE
MICROPHONES

www.rodalink.com







Get Behind Me Satan,
Rodney Leong, New Zealand



Apocalyptic Warrior, Scott Sutcliffe, Japan

Each spring, the World of
Wearable Art Awards Show

WOW

takes centre stage at
Wellington's TSB Bank
Arena. The show has been
described as one part
fashion show, one part
Cirque Du Soleil and one
part Eurovision.

EDITORIAL BY CAT STROM

Over 100 garments from 130 international designers are transformed and showcased on stage in a distinctive two hour theatrical extravaganza, with stunning sets, soundscapes, dance, lighting and world-class choreography.

WOW is New Zealand's single largest arts show, and this season's production was the competition's 27th show. Dame Suzie Moncrieff created the WOW concept in 1987 to challenge designers to take "art off the wall and onto the human form". Designers come from all occupations, from many different backgrounds and from around the world. WOW gives designers the opportunity to be innovative and original, while not being bound by the constraints of commercialism. The only limit is imagination.

Usually a basketball stadium, the sporting arena is transformed into a theatrical stage for a twelve night period. This year was yet another sell-out, as nearly 50,000 show-goers from all over the world witnessed the breathtaking spectacular of art, theatre, dance, and music, bringing to life 107 incredible designs. The high-energy show told a powerful visual story, around the top designs chosen from several hundred as competitors took to the stage.

AUDIO

"The audio side of WOW is pretty basic," commented Andy Craig of Western Audio Engineering who supplied the audio equipment. "It's more of a visual extravaganza than an audio feast.

"Most of the show was playback, with a small live component. The wireless systems were Shure UR and the capsules used for the wireless were DPA4061 and DPA d:fine. We also had one handheld that used a DPA d:facto capsule. DI's were by Radial, other wired microphones were the usual offenders."

The loudspeakers were d&B audiotechnik Q Series and E-Series with Dante over fibre using Teqsas switches for signal reticulation.

The playback and time code systems were provided by Shane Clayton, the sound designer for the show.

Shane used a Show Cue System control program, a PC based alternative to Q-Lab.



Interwoven, Carol Laloli, New Zealand

Shane and Andy have worked together on many previous WOW shows and over the years, they have built a trust in each other.

“When it comes to gear such as PA, I leave the decisions to Andy as he is highly regarded in the industry and he hasn’t put me wrong so far!” remarked Shane. “Each year we have been at this, I have seen an improvement in sound and considering the venue is basically a tin shed, what he has managed to achieve is remarkable. I figure if that’s what Andy has given me, I have no reason to complain.”

Whilst flying subs can be great for staging and stage management, Shane preferred to place the subs below the stage to achieve a rich spread of sound.

“I know that if we start looking at wave lengths of subs then it doesn’t matter where they are as the sound is going to

penetrate everywhere, but if you have moments like a volcano erupting, which we did this year, the sub sounds exploding from stage level has a whole different feel,” he said.

Shane has been experimenting with what he describes as ‘the spread of sound’ rather than surround sound, with the main sound generated centrally with snippets of sound emanating from all around. Although not able to implement it this year, he hopes to in the near future.

“We trialed it beneath a seating block of about 600 at this venue and I estimate at least 90% of the audience would have benefited from this spread of sound as opposed to a stereo system,” Shane commented. “The WOW organization were keen to implement it this year but I felt we weren’t quite ready yet, so maybe next year.”

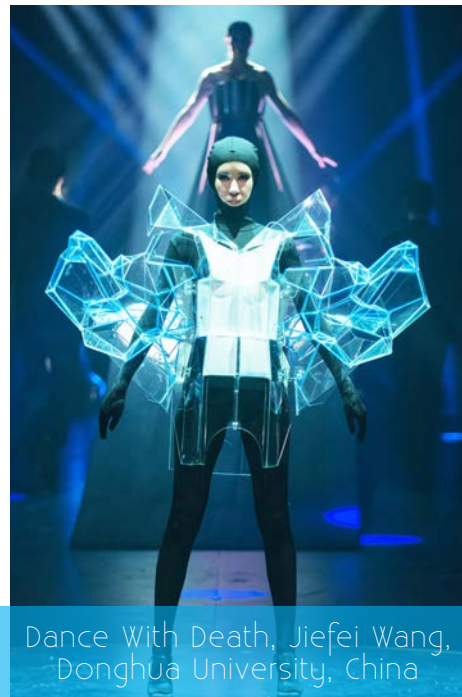
This year’s live component was simple with just a few live



Exotic, Qianwen Hong, Donghua University, China



Templa Mantis, Daniella Sasvari, New Zealand



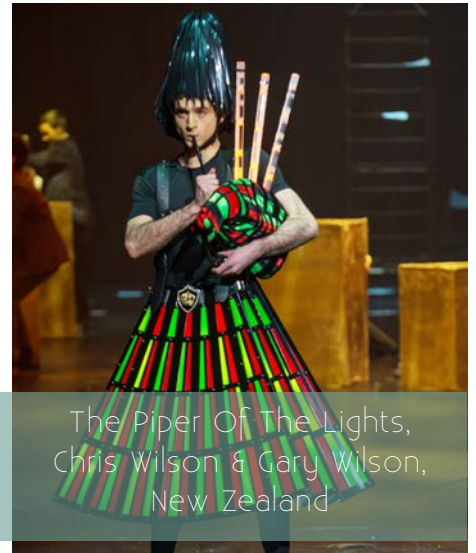
Dance With Death, Jiefei Wang, Donghua University, China



Kaleidoscope,
Tess Tavener Hanks,
University of Technology
Sydney, Australia



Tinker, Jeff Thomson,
New Zealand



The Piper Of The Lights,
Chris Wilson & Gary Wilson,
New Zealand

microphones and radio microphones plus a live band for preshow and a couple of show sections.

Unfortunately some of the material for playback was not prepared properly for the venue and Shane had to spend considerable time sourcing and replacing compressed files that had been introduced into the edit.

"There were a significant number of files that were compressed into an MP3 format which when run through the venue's PA system, sounded awful," said Shane. "All the soul of the music had gone, especially when we had gone to the trouble of having four big subs under the stage and were losing everything below 60Hz. It was like a severe high pass

filter over those compressed files and everything over 16 kilohertz again just started tailing off and so you lost any of the sparkle."

This year's production was the first to have a significant amount of material composed for the show which was given to Shane at 44.1 kilohertz which meant he had to frustratingly degrade the whole system, even the fibre components and amplifiers, down to 44.1 kilohertz.

The Show Cue System enables sound effect and music track playback for live theatre, and for backing track playback and automation for live music productions. Shane has been a fan of it for years mainly favouring it as it is PC based.

GAFFGUN™

PATENT PENDING

SAVE TIME. SAVE MONEY. SAVE YOUR BACK.



dq.com.au



Call us for a demo (02) 9649 2266

DESIGN QUINTESSENCE
excellence in staging products and design

SYDNEY • MELBOURNE • BRISBANE • PERTH

[f /dq.com.au](https://www.facebook.com/dq.com.au) [t /dq_news](https://twitter.com/dq_news)





For Annie, Doreen Helms & Susan Thurner, New Zealand



Lucid Dreaming, Liangshan Huang, Donghua University, China



Mona, Kerryta Chau, Wing Lam Yeung & Emily Lau, Hong Kong Design Institute, Hong Kong



The Floating, Yanjingting Chen, Donghua University, China

"I have two distinct playback systems and one is quite old fashioned," added Shane. "I have a couple of Fostex 24 track hard disk players in the form of the D2424LV. They have the time code option built into them which is handy. The bulk of the show is handled by those two machines. They have full redundancy so they both start at the same time and if one was to fail, the other automatically kicks in within 50 milliseconds. The Show Cue System triggers both units to start and works very well."

The Show Cue System also handles scene changes on the Yamaha PM5d control console, sometimes simultaneously with the Fostex players being triggered. Shane also uses the Show Cue System for sound effects, announcements and pre/post show music, but he is not convinced to trust a whole show to a computer when the Fostex players over the years have been so reliable.

Shane has developed a proprietary system of distribution with an isolated balanced system for time code, with distribution amplifiers specifically built for the show that can do distances up to 1 kilometre without loss of signal or risk of interference.

"We did this after a show a few years back when a TV cameraman left half way through the show and he had an audio feed which he disconnected resulting in a huge hum through the system and all the time clocks were disturbed," explained Shane. "After that I decided there was no way that could happen again especially as we became more reliant on time code."

LIGHTING

The large stage has five perimeter revolves, an upstage entrance area and a truss flown rig over the top of it suspended from the catwalks. The truss, by Global Truss, roughly follows the perimeter of the stage being a five-sided configuration with spokes radiating out from the centre to follow the arms of the stage. The stage is elevated 1.5 metres above the floor with much traffic and gear underneath it coming up through hatches and traps.

Paul Jackson has been the show's lighting designer for a few years with Wellington based MJF Lighting supplying the gear and crew. Rob Cuddon programs the show.

"The show has a number of different sections – a combination of show entertainment elements and fashion parade style presentations," explained Paul. "Normally there will be a performance occurring centre of the stage and then walking through that



Avant Garde Section 2015

performance and the perimeter revolves are the garments. The whole purpose of the show is to be able to see the garments so I need to deliver clean, bright light to those revolves with follow spot support whilst the centre can be more theatrical."

The rig contains around 100 moving lights including Martin MAC Viper Profiles and Performances, MAC700 Washes and Profiles, MAC Auras and Clay Paky Sharpys.

"There's also a fair bit of LED RGBW gear and a base PAR can rig to give me control of some white light if needed," said Paul. "The Martin MAC Auras provide perimeter floor lighting along with PAR16's delivering perimeter wash. Often the garments have specific lighting requirements or lighting built into them, some require UV light so for that we have some ShowPro Hex Bars on the revolves."

One section of this year's show that Paul is particularly proud of was lit entirely by roving Sharpys beams through smoke. Garments would appear through the shadows to be more clearly lit once on the revolves.

"We sometimes use the Sharpys in gobo mode for a static look but this year they were more animated," commented Paul. "Conventionals were Selecon Pacifics, PAR cans and PAR16's."

This year Paul decided to use seated, suspended follow spots, rather than from stands on the catwalks, to work in better with the low hung projectors shooting beneath the trusses.

The control set up was a MA Lighting MA2 light, MA2 command wing, MA Nodes and Avolites dimmers.

BE **D1** TO COME TO TOWN



BE **D1** TO BURN IT DOWN

Take your band to the next stage. With evolution wireless D1 – the easiest and most reliable digital system. Featuring adaptive high-power transmission, superior live sound and exceptional ease of use. Be D1 to have it.

**BE D1
AND ONLY**



www.sennheiser-D1.com

THE
MILL
REPORTGRADUATE OF THE INDUSTRY
QUALIFICATIONS
ZERO

What do you say to someone who values your work at zero? Do you laugh them off and tell a dismissive joke to avoid confrontation? Do you calmly explain that your work is as valuable as that of any other professional or do you chuck a wobbly?

if you haven't experienced this insult first-hand you're either very lucky or new to the audio industry.

The other day I went to a party for a very low-key CD release, at the home of a singer I recently worked with. I don't often go to these shindigs because I usually feel like I'm doing a four-hour interview from the moment I set foot in the door... fielding endless questions from people who have no real interest in my answers. But I'd promised I would attend, so there I was.

This one went by the book. I got there late after most people had already done some serious drinking, and from the moment I opened my mouth about who I was the questions came thick and fast: 'How do you produce an album?'; 'Do you think the singer is a genius?'; 'Why don't you look like a record producer - we thought they were all short, fat, bald guys!'

It was pretty tedious stuff and I was fairly quickly looking for an escape route. It was one of those nights where you're only halfway through an answer before another random question is asked or they've stopped listening altogether...

HALF BAKED

Then I met him: a big-drinking country baker who thought he knew a thing or two... about everything basically, and about music certainly. He was fairly harmless (provided you didn't shake his hand) but before too long he came out with a request I will never forget.

"You should record another four songs with Geoff I reckon, and I reckon you should do them for free!"

I was shocked. Here was a guy I'd only met five minutes earlier not only telling me what to do, but also that I should be doing it for *free*! Presumably this guy lived in the real world where things like bread - his working contribution to society - cost money. What the hell was he thinking? Who did he think he was telling me to work for nothing? Would I ask him to bake bread for two weeks without pay? I don't think so.

Then his drunk wife chimed in, backing up his dumb-arsed demand, and pretty soon I was making a polite exit, driving through the night listening to Wilco - a small consolation - wishing I had never left the house.

By the time I got home I was p***ed off that some drunken idiot had so easily spoiled my night. It set my mind racing about what it was that I had found so insulting about this guy's idiotic attitude.

QUALIFICATION STREET

It was a combination of things, I think. Firstly, I'd really only recorded Geoff's songs as a paid favour to another friend of mine in the first place - a long story I won't go into here. So in many respects I had already stretched my boundaries to accommodate Geoff's music. That's not something I would ever have admitted to at the launch party, of course.

But by rights I shouldn't have been anywhere near Geoff's CD. It was pretty ordinary to be frank, and not something I would have ever chosen voluntarily. But I'd agreed to do it so

BY ANDY STEWART

Andy Stewart owns and operates The Mill in the hills of south Gippsland.
He's happy to respond to any pleas for recording or mixing help...
contact him at: andy@themillstudio.com.au

I had made the best of things once we'd shaken hands.

But more significantly, there was the small matter of my professional integrity. I regard myself as a seasoned professional these days (I think 30+ years in the studio has earned me that moniker by now) and working for free isn't something I do... unless there's a damned good reason for it. The studio is where I work, so when I'm in there I'm on the clock. I'm no different to an electrician, or a plumber, or a dentist. I do the work to a professional standard and expect to get paid for my expertise.

But there's one significant exception to this comparison: plumbers, electricians and dentists are all 'qualified professionals' protected by laws and sanctions, so much so that it's in fact *illegal* to do that sort of work yourself. You can't, for instance - *by law* - fix power points, replace the tin roof on your house or treat people for tooth decay in your kitchen.

Imagine that for a moment: a world where laws actually *prevented* people from mixing songs in their home studio, where people could be fined, or in some cases *imprisoned*, for mastering an album without the proper trade qualifications! It seems completely insane to think of it this way, but this is precisely how nearly every other industry works.

People earn qualifications and laws are established around each industry to protect these individuals against others who would otherwise undercut their prices, professional integrity and quality standards.

I think this is where the sore spot the baker had touched upon lies for me. When Joe Punter thinks about music he sees it as a form of recreation, not a job. It's seen as a 'fun pastime' perhaps but not a profession - certainly not one that should cost money to engage. If, on the other hand, Joe Punter called a plumber - someone that, to me at least, seems to know little more than how to glue PVC pipes together - he would expect to pay a small fortune for the privilege.

COWBOYS & IDIOTS

There's a manifest mismatch between how we, the professionals in the audio industry, view our skills and qualifications, and how the wider community views them. Sure, there are plenty of people out there who understand what a professional audio engineer or producer does, but outside this relatively small and closeted community there's a vastly greater number who wouldn't have a clue what went on.

These are the very same people who nearly always call an electrician when there's a power problem, because they implicitly know there's a potential risk of electrocution otherwise, or a plumber because they don't want the house flooding.

In the end, there has to be some level of acceptance by professionals in our industry (myself included) that audio qualifications - though there are formal ones out there - aren't viewed with anything like the respect of those of an electrician or plumber, let alone a judge or dentist. They're 'take-it-or-leave-it' qualifications, protected by no laws I can think of. D-I-Y-ers certainly won't risk fines or imprisonment if they cut a vocal track in their lounge room, nor should they.

In the end we live for music and hope that the people we work with understand and respect our participation. In most cases we establish a clear working relationship with our clients with respect to money *before* any work commences, but beyond that there's really no protection.

Audio is a bit like the Wild West: you ride on out there and take your chances.

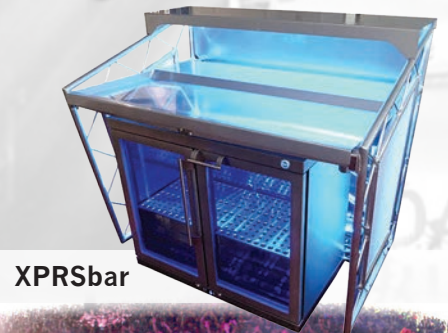


LITECONSOLE

Performance Mobile Platforms for DJs & Events



XPRslite



XPRsbar



"Handy, Practical, Awesome!"
Armin Van Buuren, International DJ

- Innovative with Sleek Design
- Unique and Versatile
- Lightweight & Ultra Compact
- Easy to assemble
- Branding possibilities

EXCLUSIVE TO ULA

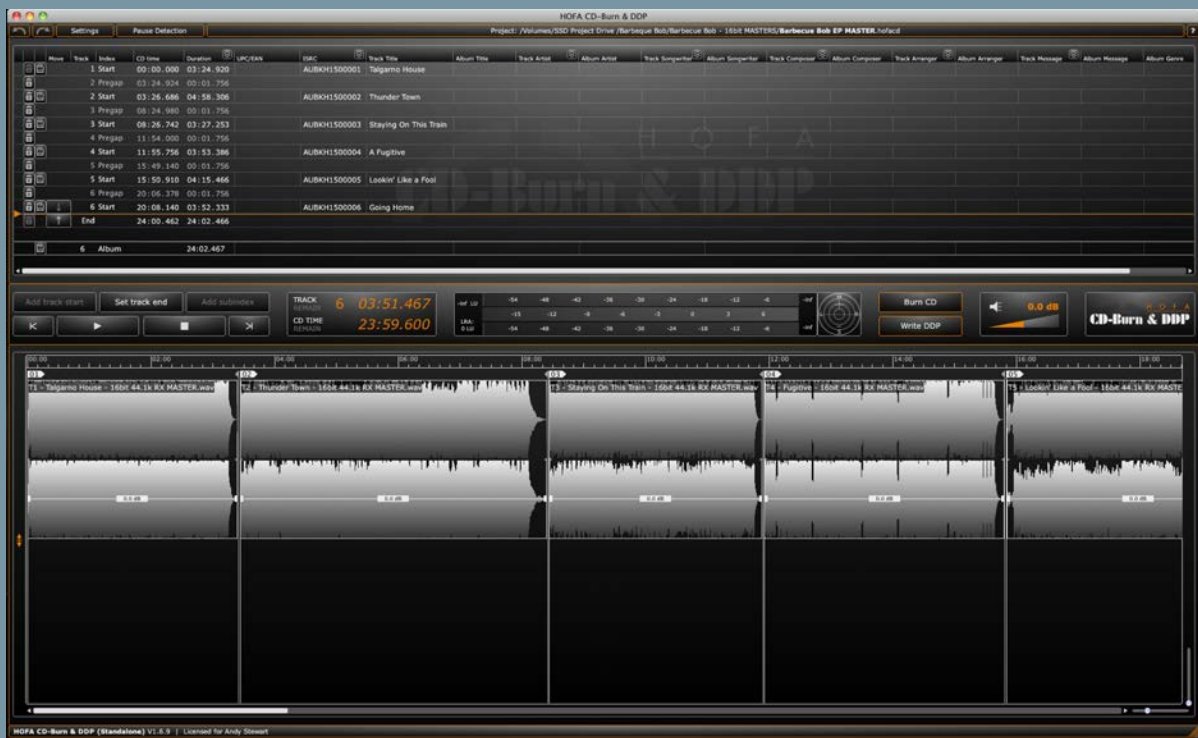


ulagroup.com

[f /Total.Visual.Solutions](https://www.facebook.com/Total.Visual.Solutions)

1300 ULA GROUP
1300 852 476

HOFA CD-BURN & DDP – STANDALONE V1.6.9



New to The Mill's long list of software recently has been HOFA's CD-Burn & DDP – standalone version – a fairly simple but effective red-book audio CD burning and pre-master DDP (Disc Description Protocol) manufacturing program that runs rock solidly on the Mac platform (it's also available for PC).

HOFA, a German mob from Karlsdorf (near Stuttgart), have been making software for a few years now, but CD-Burn & DDP is my first experience of any of the company's audio programs.

CD-Burn & DDP is designed to accommodate a wide variety of users, from people merely interested in making their own compilation CD right through to mastering engineers producing CD-R premasters or DDP image folders for manufacture. Though the program is not quite as comprehensive as something like SADIE (PC only) or WaveLab, neither is it an expensive program to get amongst. I'm running it here on an older Quad Core Mac Pro loaded with OS 10.6.8, and so far it's been flawless and rock solid.

Apart from the program's apparent infallibility in terms of crashes and spurious gremlins – it hasn't crashed once, not ever – first impressions of this standalone version have been excellent. (There's also a plug-in version that allows you to create a disc directly from your DAW).

The GUI itself is very matter-of-fact, featuring a fairly stark two-colour, two-dimensional interface. Things are mostly black (or grey) and orange but somehow this leanness works well and looks good once you get over the program's lack of pretence. The interface makes no effort to look fancy – unless you're a fan of Excel. On the contrary, in some respects it looks quite dated, but somehow that aesthetic works to its advantage.

Things are clear and simple to read, although some of the menu options across the top are a couple of font sizes too small for my liking. Most of the program tools are self-explanatory and intuitive.

I've had a lot of experience with countless audio programs over the years, but that doesn't necessarily give you a licence

to drive all of them. CD-Burn & DDP, however, is pretty straightforward in this respect if you have a background in these sorts of programs.

A bit like Waveburner, a bit like DSP Quattro, but with more stability than either, CD-Burn & DDP allows you to do almost everything that these sort of programs do: edit, fade, crossfade, apply plug-ins, add metadata like ISRC codes etc, burn a CD or create a (reliable) DDP, apply dither, export files and a hundred things besides.

I love the fact that this program is so simple to use, so reliable, so unassuming yet functional. To me that's a huge plus. I like the fact that the interface sports a goniometer (a 'jellyfish' meter to some) though it's pretty small and could be vastly improved by allowing a double-click to increase its size and separate it from the main screen. I like how the 'Burn CD' and 'Write DDP' commands are in big letters <<on the GUI>>, not hidden in a menu somewhere or only accessible via some obscure key command. They're given the prominence and significance they deserve, making you wonder why the hell some other programs make these vital commands so difficult – they're the whole point of the program after all!

I don't like the way files in CD-Burn & DDP are edited on the timeline, each song file only locking to its downstream brethren when these are manually highlighted, though I'll probably grow used to this idiosyncrasy in time. Locking them together is as simple as holding down the Option key whilst you adjust the one furthest to the left, so it's no big deal. But if you forget (perhaps because you're zoomed in tight and can't see the other tracks) and decide, for instance, to crossfade Songs 2 and 3 by seven seconds you will inadvertently create a gap between Songs 3 and 4 of that identical amount. Hmm... This should be adjustable in the preferences I reckon, but alas...

That aside, Hofa's CD-Burn & DDP program is a fantastically simple tool that can play more than a minor role in your studio. A great, relatively cheap program that just works.

Price: 59.90 EUR
HOFA (Germany): www.hofa-plugins.de



CASH BACK

FOR A STRICTLY LIMITED TIME, TAKE ADVANTAGE OF THESE GREAT CASH-BACK OFFERS ON A SELECTION OF MACKIE'S GREATEST PRODUCTS!

\$100
CASHBACK



DL806

8-Channel digital live mixer
w-iPad control

\$300
CASHBACK



DL32R

32-Channel digital rack
w-iPad control

\$200
CASHBACK



DL1608

16-Channel digital live mixer
w-iPad control

\$100
CASHBACK
ON A PAIR



SRM450

Compact powered
12-inch 2-way speaker

\$200
CASHBACK



SRM1801

1000-watt powered
18-inch subwoofer

FIND AN AUTHORISED DEALER AND GET FULL DETAILS AT: WWW.CMI.COM.AU/MACKIE-CASHBACK
OFFER ENDS 31 DECEMBER!

DAVID IS

Celebrating 50 years of Bowie's life at the cutting edge of music, performance, fashion and art, the 'David Bowie is' exhibition settled into Melbourne's Australian Centre for the Moving Image from 16 July to 1 November. Originating at London's Victoria and Albert Museum, the exhibition wowed the public in Chicago and Paris before coming Down Under. With audio and video a huge focus, Sennheiser were employed to create a seamless visitor experience, which they achieved with some unique technology.

Over 300 individual pieces of material are used to tell Bowie's story, and many of these, in addition to artworks and costumes, are video and audio recordings. Early demos, television appearances, interviews, movie roles and concert footage from throughout his career are scattered throughout, sometimes only heard and sometimes thrown across giant screens. Getting all of this information to a crowd could be a recipe for aural chaos, but Robert Genereux, Business Director - Strategic Collaborations at Sennheiser, had a solution at hand.



SENNHEISER'S ROBERT GENEREUX

"Our involvement with the exhibition started back in 2012," recalled Robert, "when the exhibit designer was looking for a solution. It was at concept stage, and they made their pitch to the V&A suggesting our technology. When they got the contract, we made a demo of the capabilities of the system. We were involved one year before it was first exhibited in London in 2013."

STRIPED BODYSUIT FOR THE ALADDIN SANE TOUR, 1973. DESIGN BY KANSAI YAMAMOTO. PHOTOGRAPH BY MASAYOSHI SUKITA, SUKITA / THE DAVID BOWIE ARCHIVE



BOWIE

the tech behind the W&A's blockbuster retrospective

EDITORIAL - JASON ALLEN
ACMI PHOTOGRAPHY - MARK GAMBINO

Station to Station

The technology Robert refers to is guidePORT, a wireless, digital visitor guidance system that, for the attendee, consists of an easily worn or carried receiver and a pair of Sennheiser headphones. On the back end, it's an extremely sophisticated location-based content management and broadcast system, employing portable, adjustable induction loops, RFID-like detection, and compressed transmission into the globally license-free WiFi spectrum.

When visiting the exhibition, you are assigned a guidePORT receiver and headphones. When you come into the range of a particular section, screen or object, corresponding audio is played. In the early part of the exhibition, which is almost-but-not-quite chronological, you hear early work, Bowie's influences, and interviews with people who knew him. As you progress, the audio from small and large video displays fades in and out as you move between them, with film clips and live performances tempting you to linger. Within a 'studio', you hear outtakes, and insights into some of Bowie's creative work practices. There is a huge wealth of content to hear, and the system reacts flawlessly to physical movement around the very busy space.



GUIDEPORT
RECEIVER

Ground Control to Major Tom

"It's like nothing commercially available," continued Robert. "GuidePORT uses a combination of detection and broadcast. The handheld unit is a receiver, and the detection is done by the 'Identifier', which is a technology unique to Sennheiser. It's a combination of two technologies - one is a magnetic field, and the second is like RFID, but not RFID. The Identifier creates a magnetic field shaped like a sphere. Once the receiver is inside the sphere, we broadcast, at low power, a three digit number. The receiver then looks at a file allocation table and sees it's in Zone 101, and is told to listen to channel XYZ. When the receiver moves into Zone 102, it is told to listen to channel ABC, and so on. When it changes channels, there's a fade.

That's the basic concept."

Avoiding the issues of touring an RF transmission system internationally, guidePORT operates in a license-free 'clear' zone. "It's done with a cell transmitter, which broadcasts in the same range as WiFi - 2.4 to 2.483 GHz - but it's not WiFi, it's our own technology," Robert clarified. "WiFi can have 11 to 14 frequencies, but we have 94 frequencies. They take less bandwidth so we can stack more. Each cell transmitter is connected to active antennas via Ethernet cable. We actually send data, and the active antenna is like a PC board. But it's not Ethernet so it can't be connected by a switch, it has to be direct."

The Width of a Circle

Assisting Robert locally was Sennheiser Australia's Jason Grbevski, Product Manager for Installed Sound. "I liaised with ACMI directly, handled the logistics of getting the gear through, and provided additional support at ground level once it was in and running," Jason explained. "I was part of the initial design phase and consult side in terms of preparation with ACMI." Preparation with ACMI involved



VISITORS TO 'DAVID BOWIE IS' LISTENING VIA THEIR SENNHEISER GUIDEPORTS



THE REAR PANEL OF A GUIDEPORT CONNECT STATION

LEFT: SENNHEISER AUSTRALIA'S JASON GRBEVSKI

ABOVE: DAVID BOWIE DURING THE FILMING OF THE 'ASHES TO ASHES' VIDEO, 1980. PHOTOGRAPH BY BRIAN DUFFY. PHOTO DUFFY - DUFFY ARCHIVE & THE DAVID BOWIE ARCHIVE.



Revolutionary technology
Powerful & ultra-compact speaker solutions

Redline

PYTHON

K

A **new**
exciting
experience


High tech ultra-light powered stereo systems



Portable Systems



www.k-array.com

 *designed and made in Firenze - Italia*



Available on the
App Store



T: (03) 8756 2600 | www.nationalaudio.com.au

one very curly and pertinent problem when dealing with a magnetic field and RF based transmission system; ACMI is almost entirely made of steel.

“The Identifiers that trigger event changes in the audio use induction loops,” Jason related. “ACMI’s metal grid floors skewed the shape of the magnetic field, so the challenges were relocating Identifiers in the vertical plane, placing them down from the ceiling. But some of them couldn’t be fitted that way due to the nature of the exhibition. So, in some parts of the exhibit, with multiple monitors side by side, there was a combination of trial, error and experience in the placement of the loops in the floor and adjusting the field strength accordingly. The Identifiers have a plastic enclosure, and they’re around half the size of a shoebox. They create a spheroid magnetic field, but if you need to adapt it to a certain shape, you can. You can throttle it to about 30cms at its smallest or amplify it to around three metres.”

Oblique Strategies

Robert and Jason also had to find a third way to get around the distortions created by the steel. “Our other solution was to connect an induction loop directly to the Identifier, so in certain locations we had an induction loop under the carpet,” Robert expanded. “ACMI removed the steel tiles and put wooden tiles down instead. We had a one by two metre loop on the floor that triggered when you stepped into it. These areas are in figure eight instead of omni directional. It’s the same result, but with a different pattern. If we had too, we could have made a circle, a star or any shape we wanted.”

The grand finale of the exhibition is too good to spoil here, but it involves handing over your guidePORT and enjoying some good old-fashioned volume courtesy of a 9.1 loudspeaker system. Sennheiser provided Klein+Hummel (now rebadged Neumann) studio monitors and amplifiers, a Yamaha desk and Focusrite processors. “The 9.1 system system has five at the front and four at the back, with the fifth in the front as the centre,” detailed Robert “The original audio files were either mono or stereo, so we provided technology for the upmix algorithm. Considering the raw material we had to work with, it’s quite an achievement. Nobody else on the planet has this kind of technology.”



EXHIBITS COVERING EVERY DECADE OF BOWIE'S 50 YEAR CAREER

Lighting



ETC
Lustr Series 2

coming soon



ETC
ColourSource Par

coming soon



Avolites
Pearl Expert



SGM
X-5 & XC-5



Hungaroflash
T-Light Pro



GrandMA2
Full, Light, NPU



High End Systems
Hog 4, HedgeHog 4N



Vari-lite
VL4000 Spot



Vari-lite
VL3500 Wash



Martin
MAC Viper Profile

Video



Barco
E2

coming soon



Riedel
Mediornet



Stumpfl 8' -65'
Custom Ratios



d3
4x4 Pro with VFC



d3
2x2 Plus

Audio



L-Acoustics
X15HiQ

coming soon



L-Acoustics
X8

coming soon



L-Acoustics
K2



Avid
S6L



Midas
M32



Shure
PSM1000



Riedel Artist
64 Smart Panel



DPA
d:fine 4088

ncet.co



Providing you the world's best

LISTEN HERE

BY ANDY STEWART

PRACTISE THE ESSENCE OF TRANSFORMATION



WHEN IT COMES TO ANY CRAFT, PRACTISE IS ONE OF THE KEY INGREDIENTS TO SUCCESS. NO-ONE HITS A GOLF BALL 300 YARDS STRAIGHT DOWN THE FAIRWAY OR PLAYS GUITAR LIKE HENDRIX WITHOUT PUTTING IN SOME SERIOUSLY HARD YARDS BEHIND THE SCENES AWAY FROM THE SPOTLIGHT. AUDIO ENGINEERS ARE NO DIFFERENT. IF YOU WANT TO ADVANCE YOUR ENGINEERING SKILLS BUT THINK PRACTISE DOESN'T PLAY A PART, THINK AGAIN.

Some of the best recording, mixing and mastering engineers I know work every day, applying their craft to all kinds of musical scenarios. One of the reasons why they're so good at what they do is implicit in this first statement - that they work every day (well almost). In other words: they're 'match fit' and 'in form'.

One of the things I notice myself about working in the studio is that I'm generally more 'in form' when I'm at the console week in and week out. (It's a shame my physical fitness suffers the opposite fate when I'm working consistently but that's just the rub - the more match fit my ears become, the fatter I get.)

It's not something I necessarily plan, but like a footballer or musician, the more consistently I apply my skills, the better I am at my job. I guess it's no surprise really, the same is probably true for most things you do in life. But for all the reams of stuff written about recording and mixing technique, very little seems to have been written about this sort of 'match fitness'.

Problem is, there's a bit of a Catch 22 at play here. If you aren't that skilled at recording or mixing, or you just want to improve on the skills you've got, but there's no consistent work around you, how do you develop your 'match fitness'?

One of the obvious things to do is find more work - easy to say but often hard or impossible to do, depending on your circumstances. In the absence of this however, the thing to do is *practise*.

Like anything, practise is crucial to advancing your skills, whether it's a golf swing, a paradiddle or a mix. The other important thing to understand about practise in relation to recording and mixing is that it offers you a different perspective on the sounds you're hearing. It's by no means a replacement for working at the coalface under seat-of-your-pants pressure with clients, but it is nevertheless crucial to improving your skills and abilities. When you do lots of this sort of background work, you tend to be much better prepared and far more composed when you're finally faced with a real-world recording or mixing situation.

THE SWISSE CHEESE KNOWLEDGE BASE

One of the problems with working under pressure with clients is that it teaches you certain things quickly in the absence of others. Call it a 'baptism of fire' or 'diving in the deep end'; either way, this approach can have the affect of rapidly improving your skills in one area whilst leaving you technically blind in others. Despite the cliché, learning on the job can make your skill-set narrow and fragile, leaving you potentially exposed to unforeseen circumstances or technical mishap.

That's why practise is so important. It builds you a wider and more technically solid foundation than working at the coalface alone necessarily provides. When combined with study and learning, practise makes you far more proficient and technically literate. It deepens your knowledge base and provides you with far more skills and solutions that you can apply later in the field.

It's like playing drums. You don't get to be a technically brilliant drummer by simply going on stage in front of 20,000 people every night and having a red-hot go, nor could you ever hope to score the job in the first place without any real skills.

Drumming involves hours and hours of practise every day that eventually leads to great performances. Brilliant drummers aren't just born with magical powers over drumsticks. They learn their craft slowly and methodically. Recording and mixing is no different.

PRACTISE METHODS

Practising your audio skills can take many forms. If you're interested in recording, mixing or mastering, and regardless of your level of competence, any type of study, experimentation or volunteer work will help. Here are a few things to consider doing, especially if you're just starting out.

Know Your DAW: It pays big dividends to get to know your software down to the nut and bolt if possible. Devoting time to working with your main DAW program in particular, away from the pressures of a session – experimenting with its GUI and reading its manual from cover to cover – is a good idea no matter how proficient you think you are. Though this might sound tedious, a lot can be gained from this sort of study, in some cases revealing things about the software that day-to-day work might never uncover.

Improving Your Mic Technique: Learning new mic techniques by reading, watching online videos and lectures, or working with others during their sessions, can make a huge difference to your impact as an engineer. Mic technique has more influence over good sonic outcomes than just about anything else you can learn. I still find myself discovering new mic setups 31 years after I first walked through a studio door!

The best thing about this job is that there's no end to what you can learn or how you can apply your knowledge, and the more you know the faster new techniques tend to sink in. The learning never stops until the day you're prepared to announce to the world that you know everything... and on that day you may look a little foolish.

Re-mixing Off The Clock: It's worth having a crack at remixing stuff recorded by others, whether it's old classic multitracks or recent recordings by friends or colleagues.

Without the pressures of a real mixing session bearing down on you, more time can be devoted to experimenting with techniques you've read about, or new software tools you've recently acquired (or discovered). Sometimes reading or discussing a technique only gets you so far, and real clarity is often only reached by having a go at a process yourself, making mistakes along the way, and letting the fog clear in your own time. Discovering things yourself, cracking the code of certain tried and true methods is not only very satisfying, when you work them out yourself, they stick.

Sometimes the boldest moves, the greatest experimentation, takes place away from the prying eyes and judgement of others. When you're on your own, go for it. What have you got to lose?

Confront Your Fears: You may have read about all kinds of techniques in your travels about everything from parallel compression and key input side-chaining, to advanced reverb settings and mix bus limiting. But then, when push comes to shove during a paid session, you flinch and abandon any ideas you may have had of trying something new because it's too scary and potentially embarrassing.

Fair enough. Everyone experiences this at some point, often repeatedly. The way to overcome this hesitation is to demystify some of the things you fear most in private, and at your own pace. It's a shocking feeling, being caught out in front of others, looking like you don't know what you're doing. The best way to rectify this situation is to write down a list of the things you know very little or nothing about, and investigate how each one ticks by reading, experimenting and asking questions.

Explore Your Ideas: Lots of this recording and mixing caper is about discovering things yourself. Not all of these will be revolutionary of course, or necessarily even new to the wider industry, but when you hit on techniques yourself, or give old ones a personal twist, it can be very empowering and satisfying.

Practising your craft allows you to the time and headspace to follow ideas to their natural conclusion. It also gives you the freedom to get things very wrong before you eventually get them right. Don't back away from your blindspots or weaknesses. Face them head-on and before you know it you will have developed solutions and added techniques to your repertoire that make you a more experienced engineer.

ANDY STEWART OWNS AND OPERATES THE MILL IN THE HILLS OF SOUTH GIPPSLAND. HE'S HAPPY TO RESPOND TO ANY PLEAS FOR RECORDING OR MIXING HELP...

CONTACT HIM AT: ANDY@THEMILLSTUDIO.COM.AU



Buy CX Magazine on your chosen device today!

New Interactive platform, even more dynamic layout, full of interactive features, videos & more!
Just US \$4.99 • Annual Subscription US \$38.99

Search CX Magazine on

amazonkindle 



Available on the
App Store



The Adelaide Convention Centre (ACC) is Australia's first purpose-built convention centre, and is currently into the final stage of a \$400 million dollar expansion. The redevelopment of the Centre's expansion has been staged to ensure it can continue to operate throughout. The West Building, stage one of the expansion, officially opened in March 2015.

The building has 21 meeting and four halls including the Riverbank Rooms, Panorama Rooms, City Rooms and Halls. All are reconfigurable into larger spaces, with multiple sizes and set-ups available. The AV system needed to be flexible, simple to control, user-friendly and capable of handling any device or input thrown at it. The expansion provided an opportunity to approach AV, lighting, audio, comms, control and rigging from new angles. A focus on flexibility, automation and an efficient use of labour were required. The final brief was drawn up following careful collaboration between ACC staff and consultants Aurecon.

Solutions

The new tech used in the ACC's systems make reconfiguring meeting and event spaces, simple and easy. Whether it's combining three separate meetings rooms into one, streaming a presentation to web, or turning an exhibition hall into a fashion show in under three hours, the West Building makes everything fast and simple for hirers and staff alike. The new control and distribution systems are run around the building on fibre optic and Cat6 cabling, through shared switches, carrying comms, control, audio, video and data.

The West Building

A new era for the Adelaide Convention Centre



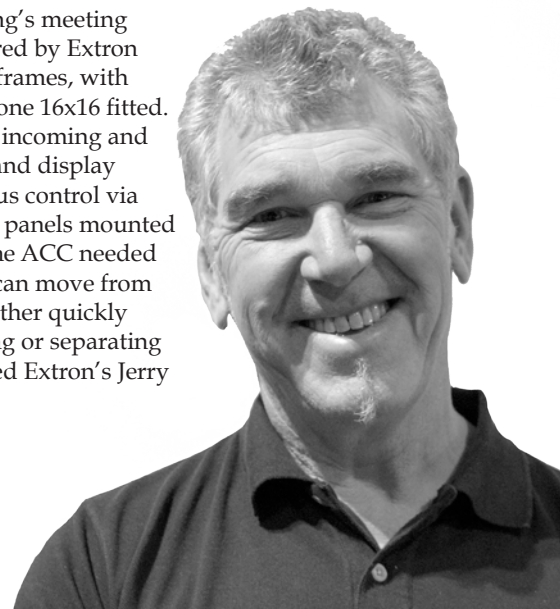
"We looked at a number of different options," explained Neil Mackenzie, Technical Director at Aurecon. "Extron was chosen as when considered against its competitors, we came to the conclusion that Extron was the best fit for the ACC as it met their technical demands and had the flexibility it required, and happily, local support was at hand at Extron's main office just down the road." Work began on the AV installation ahead of the official opening in March.



**Aurecon's
Neil Mackenzie**

In Control

The West Building's meeting rooms are powered by Extron XTP CrossPoint frames, with three 32x32 and one 16x16 fitted. These handle all incoming and outgoing video and display management, plus control via TLP series touch panels mounted on the walls. "The ACC needed a system which can move from one mode to another quickly and easily, linking or separating rooms," explained Extron's Jerry Kushnir.



**Extron's
Jerry Kushnir**



Above: Operating with the Riverbank Rooms combined, with Yamaha QL1 and High End Systems RoadHog4



The ACC's Matthew Stanton operating an Extron TLP Pro Touchscreen

"What they wanted was the ability to look after their own control, flexibly and reliably," Jerry continued. "Panasonic projectors were chosen for each room's display needs, partly because of the HDBaseT implementation compatibility with Extron's XTP. The ACC had the choice to manage their projectors through Extron's control system, or Panasonic's. We've had a lot of success with Panasonic projectors, being able to go directly in, because they support XTP, as well as the Crestron and AMX implementation of Valens. That eliminates the need for extra receivers, and eliminates a layer of complexity."

Manual or Autopilot

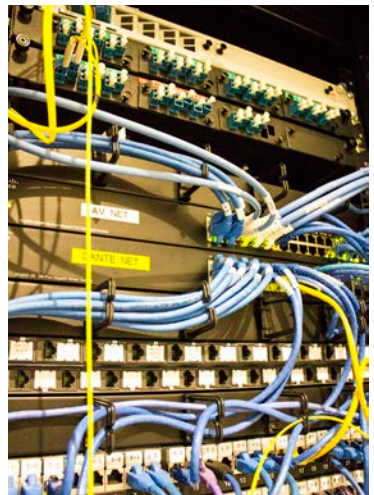
On the audio side, a Dante network handles distribution, with both automated modes via Extron AXP 50 C AT DSP, or operator mode utilising patching and processing from Dante-enabled Yamaha digital consoles. "We've custom-built lecterns in each meeting room which house the Extron XTP transmitters and receivers, and the Extron AXP 50 C AT," said the ACC's Technical Designer Matthew Stanton. "The AXP 50 takes analogue inputs and outputs Dante to the network. Each room has a lectern mic input, plus local inputs for adding additional mics. In addition, there's also two Shure ULX-D radio mics, which we chose for their Dante functionality."

The two complementary approaches to operation allow operators to change system configuration if needed. "The patching for the Extron audio DSP was set up through Dante Controller, which stays fixed," continued Matthew. "If we need an operator, the network is patched and managed through the Yamaha QL or CL series console itself. All desks and our Yamaha Rio series input-output boxes patch directly onto the network. We patch into floor pits that have each port clearly labelled. The network is made of Cisco switches from the SG300 range. Dante and AV control sit on different VLANs, with a fibre backbone linking the switches together."



Above inset: Too big to get it all in one shot.. part of the enormous grid system in Halls L-N

Left: Just one of the racks of Kinesys Digihoist controllers



It's a trap!

It's all about networking

Show Time

Loudspeakers fitted throughout the venue range from Turbosound ceiling speakers in the meeting rooms, fed by lab. gruppen amps and Peavey Nion processing integrated into the EWIS, to large powered JBL VP series models, which come into play when the meeting rooms are opened up into larger spaces, as well as being pre-rigged for larger events in the foyers and ballrooms.

Performance lighting fixtures and control were selected and installed by ACC staff. Rigged throughout the function spaces are Robe Robin 600 LEDWashes and DLX Spots for décor, and Robe DLS Profiles for shutters. Lighting control comes from a selection of High End Systems RoadHog, Hog 4 and Full Boar consoles. Operators patch into ArtNet for lighting control, which is patched via ChamSys Snakesys units in the main racks, which break out to DMX to the mounted Robe fixtures. There's also the option of using Lumenradio wireless DMX in parts of the venue.

Comms are handled by a Riedel Artist 128 matrix mainframe in the main rack, which patches through to Riedel MediorNet units in remote racks and locations, with a Riedel Acrobat CC-60 base station used for wireless comms. The system is patched via fibre throughout, from racks, to comms rooms, and floor pits. A Riedel Modular frame handles SDI video over fibre to projector pods. ACC also use the Riedel signal distribution system to breakout AES/EBU and analogue audio to feed to parts of the audio system, including running AES/EBU into speaker processors.



Showing off
– a hint
of what's
possible with
the Kinesys
DigiHoist
system

Rigging the game

The West Building's Halls can be combined to form one massive space, or run individually. Crowning the installation is a huge new modular grid system, installed by Harris Movement Engineering. The grid is actually 32 individually controllable grids, each with between four and six chain motors on each section.

The system consists of Stagemaker motors, Prolyte truss, controllers from Kinesys and a cable reticulation system designed and built by HME.

"It's the most number of motors in a grid system we've ever done," reported Chris Iland, Technical Consultant with HME. "Each section can tilt in two axes easily to give the room any kind of shape and feel. There's two methods of control – hand



HME's Chris Iland with Kinesys Pendant controller

held pendants for easy up and down, and the full Vector software from Kinesys that allows full individual motor control. The control system is Kinesys's Digihoist. There's two racks of eleven Digihoist eight channel controllers. There's a custom control cabinet to deal with the emergency stops, multiple pendants and multiple operation modes, all designed by Kinesys."

"The system is programmed with five basic pre-sets for day-to-day operation, but is capable of creating unique looks and feels," added the ACC's Matthew Stanton. "Once the equipment's installed, you drop the truss down to the right height, plug in your lighting desk and focus your lights. The projector you just set to the right trim. There's no need to focus lights with a lift, and we can just drop down and put drapes on there."



Left:
ChamSys
SnakeSys



System-wide control and monitoring



NW GROUP

COMPLETE EVENT SOLUTIONS

 Norwest
  Cairellie
  Oceania
  spyglass
  Phase 1 Audio

Sydney, Melbourne, Brisbane, Auckland, Wellington, Perth nwgroup.co.nz nwgroup.com.au

PR Lighting XR1000 Framing

Moving head with framing shutters

BY JIMMY DEN-OUDEM



At the time of writing, the PR Lighting XR Series comprised no less than 17 models, ranging from the tiny little XR130 units right up to the XR1000 models. One of which we're reviewing today – specifically the framing model.

The XR1000 Framing has a feature set which is comparable to fixtures costing twice as much, so I was pretty curious to see how well it would perform when put to the test.

Let's start with some basics: like nearly every other moving head around, the XR1000 Framing has a pan range of 540 degrees and a tilt range of about 280 degrees. The fixture uses an Osram Lok-it! HTI 1000W metal halide lamp, which is certainly not an insignificant source. Consequently it requires a fair bit of cooling, and with it, expectedly, a decent amount of noise. This is not uncommon with high wattage discharge sourced fixtures, and the XR1000 certainly isn't the loudest I've ever heard.

The internal cooling system has three modes, but I found they all made basically the same amount of noise as each other, so I just left the fan on normal mode. Interestingly enough, this seems to be where the noise

ends. Pan and tilt functions are eerily quiet, though at close to 3 seconds for a lock to lock pan and almost 2 seconds for the same operation in tilt, the XR1000 Framing certainly isn't about to win any races for movement speed.

Beam features are well catered, beginning with colour systems – there's a 7 position (plus open) wheel, plus linear CTO, and CYM colour mixing (I can only think of one other manufacturer who calls it CYM). Dual gobo wheels each provide 7 gobo positions plus open, and one of the wheels allows for gobo rotation. There's a 5-100% iris, 11-51 degree zoom, and a rotatable 3 facet prism. Add to this a frost filter, double shutter/strobe blades, and a framing shutter mechanism and it becomes apparent the XR1000 Framing is quite comprehensively kitted out.

Being the suspicious type who likes to pull things apart, I removed the covers from the fixture head. Each cover is secured with 6x captive screws and a heatshrink-covered internal safety wire. Everything inside appears pretty



solid if a little on the cluttered side. It's not the most easily serviceable head I've ever looked inside of, but if it's as well put together as it appears that won't be so much of a concern. It certainly weighs enough...

Physically handling the XR1000 Framing is really a two-person job. There are handles at each side of the base but the plethora of included optical features means the head is just as heavy, so it doesn't balance easily. Other physical elements worth note are the dual 3 and 5 pin XLR connectors for DMX connectivity, included wireless DMX (complete with a little antenna), and RDM capability. DMX control requires 30, 36 or 51 channels if you go for extended mega 16 bit mode. I tested the unit in extended mode and was pleased with the

level of precision afforded by the fixture. I framed up a rectangle on a wall in the studio then manually tilted and twisted the head around. The XR1000 Framing managed to get back to the same position on the wall.

Because of the way the framing shutter mechanism is built, it's impossible to get super sharp edges on all four blades simultaneously - it gets close but you'll always compromise one way or the other. What it does do very well is allow you to use any single shutter to cross the entire path of the beam. Each shutter can also be tilted independently, and the whole framing mechanism can be rotated back or forth 90 degrees.

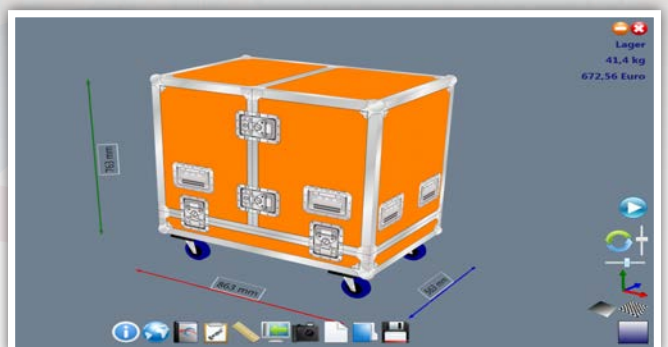
penn ELCOM[®]
Case Designer Software
Penn Elcom CaseDesigner software,
your new powerful tool for flightcase
design and cost calculation.



For more information visit:

www.penn-elcom-casedesigner.eu/en

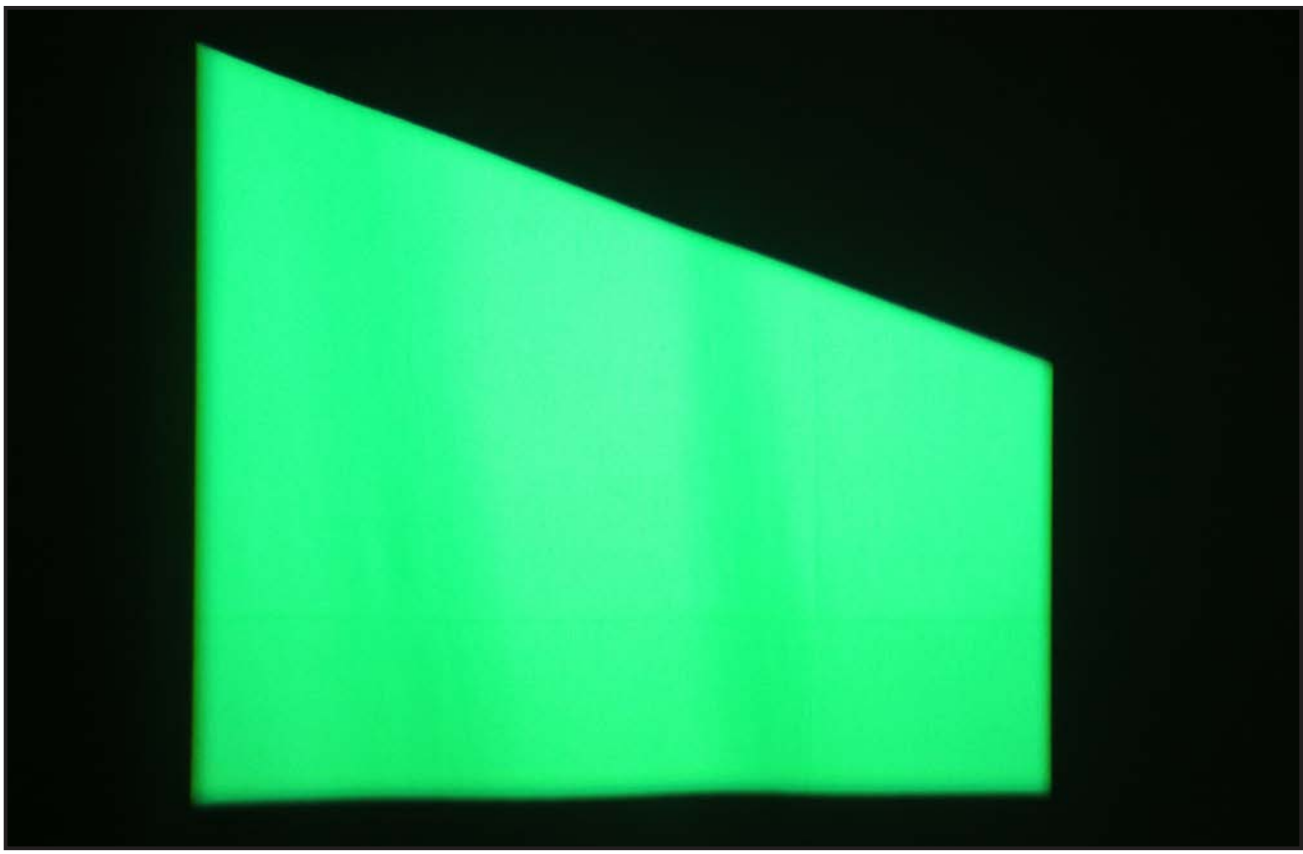
Penn Elcom Australia - (03)9335-6455 - australia@penn-elcom.com



Produce on screen 2D or 3D flightcase designs in seconds with dimensions, weight and cost calculations. Software generated designs are fully rotatable around 360 degrees.

Access a full inventory of Penn Elcom flightcase parts, easily changed and positioned for an optimal design. Generate 3D pictures, quotations, parts lists, cutting lists and purchase orders all in exportable formats. Utilise the inbuilt case presets, alter and save as new designs or create your own design library. For more information, visit the CaseDesigner website or scan our QR code right now.





The other functions all work largely as expected. At extremely small aperture it's possible to discern the individual leaves of the iris mechanism, but I think this trait is common to many fixtures. The LCD menu takes a little getting used to – accessing the menu requires a press and hold of the enter button, and the key marked 'FUNC' should really just say 'ESC', since that's what it actually does.

All up the XR1000 seems like a decent kind of deal. While the light output is respectable, it's not as visibly bright as its more expensive peers. The construction seems solid but I don't think it's especially efficient or elegantly done, which makes it heavy. For these reasons I don't think it would be my first choice for touring, but for permanent install applications I think it has a lot to offer, especially when it comes to value. After all, two heads for the price of one is hard to beat...





BRAND: PR LIGHTING

MODEL: XR1000 FRAMING

RRP: \$12,965.00 INC GST

PRODUCT INFO: WWW.PR-LIGHTING.COM

DISTRIBUTOR: WWW.JANDS.COM.AU

ARE YOU A LIGHTING NOMAD?

I'M
ON
IT!



Take your show on the road with ETC Nomad™ control.

SECRET WEAPON



The pocket-sized Nomad is your key to convenient lighting control.

BACK SOON,
BUDDY!

Nomad runs both Eos® and Cobalt® software, so it's like having two consoles in one.



THE CLIENT'S GEAR



Don't want to be stuck with an in-house lighting relic? Run your show the way you want on your Nomad.

NO LUGGAGE?
NO PROBLEM!



Can't take your trusted ETC console with you? Simply toss Nomad and your laptop into your carry-on and you're on your way.

Cramped quarters and a hectic schedule? Nomad fits right in.



ETCGCONNECT.COM/NOMADUS

Distributed by

JANDS

www.jands.com.au

**LOOKING FOR
TRAINING?**

Scan or visit here
www.jands.com.au/events/training



EAW Redline series

Raising the bar

BY JIMMY DEN-OUDEM



The past few years have seen EAW come up with some very interesting releases with Anya and Otto in their adaptive technology line. Not only do those products sound great and have a lot of internal smarts, they look really cool too. Of course not every application requires systems of such magnitude, so for such occasions EAW now offers the Redline (or RL) series.

EAW makes a big point on their website about how Redline has been designed for the live audio professional, and all the ways in which this statement applies are detailed on the site which is nice. The reality is that you needn't read the literature - just spend some time with the product and you'll understand the claim is well founded.

The RL series comprises three models - two active two-way full range boxes and a subwoofer. For the purposes of this review we ran an RL15 two-way box and an RL18S subwoofer through their paces. There's also an RL12 in the range.

Even before you get to plugging the RL boxes into anything, it's obvious EAW has carefully considered the design of these units. They look immediately professional, with inset handles, discrete matte black badging on the grille, and the obligatory red line down each side. The red line is a removable magnetic strip which conceals the grille screws - you'll need to know this if you plan to

use the full-range boxes as monitors, since the HF waveguides are rotatable. Default is 90x60 degrees (HxV).

The full-range cabinets are symmetrically trapezoidal, which means you can lay them on either of the rear faces to allow symmetrical monitor pairing. Of course if you do this one of the amplifier modules will be facing the ground, but that's okay because the modules can be manually relocated into the opposing rear face. Three M8 rigging points allow the full range cabinets to be vertically flown. Lots of thought has gone into the design.

The amplifier module on the RL15 appears outwardly very simple – audio in and loop out on XLR, the same for mains on PowerCon, plus an input level control, voicing mode and other indicators, and a single pushbutton. The button allows you to toggle between three voicing modes on the full-range speakers: Main, Main + Subwoofer, and Monitor. Pressing the button changes voicing, and holding it dims the LEDs. Like I said, it looks very simple, but what's hiding behind the panel is DSP with EAW Focusing and DynO processing, plus dual Class D amplification.

Sonically the differences between these modes didn't sound radical, and looking up the response plots on the spec sheet confirmed this was as it should be – the differences are subtle and mainly in the lower end of the spectrum. The RL15 was well behaved when deployed as a monitor too, and the 'monitor' voicing mode was a nice match with the two common vocal mics I tried.

The RL18 sub has three modes of operation– standalone, and forward or rear facing cardioid modes. Simply stack a pair of RL18s then choose the appropriate mode to create a cardioid sub array. It takes about less than a minute. Way cool.

We put a single RL15 (no sub) to test in our office using pink noise and increasing the input level until the amplifier hit LIMIT. Measured at 1m, the RL15 sustained an SPL of 114.6dBA. Using various audio tracks as a source the speaker showed no signs of distress even when driven very hard. Not content with this test, I drove it well into clip – nothing made bad smells and it still worked the same way afterward. I'm going to put it out there and say the RL series seems rock solid.

EAW claim the three included voicings let you "sound like you spent hours tuning", and it's largely true. The RL15 and RL18S combo is elegant and powerful, and importantly it sounds good the moment you turn it on. In a space with half-decent acoustics you could easily use this system with no EQ – it's quite linear.



I've often found that subwoofers in this type of setup commonly run out of puff before the corresponding mid-high cabinet, but this was certainly not the case with the RL18S. The frequency response data shows a rapid if very linear roll-off from 40Hz (-10dB at 30Hz), which is largely in line with what you'd expect from a cabinet of this volume. There's an audible peak around 50Hz, and again this is consistent with the plot data.

Data aside, the RL18S certainly had no problem rattling many parts of our building, and its brutal output level is a great match for the RL15. At my relatively short listening distance I found turning the sub down by 6dB yielded a nicely balanced response, but for larger spaces I'd likely just run both inputs at 0dB. I didn't try the cardioid mode, but assuming it follows spec the same way as everything else it should be good.

I like the RL series. I like how it looks, I like how it sounds, I like the price and build quality, and I especially like that the range is not over-complicated with too many models. Simple things, done well.



BRAND: EAW
 MODEL: REDLINE
 RRP: RL12 - \$5,099.00 RRP INC GST.
 RL15 - \$5,593.00 RRP INC GST.
 RL18S - \$6,994.00 RRP INC GST.
 PRODUCT INFO: WWW.EAW.COM
 DISTRIBUTOR: WWW.PAVT.COM.AU



Audio Test Set in your hand!

dBbox2... essential equipment for audio engineers and installation technicians

Stereo analogue / AES inputs & outputs, pink noise generator, tone sweep, SPDIF & headphones, A to D & D to A conversion and much more.

Contact us for more information!



Mackie ProFX22v2

Tidy tiny analogue

BY JIMMY DEN-ouden



I was recently asked by a friend for a recommendation on a small format analogue console which sounds decent. Mackie was not only among the brands which sprang to mind, it was the first. Small format analogue is kind of their domain – they’ve been doing it for years and they do it well.

The ProFXv2 range runs from 4 to 30 channels (read 2 to 24 preamps), and for this review we chose one somewhere in the middle – the ProFX22v2. It’s a compact little thing, and includes four sub-groups, two monitor sends and one FX send, plus an internal FX engine and 2x2 USB interface.

The ProFX22v2 features 16 mic/line input channels, plus two stereo line inputs. The last two mic inputs can also serve as stereo channels, and hence each of the last four inputs is labeled with two numbers (ie; channel 15/16). Finally there are two dedicated stereo channels (19/20 and 21/22). Mackie has included their new “Vita” mic pre-amp on every mic input. The first 10 inputs include unbalanced insert points allowing use of external dynamic processors and such.

Channels 11-14 feature a single knob compressor right there on the channel strip. I spent some time tooling around with one of these and a mic, and the applied compression is pretty gentle until you turn the knob all the way up. One thing to be aware of is that the PFL metering is post channel compressor, so make sure to

set your input gain correctly before applying compression (just as you would with an external compressor!). Phantom power is supplied globally to all channels at once via single pushbutton, which is disappointing. On a console with this input count I expect phantom power control to be per channel or in banks of four at a most.

Each mic input features a 3 band EQ with low and high frequency gain adjustments at fairly standard frequencies of 80Hz, 12kHz. The first 14 inputs feature sweepable mid-band from 100Hz to 8kHz, while inputs 15/16 through 21/22 have the mid frequency fixed at 2.5kHz. I like the choice of 100Hz as a high-pass filter roll-off point – it’s a more useful filter than the 80Hz HPF commonly found on this size console. Channel strip controls all work the way they should, and I especially enjoyed the large size channel mute buttons. There’s also a button near the master fader to mute all the channels at once. The 60mm fader travel doesn’t feel as short as you’d expect.

The main stereo bus outputs on dual XLR, while TRS outputs are provided for each subgroup plus both monitor sends and the FX send. If you want to use an external effect processor there’s a stereo aux return which can be routed to both main and monitor sends. The internal ‘ReadyFX’ engine includes 16 presets, all of which do what their names say and most of which are pretty useful enhancements. No parameter adjustments are provided, which makes the effects engine functional without being complicated. The FX mute



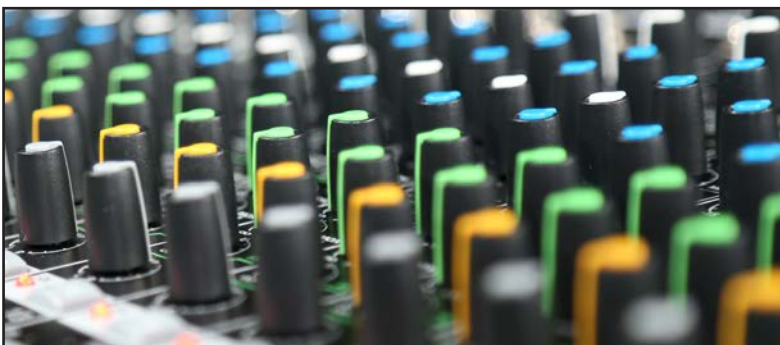
button mutes the FX return rather than the send, and can be remote controlled via footswitch.

The USB interface worked with my Macbook Pro immediately when I plugged it in. The input from the computer appears on the 2TK input pot near the master fader, however pressing the button at the top of the channel 21/22 allows you to return USB audio into a full channel strip instead. Note that the single knob input is not affected by the master mute button, which makes it good if you want to run some background music. The send from the console into the USB connection is either main or Groups 1 and 2 as selected by a pushbutton near the group masters.

Oddly the USB plug is the only connector (other than power) located on the back panel. My guess is that locating it on top would have cluttered the otherwise very tidy connector layout, so the rear panel seems logical. The included Tracktion recording software is a nice bonus.

A 7 band EQ provides up to 15 dB boost or attenuation to either main mix or monitor 1 output, with bus selection and bypass buttons immediately beneath the EQ. While there are no main insert points I don't see this as a great omission on a console this size.

All told the ProFX22v2 is a solid little unit and I think one of the more user friendly analogue boards around. Granted there are only so many ways to build an analogue console, but this one is good because anyone with basic audio training will be able to understand it. There's also not a lot you can do to stop it from working, which is very good. I see this console satisfying many users in schools, churches and small band situations.



BRAND: MACKIE
 MODEL: PROFX22V2
 RRP: \$1729.00 INC GST
 PRODUCT INFO: WWW.MACKIE.COM
 DISTRIBUTOR: WWW.CMI.COM.AU

Litecraft[®]
 by **ACME**[®]

THE LATEST GEAR



Pageant X3



LED Move 350



Mega Strobe 5000 RGB



LED Multipar 7FC



Samba



Stage Blinder P2

LITECRAFT.COM.AU



www.ulagroup.com
 f /Total.Visual.Solutions
 1300 ULA GROUP
 1300 852 476

PRG ReNEW

Renew, recycle, reuse

BY JIMMY DEN-OUDEM



The success of the Source Four as a luminaire is hard to deny – the modular design of the light source and swappable lens tube have made it a favourite for theatres and venues the world over. PRG now offers a product designed to allow users to make use of their existing Source Four lens tube inventory – it's called the ReNEW.

ReNEW is an LED source with integrated control electronics and DMX interface. It mates up nicely with all ETC lens tubes, both standard and enhanced definition. For this review we were supplied with a 3000K ReNEW source and an ETC 19 degree EDLT tube with integral shutters. ReNEW is also available in daylight with a 5700K colour temperature.

PRG certainly aren't the first to come up with an LED source to suit an ETC lens tube (indeed ETC does the same), so I wondered why they would release such a thing into an already populated market. The answer is pretty simple – because they've made a good one.

Rather than draw comparisons to other LED sources, I decided that it would be more relevant to draw

comparisons to an actual tungsten Source Four. PRG claim the output of the ReNEW is comparable to that of a 575W HPL lamp, but not having one of those handy I instead got a 750W Source Four with 19 degree lens tube, and put it side by side with the ReNEW.

I know I'm an audio guy by nature and I do struggle with the subtle nuances of light, but at full intensity I was really hard pressed to see much difference between the ReNEW and the 750W tungsten fixture. If anything at all, I did notice a little more visible warmth in the lightfield from the tungsten Source Four. While both fixtures focused nicely and provided good edges on shutters, the EDLT tube is clearly superior. The lightfield of the ReNEW was beautifully flat and even.

So what's the explanation? Maybe the lensing in my Source Four was a bit grubby. Maybe my attempts at adjusting the peaking controls on the back were inadequate. Or maybe the ReNEW is just really good. While I wasn't able to do a side by side dimming comparison, I can tell you the ReNEW allows for 16 bit dimming with an optional effect channel.

The effect channel allows for strobing and ramping on or off, and other things a traditional tungsten profile isn't so good at.

To the left is ReNEW,
to the right tungsten
- can you spot the
difference?



It looks convincing even at very low intensity output too - no mean feat for any LED source because dimming LED well is hard. If you want to control the ReNEW simply, use the single channel 8 bit mode. There's an option of tungsten or linear dimming curve, as well as a 'DMX smoothing' function to reduce flickering in response to DMX steps.

The rear panel offers DMX and power in and loop-throughs all on logical connectors, and the menu is a simple four button backlit LCD affair. There's a slot on the side of the fixture into which a 9V battery can be inserted to allow menu operation even with no mains. PRG opted for the external battery connection, rather than the expense of including a battery and charging circuit within the fixture, which actually seems sensible to me.

Pressing the EDIT/SET and minus keys simultaneously gives you a 5 minute window of "lamp on" time in which to focus the fixture, and you can bump this time up or down using the appropriate plus or minus keys. The ReNEW draws about 190W at full tilt (I measured it!), and while there is an integral cooling fan it seems to be thermally activated, and it never gets very loud anyway. One key benefit of LED is that cooler light sources reduce the burden on air-conditioning plants in venues, and hence lower operating costs.

I think the ReNEW is a really nice light source - it does exactly one thing but it does it well. Most of all, the source is well equipped to meld discretely into a fleet of tungsten fixtures. Given the staggered nature of inventory turnover in most venues, that's a very good thing indeed.



BRAND: PRG
MODEL: RENEW 3000K
RRP: \$1800.00 PLUS GST
(BYO LENS TUBE)
PRODUCT INFO: WWW.PR.G.COM
DISTRIBUTOR: WWW.PR.G.COM



THE LOOK

DRAPE HIRE
www.thelook-sydney.com

New Address: 17 Greenfield St Banksmeadow NSW 2019
Email mail@thelook-sydney.com • Ph 02 9797 6068 • Fax 02 9798 9243



GaffGun

Shoot your cabling duties down

BY JIMMY DEN-0UDEN



Once you're rolling the process is very easy – hold the handle and push. Because I like convenience but I don't like to pay too much for it, I did a cost comparison...

Looking around a few websites I found a Sydney based company who would sell me Nashua 357 for \$16.50 per 40m roll. 41.3 cents per metre. 2" CoreLock tape to suit the GaffGun runs \$27.30 per roll, or 54.3 cents per metre. Multicore cables don't really work with the 2" tape, so you need the 3" stuff which is \$41.70 per roll (83 cents per metre). Of course to gaff a multicore you'll need to use double strips of 2" Nash, which interestingly enough also works out at exactly 83 cents per metre.

So for single thin cable runs it costs a bit more to use the GaffGun, but for thick runs the consumable cost is actually the same. Remember also that savings are to be had in the time it takes to tape down cable runs – especially long ones. The longer the run the better in fact, since the most time-consuming part of using the GaffGun is the starting and stopping bit. The labour savings will sooner or later balance out the entry cost.

GaffTech refer to the aforementioned tapes as "duct tape", even though they are roughly equivalent to what Australia knows as "gaff". They make a Pro Gaff tape as well, which is their premium product line and this costs more.

So what's the final verdict - can it replace a human? Sometimes yes, and other times no. In some ways it's not as good – it doesn't stick the tape down as hard as a human will (and anyway, not every job calls for Armageddon-proof cabling). In other ways it's better – neat straight lines happen easily and automatically, and there's no doubling back on yourself. It's also considerably faster than doing the job by hand, and you don't need anyone to tension the cables for you either.

This might be the invention for which the entertainment industry has been waiting, seemingly forever. Now it's here, and it's pretty cool.

The GaffGun first blipped on the CX radar when videos of the thing began appearing all over our individual social media feeds. Yes, most of our friends are industry related and lots of them found it interesting. Cool idea we thought, what a shame it hasn't made it to Australia. Then it arrived. I decided we had to get hold of one to play with. The local distributor obliged us with a demo unit, so we put it to the test.

We were in fact supplied with a GaffGun bundle – a nicely boxed up kit containing the GaffGun, extension handle, three sizes of cable guide and a floor guide. Oh, and some Gaff too.

GaffGun uses a proprietary tape called CoreLock, which is packaged around a special orange core designed to click onto the dispensing roller of the GaffGun. The tape is available in 1, 2 or 3 inch widths with an optional low adhesive centre section on the wider versions. There's also double sided tape available for jobs like sticking down flooring. The CoreLock tape is not as sticky as Nashua 357, but it is considerably stronger than the "U.S. Gaffa" or "Nichiban" tapes I've been handed in the past.

I think the important thing to note when using the GaffGun is to install the correct size cable guide for the task at hand. 1-2 mic leads use the small guide, 3-4 cables use the medium guide, and 5-6 mic cables, or a Weiland, or a multi-core cable will require the big cable guide and the 3" wide tape. I had some problems initially trying to fasten one power cable using the medium size guide, but changing to the small guide the process was much more successful.

The process works basically like you see on the videos. Get the thing started on top of the cable(s), then walk until you get to the other end. Feeding the tape into the GaffGun to start with is a bit fiddly. I found it easier to first fold a few inches of the end back onto itself to make a non-adhesive tab, which is heaps easier to feed through the slot in the GaffGun and cable guide. Starting the run and stopping at the end are both fiddly processes as you'd expect, but the reality is that these are fiddly processes regardless.



BRAND: GAFFTECH

MODEL: GAFFGUN

RRP: \$450.00 INC GST


FOR THE GAFFGUN BUNDLE

PRODUCT INFO: WWW.GAFFGUN.COM

DISTRIBUTOR: WWW.DQ.COM.AU

AUSTRALIA'S ENTERTAINMENT TECHNOLOGY ROADSHOW

 /CX MAGAZINE

 @CX_ROADSHOW

[FEBRUARY
2016]
AUSTRALIAN
TOUR



CX Network
[PRESENTS]

ENTTECH ROADSHOW

Melbourne Park - Monday 8th Feb

Sydney Australian Technology Park - Wednesday 10th Feb

Brisbane BCEC - Monday 15th Feb

Adelaide Convention Centre - Thursday 18th Feb

Perth Exhibition & Convention Centre - Monday 22nd Feb

CONTACT STEVE@JULIUSMEDIA.COM
[A JULIUSMEDIA GROUP PRODUCTION]

NOVEMBER
2015

ROAD SKILLS



*Editorial by Cat Strom
Photography: Troy Constable*

MAR

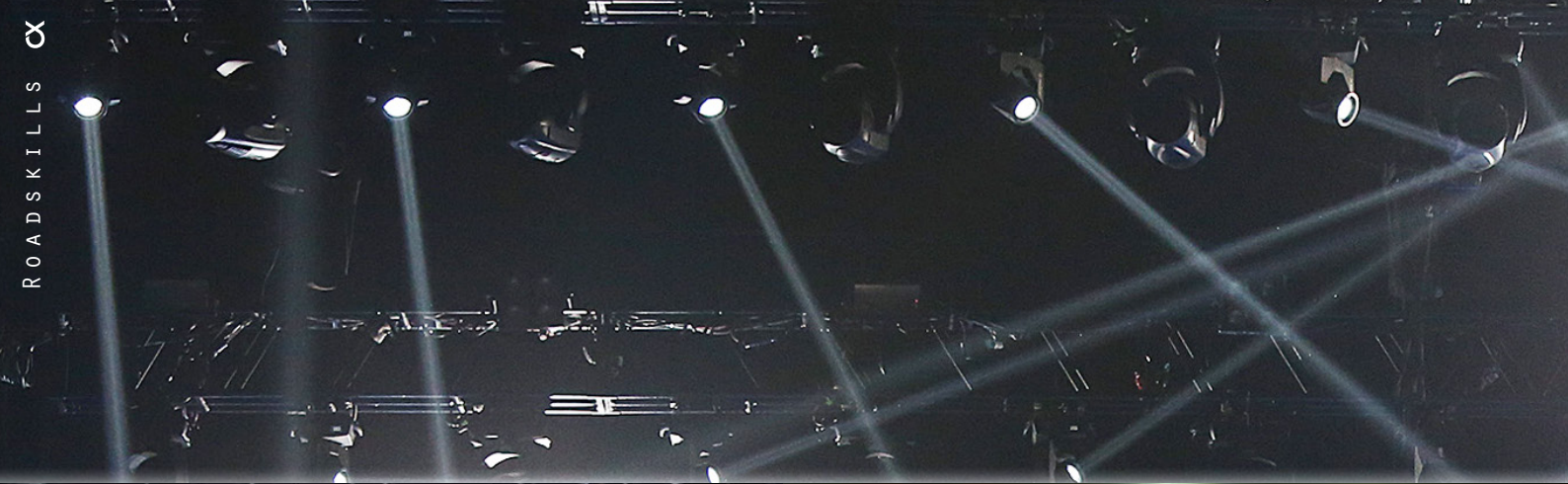


OOON 5

After touring North America, Europe and South-East Asia with their V tour, Maroon 5 finally arrived in Australia for a whirlwind three gig tour. The multi-platinum selling and Grammy Award winning rock band is mixed by Jim Ebdon whose CV includes Aerosmith, Annie Lennox, Sting and Matchbox Twenty.



Audio Design Engineer Jim Ebdon





Jim has been mixing Maroon 5 for the past seven years, but a long time before that he was a drummer and his mix always starts there.

"If I get a great drum sound, it all pulls together naturally, with everything else just finding its way in the mix," said Jim who was using a DiGiCo SD5 console to mix the show in Sydney. DiGiCo is a brand he has been loyal to since he was one of the original users of the D5, transitioning to the SD series when it launched.

"The SD5 is a fantastic console at a great price point," he stated. "DiGiCo has certainly figured out the reliability factor of their products. The SD7 has the redundancy factor with the second engine but in all the years I've been using the SD7, I have never had to switch to the second engine. They've always been rock solid and I think they took the step making the SD5 because of the reliability factor. It's a slightly scaled down version of the SD7; it's more ergonomically compact but it still has a lot of faders."

A Waves SoundGrid system offered Jim a wide selection of onboard effects including the new dbx 160 compressor / limiter plugin which he particularly liked. He is also a fan of the SSL G-Channel strip plugin and G-Master buss compressor, plus the H-Reverb which he says is the best reverb they've come up with and is on a par with any outboard reverb such as a Lexicon or tc electronics unit, if not a little bit better.

The band play live with very little track to augment the sound. The drummer is a hard hitter, the guitar sounds are big, in fact, live they tend to sound not so much like the pop records you hear on the radio, rather a rockier live version.



"I think it's more exciting that way and Adam has a very powerful voice," said Jim. "I use a standard Shure SM57 capsule on a wireless system for him and as long as he doesn't stand in front of the drums too much, it works well. Sometimes during a tour he may get tired and can't give it his all, so he'll drop his power level down a bit to save his voice. We'll then put plexiglass in front of the drums to help him out so there is not an unusual extra amount of drums down the mic and the balance of sound on stage is more tolerable. The band really are all great players and they are pleasure to mix."

Jim would be the first person to praise the snapshot functions on a DiGiCo and usually he'll start a tour by snapshotting every song, he plays it different with Maroon 5.

"With Maroon 5, I find that although it would be easy to do snapshots it takes away the vibe and live element of their live mix," he explained. "It's becomes almost too processed and polished. Also, I think I could get a bit bored sitting at a console night after night pressing 'next' so I tend not to do snapshots with them anymore. I actually do a live mix which keeps it more current and is more fun for me. It's like I'm playing the band: they're playing and I'm playing them. And that's what live music is all about."

On stage Jim uses Shure shotgun mics as he makes a multitrack recording at every show and obviously the band like the sound of the audience in their ears. There's a Shure SM57 on the snare and an AKG414 underneath the snare. Added to that are Shure SM98's on toms, an SM91 in the kick drum and more AKG414's for overheads. On guitars Jim has been using Royer 121 ribbon mics mixed with a Shure SM7 and he remarks that the combination of two mic sounds for each guitar sounds fantastic. Jim has been experimenting with a TUL G12 Classic mic, a boutique mic hand built and developed by a friend, Tully McCully, used on guitars.

Audio Technica AE6100's were used for backing vocals, while Levine went wireless with a Shure UHF-R system, with the transmitter outfitted with an SM58 element. Kevin Glendinning is the bands monitor mixer and has all band members except the bass player, listening to JH Audio "Roxanne" custom in-ear monitors fed by Shure PSM 1000 personal monitoring systems.

When touring the world with the band Jim specifies one of three PA systems; L'Acoustics K1, JBL VTX, or d&b J-Series. In Australia JPJ Audio supplied an L'Acoustics system with 12 L-Acoustics K1 per side as main hangs, six KARA underneath, plus 12 V-Dosc units as side hangs. Twelve SB28 subs per side were deployed in a traditional L-R configuration, three of which were turned out 90° off stage to even out the low end distribution. Rear hangs of Kudo enclosures ensured that seats could be sold past the 180° line.

"I know how an L'Acoustics K1 rig should sound so even if you have a great system tech, it's very important to be thorough checking the processing system of the PA system," commented Jim. "There are so many hidden elements nowadays it's easy for settings that were touched by someone six months ago to be buried and not known about. I often find settings that are wrong or have been tampered with in some way. I found a couple of settings in this rig but there's no charge to JPJ for finding them!!"

"It can be a challenge when you turn up in a different country with a whole new sound system especially with such large shows with a lot of arrays, but JPJ Audio are a very good audio provider and it's always fun to tour with them. They did a great job."



You Tube
WATCH IT READ IT

LIGHT tonight

VIDEO MAGAZINE

WWW.LIGHT-TONIGHT.COM



with INTERNATIONAL PRESENTERS

CHRISTIAN HEATH (UK, DENMARK)

JAMES DEN OUDEN (AUSTRALIA)



You Tube /CHANNEL/UCe32KpWBd0xMDPBpMLVCRRR

CHECK OUT THE LATEST EPISODE ON YOU TUBE!



**FOH Engineer
Oz Bagnall**

**Lighting
Engineer
Matt Arthur**

THE

QUEEN

Extravaganza

The Queen Extravaganza, billed as the official Queen tribute show, is the mastermind of Roger Taylor and Brian May, two of Queen's original band mates and songwriters. Taylor personally took on the role of producer with long time Queen keyboardist Spike Edney as global music director.

The show, a celebration of the music of Queen, includes musicians selected by Taylor in a unique online talent search. It's an electrifying road show designed by a heavyweight production team headed by the late stage designer Mark Fisher, (known for memorable productions including "The Wall" for Pink Floyd and every Rolling Stones show since 1989) and Rob Sinclair (Kylie, Florence and The Machine, Adele, Peter Gabriel, Pet Shop Boys and Queen themselves!).

At the helm of the lighting console was ex-pat Matt Arthur, a Melbournian who has lived in the UK for the

past fifteen years. During that time Matt has worked closely with the show's lighting designer Rob Sinclair running several of his shows including Bryan Ferry's recent tour.

Design credits for Matt himself include Supergrass, Mark Ronson, Jamiroquai and some one-offs for Kim Wilde. In Australia back in the day he designed tours for Paul Kelly, Boom Crash Opera, Kate Ceberano and Canadian band The Tea Party.

"Sadly, I don't get to do so much of my own stuff anymore but with Rob I get the design and run with it as he's very trusting in that way," said Matt. "With this show he checks in now and again but trusts me with the design and any



chameleon
TOURING SYSTEMS

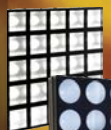
LUMINAIRES
CONTROL SYSTEMS
MOVING LIGHTS
SEARCH LIGHTS

SYDNEY:
11 Percy Street
Auburn NSW 2144
Phone: 02 9643 4999

BRISBANE:
233 Lavarack Avenue
Eagle Farm QLD 4009
Phone: 07 3260 2663

www.chameleon-touring.com.au

NOW AVAILABLE FOR HIRE



RUSH
RUSH Strobes 1 & 1/2"

ProShow
PIXPAD

THOMAS
PATT2013

Martin

MAC Viper™
Profile
Wash DX
Performance
AirFX
Quadray

MAC Aura™
MAC 101™
MAC101CT™

CLAY PARRY

SHARPY WASH 330

M1™
M6™
M2Go™

grandMA - total control

2
grandMA



ELP
impression X4



changes that have to be made. I'm happy to have the freedom that I have to program and operate shows. Sometimes the stress of design and client meetings is difficult and I know that I'm not the best at client meetings, especially as artists can be tricky people. I'm good at making it look good out front whereas Rob is very clever and witty and can gain people's confidence very quickly."

The lighting for the show is how you would expect it to be for a Queen show; quite isolated at points but big, bold and in your face at other times. It's a modern adaptation of a Queen light show executed with moving lights and strobes, in fact the show file Matt uses was an original Queen show file which he has tailored towards using house rigs and tweaked a lot over the last year and a half since taking on the lighting director's role.

The basic lighting design concept for the show includes seven Martin MAC Auras along the back on vertical poles, all supported on a floor based truss system, along with eight side Auras. Each pole was approx. 4.5m high and had what was essentially a single red blinder on the top, an Aura just underneath which were the workhorses of the rig, a 42" Plasma on in the middle and an LED strobe towards the bottom to blast through the band. The Australian shows were switched to a flown truss, with video screens underneath, and some Clay Paky Sharpys added on the floor to provide more dynamic lighting from that area. This version of the design was implemented in Iceland recently and it worked well, so Matt decided to do the same for Australia where he toured the back truss and floor lights and added in the house flown rig.

"There were no floor lights at the back of the other system as it was all air and from the side plus whatever we get from the house," explained Matt. "With the ground support system we had blinders on the floor but no moving lights apart from the Auras on the side. With this redesign, initially Rob decided to place the seven Auras on the floor and fly Sharpys in the air but rather than create so much more work, I suggested we do it the other way round and we went with that. The Auras are a great little light; small, nippy, bright, nice colours and reliable."

In Sydney the seven flown Auras were interspersed by four-light strips and underneath the three 3m x 3.6m video screens were seven 5ft pipes with a Martin Atomic strobe on each. On the floor between each of the strobes are the Sharpys and behind that, blasting through the lot, are some four-light blinders. Added to that are four Auras per side that pretty much only do two looks; straight across the band or into the audience.

In the air, house lighting consisted of a random selection of lights or as Matt describes 'six flavours of lights', of which he chose three – six Martin MAC Vipers on the stage, four Viper Performances out front to colour the front of the stage and eight Vari-lite VLX3's spread over two trusses. Matt brought in some extra Atomic Strobes to put in the roof as well as four Clay Paky Alpha Spots at the back of the stage.

"There are a lot more crosses in the focus tonight than I'd normally have," commented Matt. "Normally with the straight trusses and everything evenly spread, there are a lot of straight beams which is typical of a Rob design."

For control Matt used his own Jands Vista, the platform preferred by Rob. His set up included a Mac Book Pro running the Vista v2.3 software with an S1 and two M1 control surfaces attached to it via USB. An external monitor was used for showing cue lists during the show.

"I was in the market for a new console round about 2007 when I was crewing for Rob on the Keane tour," said Matt. "I watched him front of house and thought the Vista looked really good. At that stage he had just got the gig with Peter Gabriel and he asked me to take over running Keane. I got to know it pretty good after that. The system I have is a carbon copy of one of his and I really like it. It's so easy to see what's going on, at any point in time you can look at the window and clearly see what's happening. The time line and editing window is also very easy."

Straight after the Australian tour production rehearsals start for a 17 date tour of the UK to celebrate the 40th anniversary of Queen's iconic album, A Night At The Opera - long viewed as one of the greatest rock albums of all time - which produced such classic tracks as, You're My Best Friend, Love of My Life, Taylor's own I'm In Love With My Car, as well as the band's legendary Bohemian Rhapsody.

The first act will be very seventies with Rob's lighting reflecting that in a static, par can look replicated by Martin MAC Auras on drop frames. There will undoubtedly be lots of flash button operating! In total there will be fifty-five Auras including a truss of fifteen, four drop frames – two with six Auras and two with eight Auras – and then four units per side. Added to that will be two custom towers with a further two Auras on each plus some par cans. Six Solaris Flares at the back on the floor will add both big colour blasts but also strobe effects through the band. The video screens will be replaced by FOH projection for The Night At The Opera section.



FOH engineer Oz Bagnall 'inherited' the show from Matthew Manasse early last year, taking over his desk file and running with it.

"At our next proper run that we did with full production rehearsals, I started from scratch with the same console but building the show file how I wanted it to be," he explained. "We mainly use in-house PA systems but always specify a DiGiCo console and here in Sydney we have a SD10. Sometimes we supplement a house rig but I'm not precious about the brand of PA we are given."

Oz described the d&b J-Series PA at Sydney's Star Event Centre as phenomenal and really well set up. Not only did he find the system to be incredibly good, he noted how well the room had been acoustically treated.

"Normally in a room like this we would have problems underneath the balcony with reflections but we're not finding any, it's an excellent design," stated Oz.

Oz uses several of the DiGiCo's onboard effects including a Snare Plate for reverb on snare, warm Hall reverb on toms, and a vocal reverb whilst tweaking factory presets to suit. There are a few delay effects on the vocals in a few songs for momentary effects, plus a chorus subtlety fills out the backing vocals.

"Obviously Queen were known for layering their vocal tracks in the studio, this just thickens out the backing vocals in the mix," added Oz. "I have a vocal thickener on the lead vocals just to make it fatter and a more prominent vocal in the mix. There's also a guitar delay effect for Stone Cold Crazy, which normally would be done onstage with the original band. However I have to replicate it

out front of house and send it back to stage where they put it in the guitarist's in-ears so he can hear it."

With clever and intense programming done during production rehearsal, Oz is able to concentrate on the more important elements in the mix such as the main vocal and the solo parts, basically the prominent things you would recognize from the original Queen tracks.

"The balances of the backing vocals, the different levels of instruments and where they sit in different songs relative to each other, has all been pre-programmed which takes some of the mixing duties away," he remarked.

The band travel with some of the microphones including Heil PR 35 vocal microphones except for one guitarist who uses a Shure Beta 58. The main vocal is a Heil RC 35 microphone on a Shure wireless radio system.

Monitor engineer Jack Bowcher ran an Avid Venue SC48 which he said has everything he needs built into a compact package and has the quickest snapshot editing functions.

"I currently use all the onboard EQ and dynamics plus I use Revibe, a reverb plug in for the lead vocal," he remarked. "All the band are on in ear monitors using ultimate ears UE7. I tend to use a Sennheiser 2000 IEM system but I'm also perfectly happy with a Shure G3 system. In terms of challenges the band are all great musicians, great to work with and know exactly what they want to hear. This makes my life easier however keeping on top of the changes in each snapshot is a critical part of the show."

BE HEARD

XLS DRIVECORE™

2 SERIES

GO AHEAD, GET LOUD

Meet the new **XLS DriveCore™ 2 Series**. The next generation of XLS got a makeover with a sleek new look, larger LCD display, and more DSP functionality with band-pass filters. The XLS DriveCore 2 Series is ultra-efficient, with Crown's patented DriveCore technology and selectable input sensitivity that can drive 2400W at 4Ω bridged with tons of headroom guaranteeing a clean, undistorted signal straight to your speakers. The XLS DriveCore 2 assures that you will be heard as you deliver powerful, pure sound experiences for any venue.

Distributed by
JANDS
www.jands.com.au

CROWN
by HARMAN

ROCKWIZ SALUTES

THE ARIA HALL OF FAME TOUR

With 70% of the show being dialogue the mix can be fairly tricky for FOH engineer Tim Millikan.

"You have audience members who don't know how to talk into microphones and you have band members who don't know how to talk into microphones, in fact they're often worse than the audience," he stated. "You have to be on it quickly because you can't miss any dialogue in the show. It's like comedy, if you miss any part of the joke, people don't laugh."

Tim works hard to ensure that there is a balance between band levels and dialogue level. If there is too much of a difference between the two, you start feeling like you're blown away when the band performs or you're searching for dialogue when they are not.

To help him achieve this balance, Tim swears by his Dan Dugan Model E-3 automixer post fade over six panel mics, the lectern mic plus Brian and Julia's headsets.

"It's not a game changing device rather a super-quick automixer that will allow full control of the mics," explained Tim. "Basically, I can leave panel mics open and not have to ride anyone's vocals once I've got it set. As we go into the dialogue section of the show, I just keep updating the snapshot for that, changing EQ's or gains within that snapshot to suit everyone's voice - then the Dan Dugan takes care of the rest."

PA is picked up in each city whilst a full control package tours with the show. The monitor package includes a Yamaha PM5D, fourteen d&b M4 monitors running on d&b D12 amps, and six L'Acoustics 108p powered monitors. Also included is a Sennheiser EM 9046 wireless microphone system with six hand held mics housing MD 835 capsules. Added to that are two Sennheiser HSP 4 headset mics for Julia and Brian with SK 9000 belt packs.

Following the highly acclaimed 13th series of RockWiz (RockWiz Salutes The Decades) Australia's favourite television music trivia show has once again hit the road. The RockWiz Salutes The ARIA Hall of Fame tour is the 4th national tour for the RockWiz team comprising hosts Julia Zemiro and Brian Nankervis, human scoreboard Dugald, the RockWiz Orchestra featuring James Black, Peter Luscombe and Mark Ferrie and guitarist Ash Naylor with Vika and Linda Bull.

RockWiz hosts
Julia Zemiro &
Brian Nankervis

FOH ENGINEER
Tim Millikan

Tim's FOH package includes a Venue Profile console, five mix engines, a Dolby Lake DLP, and two CD burners. Cabled mics include Sennheiser 901, 902, 904, 906, 945, and MK 8 plus AKG C414, Audio Technica 3060, Shure SM57 and Clock Audio C3 series gooseneck mics.

Tim had been using Sennheiser drum mics for quite some time and was keen to try out some different models.

"They're much nicer sounding, great low mid, and warm rich vocals," he reported. "I have to say the Sennheiser headsets sound pretty bloody good too. Previously I've been using DPA's but the Sennheiser is considerably easier to deal with. It's a much more natural sound with a usable bottom end.

"I have Sennheiser MK 8's on guitars, it's a large diaphragm condenser that just eats the old MK4, and is a much better sounding mic. I've been using Audio Technica 3060's on my guitars for donkey's years but the MK 8's sound fantastic and have been a great change. I have Sennheiser 945's for the vocals and the 835 capsule for the radio mics which is like their 945 capsule but in a RF form - they sound really good too. We've been most impressed by the Sennheiser radio system, it's relatively easy to operate and sounds great."

CX caught up with the show at Newcastle's glorious Civic Theatre where guest artists were Steve Kilbey from The Church, Ella Hooper, Adalita Srsen from Magic Dirt and Col Joye.

Melbourne based lighting and projection company BAAC Light has been involved with the show for many years supplying lighting and design for all four tours. Their brief from production for this tour was to ensure that all the lighting equipment fitted within four rows of a Pantech truck. The tour also has quite a few back to back shows and so time was a big issue, in fact the lighting rig is literally designed around time.

"It's all loomed to within an inch of its life and it was all designed around efficiency," remarked Brad Alcock, Director of BAAC Light. "There are only two key lighting bars and total bump in time for us is about one hour and forty minutes with eighty fixtures in the rig."

Prior to the tour, Brad and his Systems Engineer, Daniel Gosling pre-vised the tour in the BAAC Light Visualisation Suite and then pre-built the rig in a Melbourne theatre. On the road, Daniel has been continually tweaking the rig to make it as efficient as possible.

"As the designer and operator, there are quite a few things that can be a challenge," remarked Brad. "Obviously the amount of time available during a show day to get everything done is a big challenge, especially as every show features different artists. So at each given venue we may have three or four new artists that have to be programmed from scratch. The artists are always a surprise announcement - even for me!"

Fortunately, the producers want the show to have a bit of a rough rock'n'roll edge to it and as long as the money is lit, everyone is happy.

CUBE, THE CONNOISSEURS CHOICE

roadcase
CUBE

**PENN ELCOM HARDWARE, COLOURS, BRANDING & MORE!
CUSTOM DESIGN SERVICE & ROUND THE CLOCK SUPPORT
COMPETITIVE PRICING WITH WARRANTY PROTECTION**
* LATEST CASE FEATURES & RELEASES *
- ELECTRIC SCREEN LIFTING SOLUTIONS
- GPS TRACKABLE WITH SHOCK SENSOR CASE
- EXO SHOCK MOUNTING SOLUTIONS



1/364 Park Road, Regents Park, Sydney, 2143.

P: (02) 8733 5060 | M: 0447 028 889

www.cuberoadcases.com.au

www.transtage.com.au



Vapour Series fog machines have been reconceived and engineered from the ground up to meet the diverse needs of a wide range of applications including theatre, feature film & television, theme parks and photographic studios.

WWW.ROSCO.COM

42 Sawyer Lane Artarmon, NSW 2064

Phone: 02 9906 6262



System tech [left]
Daniel Gosling
Lighting designer [right]
Brad Alcock



BAAC Light has quite a substantial inventory of lighting fixtures to draw from, mainly the Robe brand, as well as projection gear. The upstage screen is fed content from an ArKaos MediaMaster Pro with BAAC Light choosing ArKaos as their preferred live media server for the past five years.

“The screen is a nod from Production to new technology,” said Brad. “As we move forward, we try to modernise the look of Rockwiz step by step and incorporating projection is an introduction to that. During the show, we use it to reference the artists from the period and also for some content for songs.”

The whole lighting rig is Robe, deliberately designed that way for its efficiency - the full rig draws only 15 amps a leg, plus a couple of dimmers for some key lights and molefays.

“To be able to run the whole rig off one or two three-phase outlets, makes it completely flexible for smaller venues and venues with limited power,” said Daniel. “The fact that the fixtures are accessible via Robe RDM communicator means we can trouble shoot anything that may happen if it’s already flown in the air. It’s a beautiful little fleet and very, very efficient.”

The front truss holds BAAC Light’s Panasonic 13k projector and a few conventionals such as ETC Source 4 fresnels and profiles. LX1 has six Robe 300E and six Robe 300 LEDWash as well as some molefays and fresnels for upstage fill. LX2 is the main bling bar with eight Robe Pointes and twelve Robe 300 LEDWash. The floor package comprises of Robe 300 LEDWash and Robe300E plus a smattering of molefays and LED PARs to uplight the back drape.

BAAC Light have owned their Robe Pointes for almost a year now and Brad candidly admits at first he was hesitant on how they would be integrated into his design for Rockwiz which is actually quite theatrical. “The Pointe’s have actually proved to be extremely versatile fixtures for BAAC Light. Clay Paky Sharpys are great, but they have a limitation from a theatrical point of view. The Pointes can be used on rock’n’roll shows as an effect light but also as a theatre light due to their zoom range. On Rockwiz, the Robe 300E’s do the bulk of our work as they are very light and always reliable.”

Brad insists that although most of his moving lights are Robe, he chooses his inventory based on his design requirements and not manufacturer preference. The fact that many of the venues he goes into cannot cope with heavy weights or heavy power loadings, is always a primary consideration when choosing new fixtures to purchase.

“We have to go for a fixture that has a lot of zoom, is lightweight and something that you hope will be reliable in time,” he added. “We look at everything but so far Robe has ticked the boxes.”

As for the future, Brad commented that more Pointes will need to be added to the company’s fleet and they are also preparing to make the move into the new generation of LED based spot fixtures. BAAC Light have also recently increased their inventory of projectors and additional media servers which they use a lot for theatrical events and building mapping projects.

For control, Brad was using one of BAAC Light’s Hog 4 consoles and he says that he has found the Hog 4 range of consoles to be extremely reliable and great value for money.

“I think as you get older, you realise the focus is with what’s happening onstage and you have to spend your time making sure that’s looked after,” he said. “Other consoles may have other advantages in terms of stability, power and the ability to do major productions, but at the end of the day, on this tour, we are just running eighty fixtures. Hog 4 suit us ... plus we can get two for the price of one of other consoles, so it’s a straightforward business choice for me. I’m so familiar with a Hog, I spend 90% of my time with my eyes forward rather than looking down. Plus they are extremely reliable but if one element of the console crashes, you can reboot that element live so you don’t necessarily have to restart the console.”



JIMMY'S WORLD



JASON'S RADAR



ONLINE PRODUCTION
**WEEKLY
CX-TV**

THE HUMPH



MEG APPROVES



SOPHIE SAYS

EACH WEDNESDAY

EVERY WEEK

FEATURING

A 10 MINUTE REEL ON INDUSTRY REVIEWS
& THE VERY LATEST FROM INSIDE YOUR
INDUSTRY NETWORK

YOUR FREE INVITATION IS HERE - JOIN US
GET ONLINE & BE INVOLVED

WWW.CX-TV.COM

Michelle Sabolchick
Pebbinato



ould have been an astronaut if music hadn't taken her on a different path. Since childhood music has played a large role in her life, taking up piano as a young child but she never wanted to be a musician.



Being on stage in the spotlight terrified her and she found she was much happier behind the scenes. She had spent a lifetime dabbling in pulling apart electronic items and putting them back together just to see how they worked and when she was in high school Michelle decided that she wanted to become a recording engineer.

She also thought that being an engineer would allow her to still be creatively involved in music while not having to be on stage. Combining a life long love of science and music seemed a perfect blend for her future career.

To achieve her goals Michelle went to two technical schools for Recording Engineering and Music Production. Part of the requirements for graduating were to complete an internship so she found a local sound company willing to take her on and it was there that she decided live sound was for her. This was a time she felt taken advantage of, not for being a woman, but for being young and eager because the company piled on the work to the free labour.

Michelle has an enviable list of credits including Spin Doctors, Indigo Girls, Joan Osborne, Thievery Corporation, Luscious Jackson, Debelah Morgan, Fuel, Fastball, General Public, Collective Soul, Melissa Etheridge, Christina Aguilera, Tokio Hotel, Mr Big, Goo Goo Dolls, Gwen Stefani, Kesha, Jewel, Natasha Bedingfield, Big Time Rush and Styx. She loves being part of making a great show happen and enjoys building solid relationships with people on tour. Michelle says "you start a tour with people who are complete strangers and by the end of the first week you know these people better than friends you've had your whole life". If she could change anything about her job it would be to carry a transporter so she could easily and instantly get from place to place and sleep in her own bed every night.

Michelle considers herself lucky to have had great mentors who are still part of the fabric of her life.

- M.L. Procisee III (who sadly passed away recently) was a long time mentor for Michelle. She had read about him in industry magazines for years as she was getting started and met him on one of her first tours. He was incredibly supportive from that day onward.

BY TONI VENDITTI

- Mark Johnson, the owner of Fidelity Sound Reinforcement was also an early mentor and is a long time friend. Mark supplied the first sound system for Spin Doctors and later offered Michelle a job where she could work for him in between tours.

- Jim Pettinato, LD/Production Manager for Spin Doctors. Michelle says he is amazing at his job and by far the best PM to work with. She is also married to Jim who is currently the Production Manager for Trans Siberian Orchestra. She met Jim on her first tour as FOH Engineer for Spin Doctors in the early 90's, just before they were about to break.

When asked if she had experienced any obstacles/attitude because she was a woman, Michelle says that she has been met with suspicious looks and surprise but never anything that hindered her from doing her job, although she can remember an instance where she had applied for a job in the A/V department at a big entertainment complex. The managers were dead against hiring a woman due to a very bad experience with a former female employee so their attitude was that they would rather not go down that path again. Michelle went through the craziest interview process beginning with testing from HR to a panel interview where she was grilled about how much she actually knew about audio. She remembers being handed a three way crossover and asked how she would set the crossover points for a specific system, then moving speaker cabinets around to prove she could lift. Despite their best efforts not to employ her, it was decided she was the best person for the job and it wasn't long before the managers changed their attitude about women working in audio.

Michelle takes her work seriously and advises that to earn respect in your field you have to know your stuff. There's no faking it on the road, if you don't know what you're doing you will be found out very quickly, it's not a party and you have a lot of responsibility.

On a typical tour day, once the PA is up and wired, her system tech will run pink noise through the PA and do a component check to make sure everything is working. She prefers to tune the system herself and walks the room to listen to how the PA reacts in different areas, looking for hot spots or areas where coverage is lacking then EQ's the system, sets delay times, and makes any other adjustments using only her ears. When everyone is ready, they do a full line check, and then it's the wait for the sound check. Sound check can be brief or very involved depending on the artist. About 20 minutes before the show the crew does another line check to make sure all inputs are still working.

Michelle has been on tour since late July with one of the most successful tours of the summer where most shows are sold out playing to 15,000+. Currently FOH for STYX (touring with Def Leppard and Tesla) Michelle says it's quite refreshing to see people spending money to see real music with real musicians rather than a bunch of Pro Tools and lip-syncing!

Her preference is analogue and she mixes on a Midas XL-4 whenever possible saying when you start with a great sounding console, you don't need thousands of dollars in plug-ins to make it sound good. When digital is the only choice, Michelle prefers the Midas or Soundcraft digital consoles purely because for her, they sound better than others. Her go-to compressor is Empirical Labs Distressors - sounds great on anything and everything.

Michelle has used so many great sounding PAs and now there is a lot of choice which is opposite to when she first started. She selects now from an impressive list: Adamson, D&B, Martin, Clair Bros and L-Acoustics. Her 'never leave home without' tool is Lake Audio LM 44 and a tablet for system processing and management. It's by far her favourite tool for system EQ.

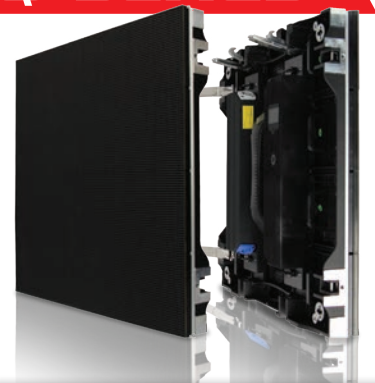
Michelle's advice is to learn about finances and how to live within your means. Great advice, because the business is unpredictable and you've got to be disciplined with your saving and spending and plan for those slow times waiting for your next gig. Also put as much as you can away for retirement, it's never too early to start thinking about it. Know that the only thing holding you back is yourself, if you truly have a passion and desire to do something you CAN make it happen.

Two years ago Michelle co-founded SoundGirls.Org with Karrie Keyes (Monitors-Pearl Jam). They are a USA web based organization with members around the globe. SoundGirls.Org provides resources and support for women getting started or thinking about a career in audio. SoundGirls.org offers a supportive community and opportunities for women in the business to make connections and build networks.

VUEPIX®



Q series



HD Indoor Rental Displays

- Pixel Pitch from 3.9mm - 6.2mm
- Very Slim Die-Cast Aluminium 8kg Frame
- Patented 'One action locking' smart lock
- Excellent Grey Scale & High Refresh Rate
- Integrated LED control panel monitoring

Leaders in LED Screen Technology



VUEPIX.TV | info@vuepix.tv
 ulagroup.com
 /Total.Visual.Solutions
 1300 ULA GROUP
 1300 852 476

BIZ TALK

with Julius Grafton



Law and Labor Disrupters help our biz

New ways to do more for less have emerged

Airtasker could be a powerful tool for you – whichever side of the labor market you sit in. It is a marketplace for work, where someone posts a task that may be as simple as ‘clean my unit’ or as complex as proofreading a magazine. I use it for personal tasks like serving food at a party.

Like Freelancer.com which CX uses for web and app development, Airtasker is a disruptive technology. We also use Uber (to replace taxis) and AirBnB (for private traveller accommodation). Some of these I’ve been on the other side of, as a user and a provider, to better understand the issues.

Airtasker comes into its own for fast help, like ‘deliver a box across town now’, while Freelancer responds slightly slower since most of the skills there seem to be in the third world where web and app tasks can sometimes be done for a few dollars an hour. For example, we are currently indexing 25 years of magazine editions and the target rate is around \$5 an hour.

If we were to pay Australian wages we simply would not index the magazines. Freelancer has given us an option we would not otherwise enjoy.

On the other hand, Airtasker and Freelancer avoid the usual employer responsibilities of Superannuation and Worker’s Compensation. They also avoid GST. It is not too hard to imagine some tech crew work starting to appear on these platforms. Airtasker does have \$20 million in public liability and user insurance that, after an excess paid by the service provider, should cover users for damage or loss.

I’ve written about Uber previously, it is the biggest fee charger, taking 20% off the top of the driver’s fare. Airtasker charges workers 15%, so the worker will factor that into the amount they bid to do your task.

Which leads me to the legal services arena, a blood sport that we often enjoy watching. Nothing soothes your correspondent more than a nice lawsuit with well coiffured fellows bending the English language in the theatre of the courtroom. So long as we are not the defendant, and also provided we are not paying!

JOIN THE CONVERSATION AT CXMAGBLOG.COM RIGHT NOW!

RECENT BLOGS

- REVIEW: RØDE NTR RIBBON MICROPHONE
- D&B AUDIOTECHNIK PARTNER MEETING 2015: FESTIVAL HALL, MELBOURNE, 25 AUGUST
- REVIEW: MARTIN M-TOUCH
- ABBEY ROAD COLLEGE – PERHAPS WITH ADDED TOM

ALSO ON OUR BLOG
@ WWW.CXMAGBLOG.COM



BLOGBOX

Several online services have emerged which may lead to faster and lower cost legal help for small business – which is what most CX readers actually are. First is Lawpath which is like a match-maker. You plug in your question or requirement, and they match you with a local lawyer who may assist.

The other is Source Legal Online, which offers a \$400 per month subscription service, plus a \$4,000 startup package which prepares incorporation, partnership, employment and privacy documents for your new firm.

While this may not be cheaper than other law firms, it has the advantage of online enquiry.

Which brings me to Clarry. My local pub in the old harbourside suburb in which I reside has an array of characters who vary in means from very wealthy to very not. Clarry surprised me with his tale of woe about his divorce. Having enjoyed three of these, and having paid them all off in full, I was all ears.

It seems the former Mrs Clarry was most angry at his, err, extracurricular (paid) activities with a young Asian lady and he quickly ascertained it was splitz. In what can only be an act of cunning genius he polled a group of divorced and wealthy mates who revealed an amazing legal tactic.

Worried Mrs Clarry would hire a venomous vexatious vulture divorce lawyer, Clarry quickly arranged a meeting with as many firms as he could. He briefed six firms over tea and biscuits, and settled back knowing Mrs Clarry could now not engage any of them. In doing so, he had triggered the Conflict of Interest provision of law, where a lawyer cannot act for two related parties without their express consent. The \$300 meeting fee for each of six was \$1,800 well spent.

Evil genius!

THE ADVICE GIVEN HERE IS GENERAL IN NATURE.
YOU ALWAYS NEED TO SEEK PROFESSIONAL ADVICE BEFORE MAKING COMMERCIAL DECISIONS.

PRINT & ONLINE EDITIONS



SUBSCRIBE TO CX MAGAZINE TODAY!

www.juliusmedia.com

PRINT & ONLINE (WEB READER VERSION) SUBSCRIPTION FORM

PRINT & ONLINE (WEB READER VERSION)

- 1 Year: \$49.00**
Save \$11.50 off the newsstand price.
- 2 Years: \$79.00**
Save \$42.00 off the newsstand price.
- 3 Years: \$99.00**
Save \$82.50 off the newsstand price.

JUST ONLINE (WEB READER VERSION)

- 1 Year: \$26.00**
- 2 Years: \$39.00**
- 3 Years: \$53.00**

BE A CX GOLD CLASS SPONSOR!

Support our cause
\$94.00 buys you the E-Zine
FOREVER!



Name _____
 Company _____
 Address _____
 Suburb _____
 State _____ Postcode _____
 Email _____
 Phone _____

PAYMENT METHOD

Visa Mastercard
 Name on Card _____
 Card number _____
 CSV number _____
(3 digit security number on rear of card)
 Expiry Date _____ / _____ (month / year)

DIRECT DEBIT:

Deposit funds into our account including your name on the deposit:

Juliusmedia Group Pty Ltd
Westpac BSB: 032 088 A/C: 232784

CHEQUE: Make payable to Juliusmedia Group Pty Ltd

MAIL: Locked Bag 30, Epping NSW 1710

Also available - CX Magazine on your chosen device!
New Interactive platform, even more dynamic layout,
full of new interactive features.
Just US \$4.99 · Annual Subscription US \$38.99
Search: CX Magazine on;
Apple Newsstand · amazonkindle · Android



A few weeks ago we placed a post on the ACETA Facebook page concerning new research into the cause of tinnitus, thinking it would be of interest to individuals whose ears are central to their career. We could not have predicted the outcome, our post reached a vast number of people and the ensuing dialogue indicated a disturbing degree of ignorance on the issue of hearing health and protection. We felt compelled to respond in this forum as a matter of priority to try and reach as many as we can on such a critical quality of life matter.

Imagine suffering hearing loss or even total deafness; a career ending outcome for professionals, the permanent removal of an instrument of pleasure to the music lover. Hearing damage is a traumatic experience; all too common in the wider community, significantly more so amongst our industry professionals, many of whom are afflicted with tinnitus, others requiring hearing aids.

ACETA is your industry body, working to protect and further the interest of everyone who works in our profession. We have a new website at www.aceta.org.au, can be found on Facebook at www.facebook.com/AusCETA or info@aceta.org.au

 Frank Hinton
President ACETA

Hearing Health and Protection

Hearing is the least understood and most neglected of all our senses. In most countries there are laws governing sound levels in the work place and public entertainment areas. However in contemporary society, with the technology at our disposal and certain environmental realities, personal responsibility is required in terms of hearing protection. If you care about maintaining good hearing health, continue reading and consider the content, it may change the way you practice your craft and enjoy your pleasure. For specialist advice consult your relevant health care professional.

ENVIRONMENTAL SOUND LEVELS

First of all let's consider levels experienced in the contemporary environment, they vary significantly and can be measured. However measurement figures are arbitrary due to a number of variables, including weather conditions and distance between source and measuring device. Here is a guide only to some normal noise sources experienced in modern society expressed in SPL; Jet engine 150dB, Pneumatic drill at street level 125dB, Rock concert at mix position 115dB, Metal work factory 110dB, Thunderstorm 90dB, Truck 90dB, Main road 80dB, Vacuum cleaner 75dB, Bistro 60dB, Restaurant 55dB, Normal conversation 55dB, Secondary school classroom 40dB, Whispering 15dB.

HEARING SAFETY

The first issue that needs to be clearly understood is that the experience of sound pressure is cumulative and an individual can only take a certain amount of sound pressure before damage to the auditory system occurs. Following research from around the world we offer an analysis that takes into account sound pressure level and the acceptable daily aggregate listening time before damage. We suggest the aggregate be treated as a maximum in any 24 hour period.

Decibels at the Listening Position	Acceptable Aggregate Daily Listening Time
85dBA	8 hours
91dBA	2 hours
97dBA	30 minutes
100dBA	15 minutes
109dBA	1.9 minutes
Above 112dBA	Less than 1 minute

As an example, if you listened at a level of 97dBA for 30 minutes, then reduced to 80dBA for two hours, then listened again at 97dBA for another 30 minutes, the aggregate is one hour at 97dBA and you may have put your hearing at risk of damage.

HEARING FATIGUE

Hearing fatigue, listening fatigue or tired ears are one and the same, and as far as I know not a recognised condition in the medical or general community. However amongst industry practitioners it is commonly referred to, therefore we need to deal with it as a reality. In the absence of meaningful research we will address the issue based on practitioner feedback

BY FRANK HINTON

and my own conclusions. There are a number of single or combined causes of hearing fatigue, including:

- a) listening at relatively high levels for long periods of time
- b) listening at unsafe levels (even for short periods of time)
- c) general physical and/or mental tiredness
- d) working with material containing significant levels of harmonic distortion (particularly odd order)
- e) working with material containing innate phase linearity problems (manifesting as an irritating bright or glassy sound)
- f) working for long periods without rest
- g) hearing fatigue could also be a manifestation of hearing damage

The consequence of working in a fatigued state are numerous and include:

- a) you will not hear program in the same manner as when you are not fatigued
- b) your judgement will be compromised
- c) decision making will be more difficult
- d) workflow will be disrupted
- e) your mood will most likely alter in the negative (irritability is common)

AVOID HEARING FATIGUE AND DAMAGE

To avoid hearing fatigue, damage and to realise your potential when engaged in a performance or production session you should be relaxed, receptive and alert, it is recommended:

- a) you observe sound level parameters as described in this article
- b) avoid working when physically or mentally tired
- c) ensure you rest your ears (no program) on a reasonably regular basis (even a few minutes will be beneficial)
- d) if you are working with program containing noticeable levels of harmonic distortion or digital phase linearity problems, reduce sound levels
- e) **USE YOUR EAR PLUGS** which should be standard equipment for industry practitioners. Take time to investigate the best options available and seek assistance from the relevant health care professional. Your ear plugs should be permanently at your disposal to ensure your hearing is NEVER compromised.

The most common causes of hearing loss are the aging process and damage. The aging process is natural which we cannot avoid, hearing damage on the other hand can be prevented if we take the necessary precautions.

You have been given one set of ears and to my knowledge there has been no successful restoration to full hearing health following damage. Whilst hearing aid technology and implant procedures have improved, nothing can claim complete reversal, and I understand tinnitus cannot be cured. Therefore take care of one of your most valuable and irreplaceable assets.

All information contained within this article is extracted from the Grover Notting Principal Audio Monitor Manual and reprinted with the permission of Classic Audio Designs Pty Ltd.



Soundcraft
Si IMPACT

Make an impact

Designed to be as simple as an analog mixer, but offer radical workflow enhancements like our unique Soundcraft® FaderGlow system, massive DSP power, and a pristine 32-in/32-out USB audio interface, Si Impact delivers digital live sound mixing and recording for those who refuse to compromise on audio quality.

- Powerful digital mixing with the legendary British sound of Soundcraft
- Fully motorised faders with Soundcraft® FaderGlow
- Studio-grade effects and dynamics from BSS, Lexicon and dbx
- 32-in/32-out USB recording and playback interface - Ableton Live 9 Lite included
- Built-in Stagebox Connectivity for I/O Expansion
- Remote mixing via iPad® with Visi remote app

Laptop not included

Distributed by
JANDS
www.jands.com.au

32-Channel
USB Recording
Ableton Live Lite
included
Stagebox
Ready

Soundcraft®
by HARMAN



B.S. SOUND PA HIRE

Band PA Systems, Vocal PA Systems, Lights.
 Pick up and do it yourself, or Delivered, Set up and
 Operated by experienced Crew.
 Mark Barry; (03) 9889 1999 or 0419 993 966
www.bssound.com.au mark@bssound.com.au

You have tried the 'Light & Fluffy' Cloud Rental Management Software...

But Serious Business Deserves Serious Software!

I need a system to help manage thousands of rental assets, print hundreds of quotes and invoices a month, schedule cross hires, branch to branch transfers, technicians, trucks and purchase orders. I need to be able to schedule equipment using "First Come First Served". I need to analyse profitability before I quote. Up time is critical. The system I need must be intuitive and easy to use with backup service when and if we need it. It needs to be tried and proven by companies similar in size and structure to ours - I need RentalPoint Software!

RentalPoint SOFTWARE
www.rentp.com | sales@rentp.com

CX-TV PRESENTS YOUR WEEKLY DOSE OF
THE HUMP
 EACH WEDNESDAY
EVERY WEEK
 A 10 MINUTE REEL ON INDUSTRY REVIEWS INCLUDING TASTY BITES & THE VERY LATEST FROM INSIDE YOUR INDUSTRY NETWORK
 YOUR FREE INVITATION IS HERE - JOIN US GET ONLINE & BE INVOLVED!
 VIEW OUR NEW SHOW ANYTIME WITH YOUR HOST SOPHIE ESHMAN
 CO-HOSTS: JIMMY DEW-HUGHEN, MEG MACINTOSH & JASON ALLEN
 24/7 ONLINE ON YOUR DEVICE!
WWW.CX-TV.COM

CX ADVERTISER INDEX Issue 109 NOVEMBER 2015

• Amber Technology.....	IFC	• PAVT.....	9
• BS Sound.....	72	• Penn Elcom.....	41
• Chameleon Touring Systems.....	59	• Rentalpoint.....	72
• CMI.....	FC, 27	• RØDE.....	17
• Design Quintessence.....	21	• Rosco.....	63
• ENTECH Roadshow.....	51	• Sennheiser.....	23
• Entertainment Assist.....	72	• Show Technology.....	15
• Jands.....	3, 43, 61, 71	• Subscriptions.....	69
• Light Tonight.....	57	• TAG.....	7
• Meyer Sound Australia.....	5	• The Hump.....	65
• NAS.....	31	• The Look.....	49
• Nightlife Music.....	IBC	• The P.A. People.....	45
• NW Group.....	39	• Transtage.....	63
• Novatech.....	33	• ULA.....	25, 47, 67, BC

Are you concerned about your mate's mental health?

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

Support those around you and register for free mental health training



www.entertainmentassist.org.au

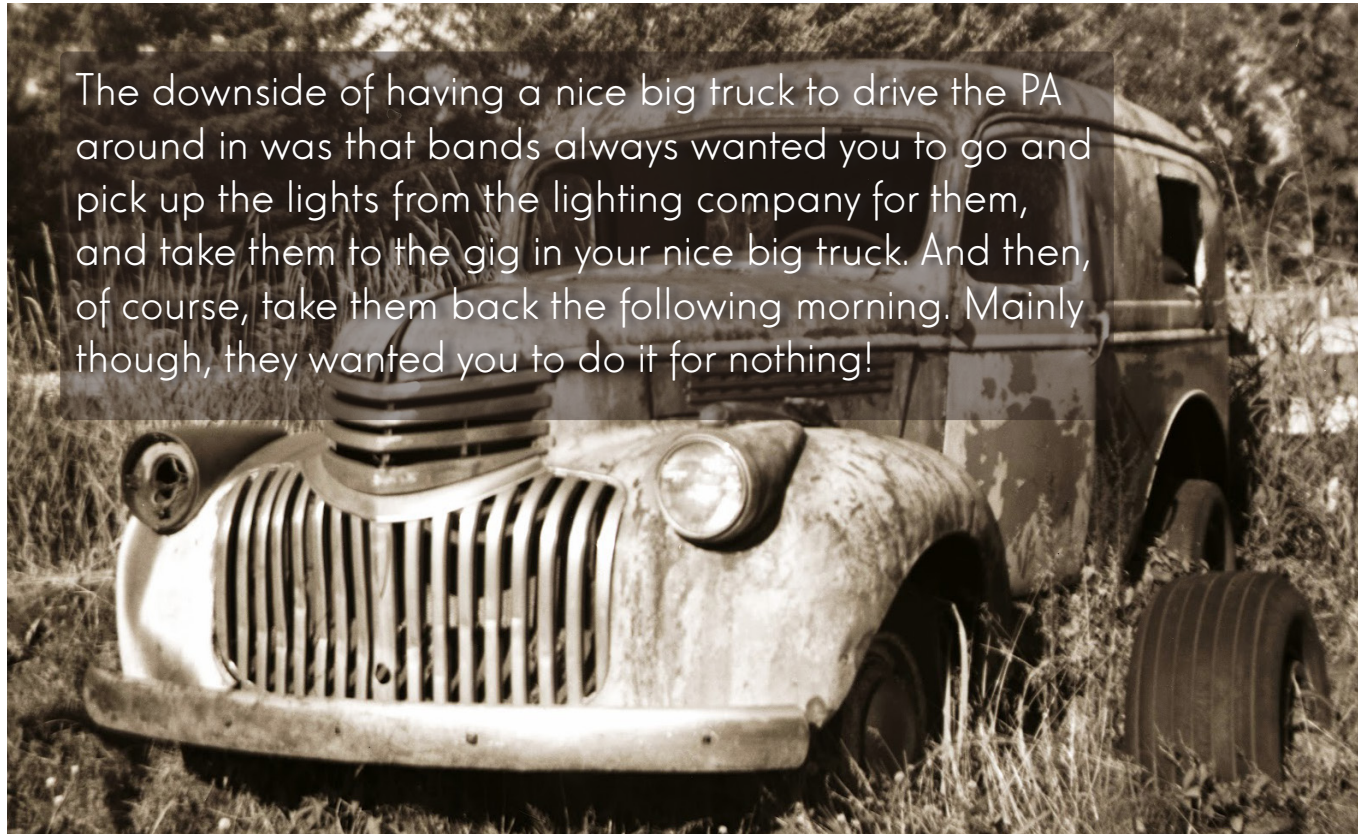
Supporting the mental health of Australian entertainment industry workers

¹Passion, Pride, Pitfalls Dec 2014



M F Lights The world's shortest lighting career

The downside of having a nice big truck to drive the PA around in was that bands always wanted you to go and pick up the lights from the lighting company for them, and take them to the gig in your nice big truck. And then, of course, take them back the following morning. Mainly though, they wanted you to do it for nothing!



It wasn't a really tiresome chore, but was a nuisance when you were running late (which was most of the time). So early on in my mixing life I made sure I took every band aside, and explained that I was quite happy to do stuff like pick up lights, pick up stage gear, whatever, but everything had a cost, usually about twenty bucks per stop for petrol, time, and wear-n-tear * on the truck.

Once they realised that most of their fee for playing would be going to Dunk's Benevolent Society, not the band, they soon saw things my way, and started taking as much as possible themselves.

But lights wouldn't fit in their cars, so we had a regular little extra earner from doing this for them.

As my assistant Jim and I were out at the lighting company one afternoon, picking up the lights for the band, we noticed that all the lighting cases had chalk scribbles on them, like 'NARROW', 'SPOT', and 'MFL'. And the ones we were picking up had MFL written on them.

"What's MFL stand for," I asked innocently, in my unceasing quest for knowledge, and before the lighting guy could answer 'Medium Flood', young Jim hopped in with a far more appropriate answer.

"More F***ing Lights" he said.

The lighting guy was none too impressed.

This time my trusty assistant was a guy nicknamed Biffa, after a character from VIZ comics who suffered from a bad case of Short Person Syndrome.

We had landed ourselves a gig supplying the PA and lights for a band at the good old Astrodome, a converted picture theatre in Traralgon, a small town in Gippsland, Victoria.

Normally we would have hired one of the Bong Brothers, a couple of lighting guys with whom we often worked. However, their relationship with us had been strained in recent times by me kicking one of their PARcans onto the floor when they'd set my new carpeted wedges on fire!

The band said they would be bringing their own lighting guy with them, so upon arrival at the gig, we unloaded the PA and lights out of the truck, and put them to one side.

Then we set the PA up, checked the monitors, EQ'd the Front of House, and waited for the band to show up.

Eventually the band arrived with their stage gear, and as we were miking it up they casually announced that the lighting guy they'd hired couldn't make it; could one of us do it? Biffa and I shuffled our feet, looked at the floor and at each other, rolling our eyes heavenwards.

The problem was that from our experience it was a very bad idea to let a band know that you knew how lights worked!

© 2015 DUNCAN FRY

Lighting guys always made it seem so complicated, and as far as the band was concerned, ignorance was bliss.

After all, if the band realised that anybody could do it, then lighting guys would have no power base and no justification for the incredible amount of time they took to get it together. I mean, we're only talking 16 cans at the most, not a Pink Floyd rig!

Worse than that though, was the fact that if you let on that you were quite capable of plugging up 16 lights and turning them on and off for a couple of hours, then they'd have you doing it all the time, and usually for nothing. So the best plan from a sound person's point of view was to feign ignorance of all things incandescent!

The band's leader looked desperate. Sensing that there was a bit of a problem, he offered money! Always a good idea. "Look," he said "We'll pay you the \$80 we would have paid him if you can help us out".

Biffa's face lit up. "OK" he said, "I'll do it."

Well, no kidding, he set to work like a man possessed, and he had the whole thing up and running in 10 minutes flat! To this day I don't know how he had the nerve to get away with it.

He unpacked the lighting cases, pulling out 4 bars with 4 cans on each bar, and hung all 16 across the back of the stage. He gaffer taped a spot on top of each PA stack, and faced them across the front vocal line. And that was it!

Whatever gels were in the lights when he pulled them out of the cases stayed on them. Whatever order the cans were in as he randomly plugged them into the dimmer rack, well, that was the order they stayed in.

Jeez, it looked bright but messy.

Scuttling down to the lighting console, he set it up on a slow chase. Each time the band started a song he would adjust the chase so the lights would flash in time with the beat. At the end of each song he'd hit the blackout switch, followed by a 50% wash of the next colour in the chase.

It took him about 10 seconds per song to do all this; the rest of the time he spent drinking beer and perching at the girls on the dance floor!

I've got to admit that I was a bit worried as to how the band would react to all this, and sure enough, in the first break, the singer comes striding forcefully over to Biffa.

Uh oh, I thought, here we go - it's whinge time.

Instead, the singer grabbed Biffa's hand and shook it vigorously.

"Great light show, mate, really great - looks fantastic from where we are!"

I nearly fell over! And then I realised; all the band could see from on stage was a whole lot of lights flashing on and off around them! They probably felt as though they were on stage with a 200 can stadium light show.

"How does it look out front?" he asked.

What a question. Bands always ask this, whether it's about the sound or the lights. What do they really think you're

going to say? - 'Jeez it sounds / looks terrible tonight?' Of course you're not - well not if you've got half a brain and want to get paid, that is. They want to hear how great everything is, and Biffa didn't disappoint them.

"Looks fine to me," he said enthusiastically, "Makes the band really come alive!"

"Really? Great, wait till I tell the other guys. It's really good of you to do this for us."

Biffa smiled and said "No worries, mate, glad to be able to help out!"

As we walked off to the bar to get a couple of drinks, we were wetting ourselves laughing.

"You slack bastard," I said "It'd better be your turn to buy the hamburgers on the way home tonight! That is, if your head's not too big to fit through the door of the truck!"

At the end of the night, the band asked him if he'd like to do lights for them permanently, as they were really impressed by the fantastic show he did at such short notice!

"Sure," replied Biffa, figuring that with both the band and me paying him, he would soon be living in the lap of luxury.

He blew it, though.

At their next gig he got totally tish-faced, and threw up on stage as we were packing up. That wasn't too bad; as we all know, these things happen sometimes, but unfortunately the band caught him trying to mop up his chunder with their expensive hand painted backdrop, and sacked him on the spot!

That has to be one of the shortest lighting careers ever!

* However once they saw the truck it became obvious that it had suffered from several lifetimes of wear-n-tear already!

© 2015 DUNCAN FRY

COPYRIGHT AND LEGAL NOTICES COPYRIGHT

CX Magazine is Copyright CX Network Pty Ltd. All contents protected by international copyright law. All copyright breaches vigorously prosecuted in any jurisdiction. Images, concepts, writing and content cannot be reproduced or transmitted in any medium whatever without the express written consent of the publisher.

EXEMPTIONS:

Articles, news of features in CX may be photocopied and distributed for educational use at accredited educational institutions without further consent required, provided such use is expressly for class instruction on a related topic, and where such use clearly identifies CX Magazine as the source. This exemption does not apply to electronic reproduction.

Articles from the News section of CX may be referenced under 'Fair Use' provisions in other news media, provided CX Magazine is clearly referenced as the source and any quotes are clearly attributed.

Feature articles or Gearbox reviews generally may be reproduced by stakeholders referenced within the story at no cost, provided specific written consent is sought prior to use.

LEGAL DISCLAIMERS

All material in CX Magazine is carefully edited and vetted before publication. In the event anything herein may cause confusion or may contain inaccuracies, please contact the publisher immediately. Where an inaccuracy or confusion is found to exist, we undertake to remedy any such instance as soon as possible. Do not rely on material contained within CX Magazine or

broadcast on any CX media if making material decisions relating to safety. Always seek professional advice before implementing, or changing any safety system or procedure.

While all care is taken in production of CX media and material, the occasional mistake may arise. We apologize in advance should this happen.

SUBSCRIPTIONS

A subscriber may cancel a subscription at any time, and is entitled to a refund representing un-delivered future editions. Any such cancellation must be made in writing or email. Please allow 28 days for the refund.

The publisher will replace any missing or damaged copy at no cost, but is not responsible for editions more than three months after publication date.



Manage My Nightlife

Are your clients looking for more flexibility and control over their music and visuals? Manage My Nightlife is a mobile management app that puts the power of Nightlife Music in the hands of managers. Your clients are empowered to own their atmosphere and drive it using song search, visual management, music controls and more.

NEW TECHNOLOGY EMPOWERS YOUR CLIENTS AND THEIR CUSTOMERS

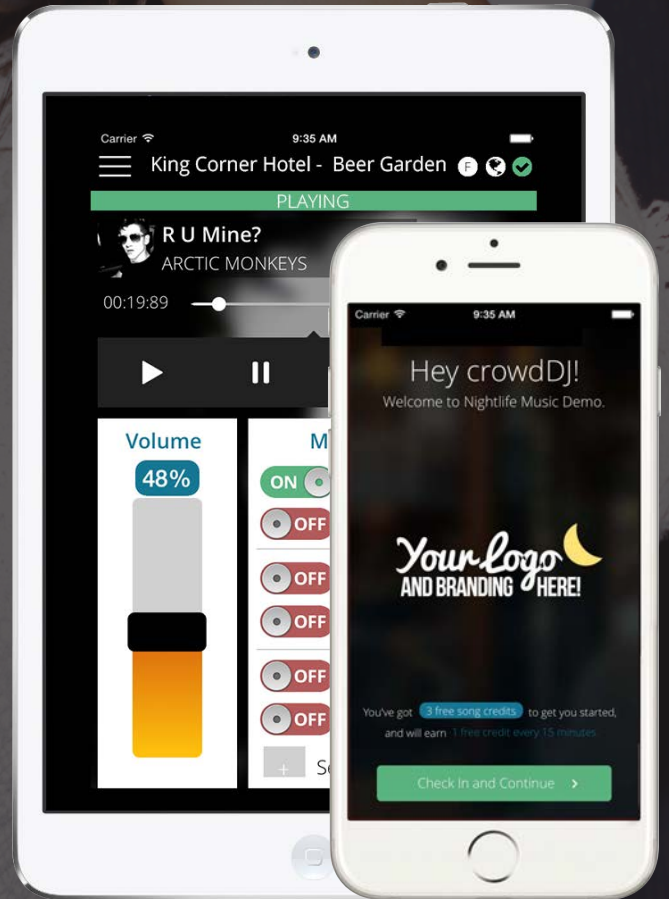


Available on the
App Store



ANDROID APP ON

Google play



crowdDJ

Do your venues want more interaction with their customers? Nightlife Music's new consumer app, crowdDJ, lets venue patrons have a say in what gets played – it's the new way to request songs and long term it will allow venues to capture likes and dislikes and better tailor their offering.

Nightlife Music is your partner in entertainment.

Are we working with your business?

Call us on 1800 679 748 to find out how we can work together.



www.nightlife.com.au

Bring your venue to life!®

LEADING BY EXAMPLE

ARIANA GRANDE WORLD TOUR • LD CHRIS KURODA

BARRY MANILOW FAREWELL TOUR • LD SETH JACKSON

BMFL™

Spot

Beam

Wash

Wash Beam

AC/DC STADIUM TOUR • LD PATRICK WOODROFFE

MAROON 5 WORLD TOUR • LD LEROY BENNETT

THE GRATEFUL DEAD FAREWELL TOUR • LD CANDACE BRIGHMAN

TEEN CHOICE AWARDS • LD TOM KENNY

DEMO ONE TODAY! CALL 1300 ULA GROUP



TOTAL VISUAL SOLUTIONS

EMAIL sales@ulagroup.com

CALL 1300 ULA GROUP | 1300 852 476

ulagroup.com

[f /Total.Visual.Solutions](https://www.facebook.com/Total.Visual.Solutions)

ROBE®

www.robe.cz