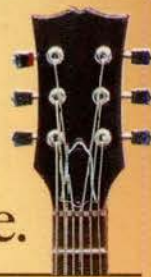


ONTM

GUITARS & THE REST OF US

Inside story on the good, the bad, and the brand new in the world of the axe.



Nov 15 2006 - Jan 15 2007. A\$4.50 • NZ\$4.50
AUSTRALIA & NEW ZEALAND

STAND BY...IT'S A

POWER CRISIS

The entertainment industry chews enough power to run a small town. Sound, Light and Video people can make a REAL difference, RIGHT NOW

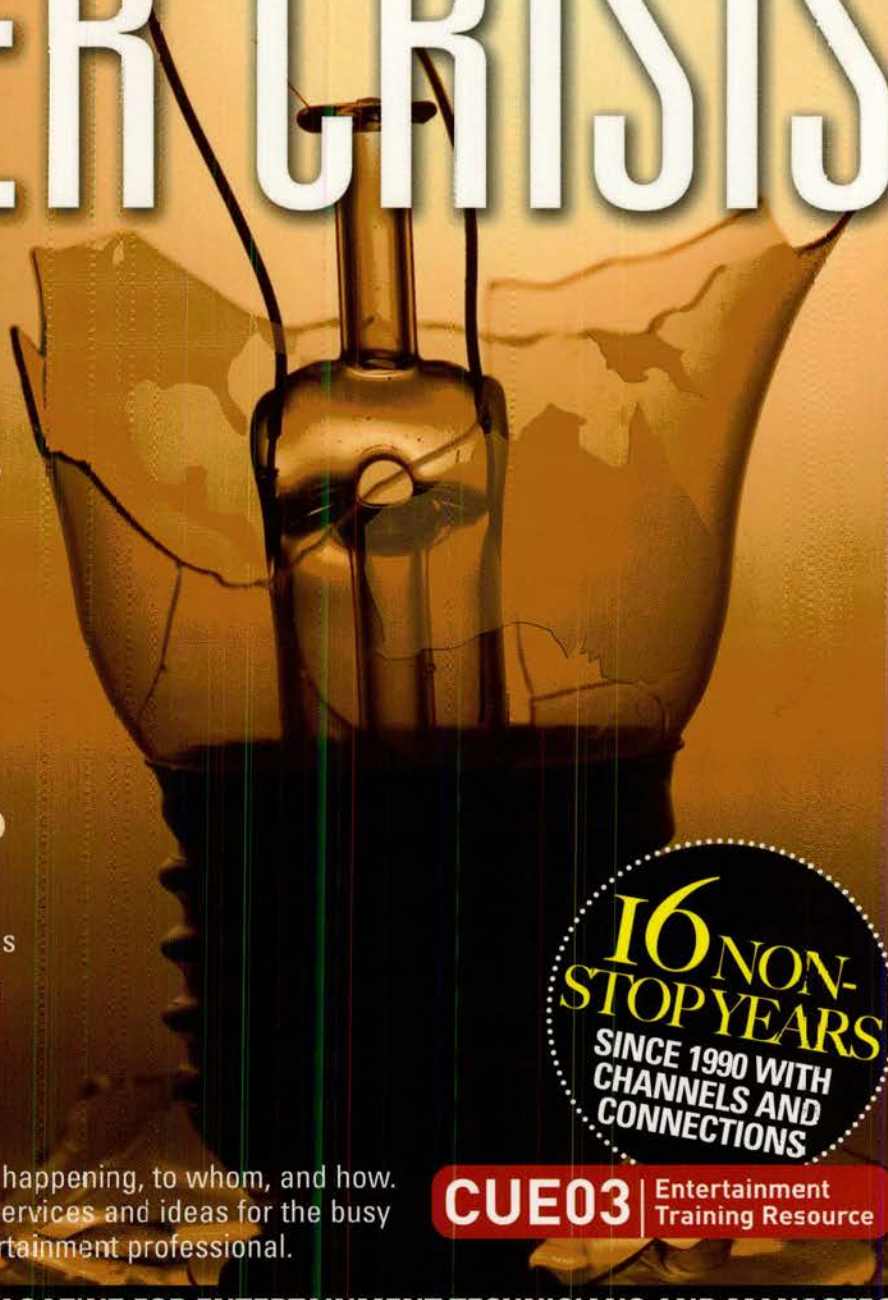
BOSE L1 - PALIKE NEVER BEFORE!

Edirol V-440HD - video mixer for the masses

DIGIDESIGN EXPAND THE VENUE

Wow! Staging Connections on the march as Paul Kenny drafted and Accor pull the plug

Wet! How Sol got drenched, and how you can prevent 't happening to you



16 NON-STOP YEARS
SINCE 1990 WITH CHANNELS AND CONNECTIONS

ISSN 1320-5595

Julius Publish

9 771320 559004

NEWS! What's happening, to whom, and how. New devices, services and ideas for the busy event and entertainment professional.

CUE03 Entertainment Training Resource

THE NEWS MAGAZINE FOR ENTERTAINMENT TECHNICIANS AND MANAGERS

Digital Art by Andrew McKinnon



PERFORMANCE GEAR

Sound like you mean it.

Performance Gear® Wireless Systems

Performing is a commitment, made and delivered before a live audience.

With hassle-free setup, stage-worthy construction and over 80 years of superior Shure quality, Performance Gear® is as dedicated to great performance as you are.



PG2/PG58



PG4



PG88



PG30



PG185



WA302



PG1

Performance-proven wireless microphone systems from the leader in live performance audio

SHURE
It's Your Sound®

My 2006 Christmas List



Dear Santa,



I have been a very good audio boy this year so this is my Christmas wish list

Can I please have

- audio connectors & adaptors
- mic & speaker stands
- power boards
- a portable PA and wireless mic system
- batteries
- cables & cable ties
- a tv stand
- lots of speakers
- 3 megaphones
- a tour group package
- a few different amps and some racks
- some dj cases with cd & lp cases too
- and a partridge in a pear tree!

Thanks Santa,
Luv Tommy

PS. If your Elves can't find all the things on my list you can get it all and more from National Audio Systems.

Their phone number is

03 9846 3566 or 1800 441 440.

You can also fax them an order on 03 9846 3544.

If you want to surprise me you can visit their website at:

www.nationalaudio.com.au

or email them at:

sales@nationalaudio.com.au

as they would be happy to recommend something for me that I know I'll want.

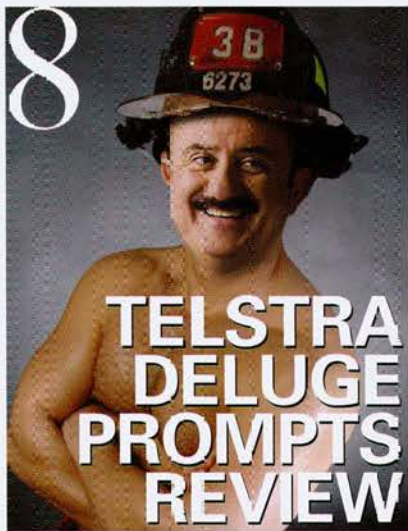


From the team at National Audio Systems we would like to thank you for all your support in 2006 and wish you all a Merry Christmas and a safe New Year

INSIDE THIS ISSUE

NEWS

8



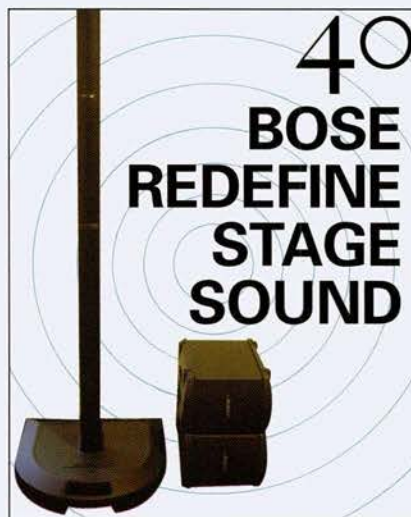
- 10 Staging Sets Sail with Kenny
- 12 Staging calibrates Staff, Acquires Dubai Gearhouse
- 12 New Venue Design Consultancy
- 12 Hairy Lemons Get Slice of Audio-Technica
- 14 Fallen Operator Recovering
- 16 Meyer Redefine Venue Acoustics with Constellation
- 16 More AT Loudspeakers



- 18 Peel AV Steps Up
- 22 CMI Contour Array Launch
- 23 Generation Church goes to the Forefront
- 24 KUDO Inventory Continues to Expand in Australia
- 24 Tannoy Adds IDP Technology to Precision Monitors
- 26 Audio-Technica Joins with Planetshakers
- 26 Bytecraft Buys Kinesys Automation System
- 26 ULA Opens Sydney Office

- 27 Premier Lighting Fails
- 28 Bosch Praesideo
- 29 New Robe 700
- 30 TDC Escalate as Live Video Runs Hot
- 31 Public Review of DMX512 Cabling Standard Extended
- 31 ESP Vision Signs with Bytecraft
- 32 Robert Juliat Upgrades Lancelot
- 32 Titanic - The Musical
- 32 Madison go Clock
- 32 Audio-Technica's Eight for the Road
- 35 Culture Club Return?
- 36 Hartley Peavey's Still Rocking Hard
- 37 Metropolis Falls

REVIEWS



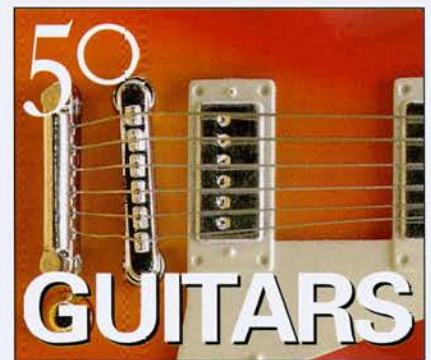
REGULARS

- 38 Letters
- 70 Duncan Fry - Buy These Products or Else
- 60 Subscriptions page
- 74 Classifieds

FEATURE



SOUND SOURCE



LITES



REVIEWS



See the difference...
try Philips MSR GOLD™

MSR GOLD™ 1200 SA/SE
WINNER 2005
ESTA-AWARD

Philips
broadway



Philips Broadway MSR GOLD™ produces the purest white light to get the most natural colors on stage. Gold plated lamp caps with the advanced P3 technology ensure maximum heat tolerance. The results: longer lamp life and better beam quality. So when failure is no option, try Philips MSR GOLD™.

www.broadway.philips.com

PHILIPS
sense and simplicity



ISSN 1448-2010

CX Magazine is published every six weeks

by Julius Publishing Pty Ltd
ACN 117 748 777

Mail: Locked Bag 30, Epping
NSW 1710 Australia.

Office: 10 Bridge street,
Rydalmere NSW Australia

Call +61 2 9638-5955

(New) Fax +61 2 9638-7181

Email mail@juliusmedia.com

Web www.juliusmedia.com

Editor, publisher Julius Grafton

julius@juliusmedia.com

call +61 2 9638-5955

Technical Advisors: Andy Mackenzie;

Richard Neville; Rob Zimola

Sales Steve James

stevej@juliusmedia.com

direct +61 2 638 5955

Newsagent distributor: NDD

Publishers PA Amalia Portelli

Subs Manager Amy Wilcox

Web by ThinkFirst

Print by Superfine

Design by Bite Communications

Lab Help by 1-800-GoCrew

JuliusPublish™



EDITORIAL

WOW!

WOW! was what I thought; when I read confirmation of what we at the Julius conglomerate have been thinking for a while. Our underlying industry, the entertainment industry, is worth a lot more than we last calculated.

Live Performance Australia have just reported that live entertainment revenues are up a whopping 36 percent, at \$834 million. Considering the Australian Bureau of Statistics last measured \$620m in 2003, this is a fairly startling rise. Plus, LPA only measured events within their membership, so there is a lot more pie out there.

Back at the last ABS survey they also pegged corporate events at \$655 million, but these were events for more than 500 people. Industry guru Paul Kenny (interviewed in this issue) says whatever the dollars for 500 people is, there is two times more turnover for events smaller than 500 people. That would make the 2003 gross revenues almost \$2 billion for events alone, which would have grown significantly by now.

Add on CD sales, installations, retail sales of musical instruments, film, TV and contracting and you have a very diverse, specialized and fast growing market.

SHORTAGES

Our cover story talks about the dual risk of running out of

power; and of paying much more for it when it is still around. As you read this the industry had already run out of skilled technicians, and many people are suffering equipment shortages as well.

The entire training intake for junior, starting level technicians last year was under 30. Our industry doesn't seem to want the Traineeship funding that the government gives to anyone hiring a new start trainee. The government allowed 600 (that is SIX HUNDRED) places in the program for our industry. Let's do just a little better in 2007.

Speaking of which, one half of all students enrolled in full time entertainment technician courses leave town to return where they came from or go on to do other things, courses, or travel. So only half the graduates are looking for work at the end of their courses.

In Sydney, current estimates are 45 graduates are needed right now. There are actually none left, fewer than that are enrolled, and those who are have found work.

As an industry, we (you) need to be more pro-active about the career pathways, and we need to promote ourselves much better as a serious vocation. Otherwise, smart young people will bypass our industry and find work elsewhere.

Julius

CUE03

Entertainment
Training
Resource

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

You asked for it

Since the introduction of the hugely successful NT5, professional musicians and engineers worldwide told us they loved everything about the NT5 but asked us for the added versatility of a two stage high pass filter, and a two stage pad.

We listen to our customers.

Introducing the Røde NT55



Free NT45-O omni capsule

www.rodemic.com

RØDE[®]
MICROPHONES



NEWS

PRODUCTS AND GADGETS

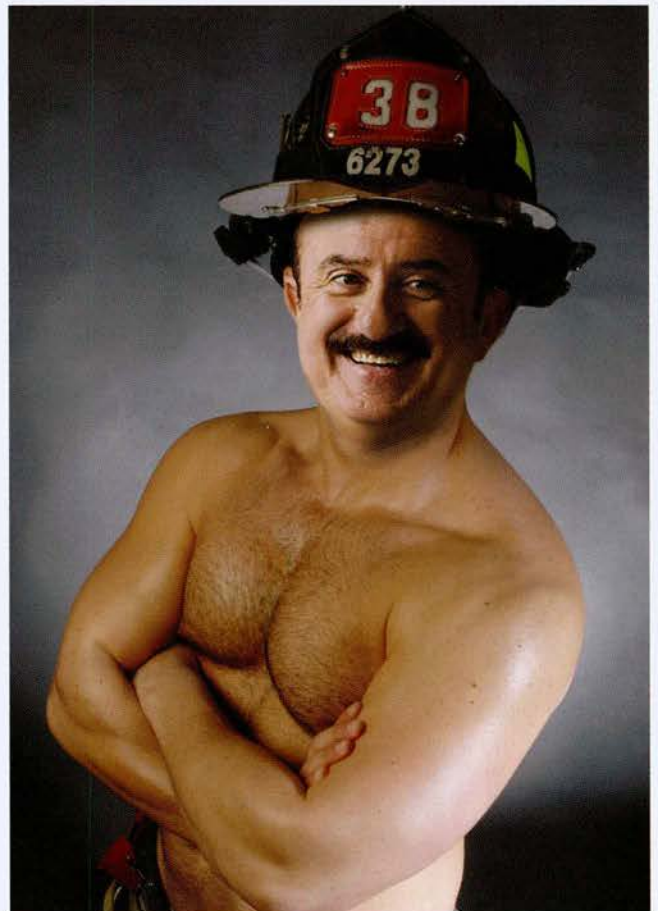
TELSTRA'S LIGHTING TRIGGERED DELUGE PROMPTS REVIEW

In the cutthroat world of corporate presentations, a contract like the one Jack Morton hold with Telstra is coveted. Product launches and annual general meetings are serious and precise affairs, and so when everything went wrong in Sydney recently, the ramifications were enormous.

“CX Suggests: It appears that no standards were breached, and that all normal safeguards were met. As a consequence of this mishap it would be a good idea to give any thermal sprinkler a wide berth in future and probably to mention the location of same on work method statements and risk analysis before an event.”

The launch of Teltra's T3 share float was also a reveal for the new 'Next G' phone services, and chief executive Sol Trujillo was mid flight when a sprinkler at the Overseas Passenger Terminal on the western edge of Sydney's Circular Quay unleashed a torrent of rancid water over the stage.

Jack Morton and Haycom Staging, who provided the technical services including lighting for the event, quickly relocated the launch to another venue. The assembled media ran footage of the mishap, and subsequent public relations analysis tended to soften a negative media view of



Telstra CEO Sol Trujillo emerged from his water logged launch with a better public profile. (Digital mischief by Andrew McKinnon).

Audio-Technica 3000A Wireless



There's nothing funny about wireless systems with drop outs, distortion or limited bandwidth. That's seriously 'Not Happy!'

Do yourself a favour and go straight to the 'It's All Good' end of the wireless spectrum with Audio-Technica's new 3000A.

It's choc-a-block full of extremely formidable engineering. Like Automatic Frequency Scanning which searches through up to 200 UHF channels and selects a clear, open one. And when it's latched onto a frequency A-T's true diversity transmission means it's really hard to shake off.

Flexible in the extreme 3000A is available with dynamic or condenser handhelds plus a huge range of A-T lapel mics, headset (incl. sub-miniature AT892 and fully waterproof AT889), camera mounts, guitar pickups and cables.

From: \$1,195RRP (Dynamic Handheld System).



A-T Wireless: 'It's All Good, Mate'

Fully Compatible With A-T Wireless Accessories:



ANTENNAS.....SPITTERS.....COMBINERS.....RF DISTRIBUTION

See your Audio-Technica dealer or contact TAG for more: info@tag.com.au Ph. (02) 9519 0900



Mr. Trujillo. The sprinkler incident appeared to draw extra attention to Next G, and the T3 share float. Media analysis say that Mr. Trujillo emerged well from the mishap, which humanised him in the public eye.

In the immediate aftermath of the incident it was feared that Telstra would seek significant commercial damages, however sources close to the matter say things are settled between Telstra, Jack Morton and Haycom. Telstra were, in hindsight, believed to be satisfied with events on the day, as the media attention and the rapid relocation of the meeting played out well for the company. The technical crew executed a very fast and tricky relocation, and a flawless second

running of the presentation, under very high pressure.

Haycom are not talking, as they say they await a NSW Fire Brigade report on the matter before they can comment. The sprinkler in question was typical of those used in public venues, with an ignition activation temperature of 68 degrees C. It was located relatively close to an installed venue rigging point, onto which Haycom had rigged a 1000 watt fresnel spot some days previously.

The venue has been in use for around 20 years, and the sprinkler probably for the same duration. The water, backed up in the pipe, had lain inert all that time, so it came out smelling very unpleasant.

Not withstanding any fallout

between Telstra and its providers, the damage to the venue and the response of the venue's insurers is another matter. Water damage from sprinkler activation can be severe, as the system usually takes a while to shut down.

Possibly mitigating the sprinkler mishap was another, at a Sydney Telstra office that very same day. In what can only be described as a small mercy for Jack Morton and Haycom, the Telstra offices were drenched when some within the George street offices inadvertently activated a sprinkler head on the 30th floor. The system subsequently drenched large areas of the building, and thousands of staff were evacuated. CX

STAGING SET SAIL WITH KENNY

Strategy emerges as AAV acquire more businesses

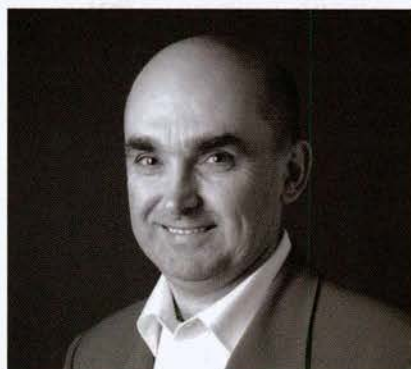
One year on from the start of a major overhaul, AAV owned Staging Connections have rebranded and cemented a strategy with the appointment of Paul Kenny as International Creative Director.

"It's a relationship role", Paul told CX. "I've been a giver and a receiver, worked up from frog level, rental, creative. Now Staging can use the breadth of my experience".

The appointment caps a new team that has been put in place by CEO Bill Davidson, who was appointed by AAV after the publicly listed company parted ways with founder and former CEO Garry Hackett last year. The team includes Director of Marketing Rebecca Murray.

Paul Kenny was chair at Jack Morton (Australia), and retired after the global events company completed the ceremonies work at the Commonwealth Games this year. He started in the music business as a roadie for a band from New Zealand called Toile Puddle. They slogged away on the Australian scene for several years supported by bands like AC/DC and Little River Band "who all blew us off the stage", Paul recalls.

Founding Wavelength Communications in 1983, Paul became an early adopter in the world of corporate events and eventually sold out to Caribiner for a healthy consideration in the year 2000. They in turn were acquired by Jack Morton,



Paul Kenny, event industry wiz joins Staging Connections.



Rebecca Murray, a 'born again' live events person.

and he went on to head its operations in this part of the world.

Paul was a long time critic of the old Staging Connections, because they attempted to move from being a supplier to a producer, which put them in competition with clients – clients like Paul. "They played the game of being a producer, but they weren't really". The other thing he didn't like was the quest for market share at any cost.

Now the boot is on the other foot, Paul is at heart a creative director and has shows in his veins. He is also measuring up new markets and new business for SC, such as applying the "in house AV at the hotel" model elsewhere in the world.

Meanwhile the marketing push at SC is aimed at growing the events share of the marketing budgets at

large corporates. "I'm a born again events person", Rebecca Murray says, "I worked at Colonial-State with a thirty million marketing budget and didn't spend much on events. Now I think I would." She cites some corporate trends which have recently identified live events as more effective spends of the marketing dollar. Part of her push at SC is to convince corporates to divert more of their marketing budgets into live events.

As to the overall size of the market, Paul asserts that events smaller than 500 people significantly outnumber larger events; thus valuing the events market at over \$2 billion in Australia. The last measured survey of the industry was done by the Australian Bureau of Statistics who measured events larger than 500 people. CX
Staging calibrates staff. See next page >

KUDO KNOCK OUT!



KUDO ACER ARENA - HILLSONG CONFERENCE 2006

- WORLD DEBUT IN 2005. OVER 2000 KUDO NOW IN THE RING.
- 1000 ROUNDS WJN ACROSS ALL CATEGORIES FROM LIGHT TO HEAVYWEIGHT.
- WANT SOME UNBEATABLE PUNCH FOR YOUR NEXT SHOW?

KUDO - ULTRA POWERFUL PACKAGED DESIGN, ULTIMATE FLEXIBILITY AND **DOSC** HERITAGE.
PREPARE TO BE KNOCKED OUT - VISIT THE **KUDO** EXPERIENCE AT WWW.L-ACOUSTICS.COM.



WWW.L-ACOUSTICS.COM

DISTRIBUTED IN AUSTRALIA & NEW ZEALAND BY RANDOM AUDIO PTY LIMITED
WWW.RANDOMAUDIO.COM.AU • TEL +61 2 9667 3411

WOW THE WORD AS STAGING CALIBRATES STAFF, ACQUIRES DUBAI GEARHOUSE

Director of Sales Geoffrey Webb came and went from Staging Connections in the time it took to produce this magazine. Previously an executive with Southcorp Wines, he was hired to 'ensure the continuous review of client serve standards and the delivery of the most focused premium range of event services in the region'. It was not to be, and he quickly left the company.

It is a time of great challenges and changes at Australia's largest technical production company. The firm lost valuable hotel contracts with several Accor properties in Sydney; and has struggled with at least one

recent keynote event run by one of its new Singapore subsidiaries. Reports from Singapore indicate an accident on site where a light fell out of a rig, injuring a venue staff member; and payment disputes. The Singapore Staging Connections operations are two separate, and previously intensely competitive, companies joined together as 49% shareholders, with Staging holding the balance.

The mantra at Staging /AAV appears to be that anyone unable to make changes can go, and so many long established staff are doing just that.


It remains to be seen whether there are people from outside the industry who have the right understanding of the creative tension that inspires events professionals.



STAGING CONNECTIONS
INSPIRATION AT WORK

New and bold, and looking a little like the logo at www.holysheet.com.au.

Traditional corporate types generally misunderstand the events industry.

Meantime, AAV has just acquired 51% of Gearhouse Dubai, adding the gulf state to a new flotilla of Staging Connections operations that includes Shanghai, Singapore and Fiji. 



NEW VENUE DESIGN CONSULTANCY

Denis Irving (pictured) of Entertech has announced a merger with Marshall Day Acoustics to form a new theatre and entertainment venue design consultancy, Marshall Day Entertech.

The new company builds on the strong association between the two companies over many years of collaboration on an extensive range of venues for the performing arts.

Denis is one of the 'founding fathers' of the current venue era, and is highly regarded within the theatre trade. He has been responsible for many great venue designs, and has been a tireless fighter for standards, in a world where accountants and architects are only too ready to shout down practical ideas.


The scope of services provided by Entertech will be expanded to include the complete, coordinated design for all performing arts venues.

The foundation of Marshall Day Entertech builds on the established synergy between the two companies

and, for the first time in Australia, provides a complete venue design consultancy to the arts and entertainment industry.

Marshall Day Entertech offers design consultancy services for performing arts facilities including master planning, brief preparation, integrated and coordinated venue design and technical systems specification. They have offices in Australia, New Zealand, Europe and China.

Current major projects include the Perth New Performing Arts Venue, Guangzhou Opera House with Zaha Hadid, the Beijing Television Theatre, Oamaru Opera House and Civic Place Concert Hall and Theatre on Sydney's North Shore.

www.marshallday.com 

HAIRY LEMONS GET SLICE OF AUDIO-TECHNICA

Hairy Lemon is Keith (guitarist/singer/songwriter), Steve (Bass) and Mike (Drums) who play a fresh mix of rock/funk/reggae. They take their performance seriously acquiring their own audio and lighting systems as well as building a recording studio at home. They have just become Audio Technica endorsees, having been enthusiastic about that brand of microphone.

June 5th 2006 saw the release of the all original 'Incommunicado' album. "The album speaks for itself" said Stephen Bray, Sales Director for Audio-Technica's Australian distributor TAG. "It's a 'Live in the Studio' type album



Steve Bray from TAG pictured with the Hairy Lems. Steve is the guy who is slightly older than the other three.....

and very representative of the band – it's a class act. We've been very impressed by The Lemons attention to detail not only in their music composition and performance but also in their equipment choices and

production. These guys have the power and the passion to take their music to a very wide audience. We're thrilled to be playing a small part in helping them achieve that."

www.tag.com.au 

WE SKIPPED OUR "NEXT-GENERATION" 4-BUS MIXER... AND DESIGNED THE ONE AFTER THAT.



ONYX MIC PRE / PERKINS EQ

Onyx mic pres provide unparalleled fidelity. Acclaimed 4-band Perkins EQ is offered on every channel.



COMPRESSOR / LIMITER

A high-quality analog stereo compressor/limiter, assignable to groups or mains.



MATRIX MIXER

A 6 x 2 Matrix mixer can be used to create additional mixes—ideal for IEM (in-ear-monitor) systems or zoned outputs.



100mm FADERS

Panasonic® 100mm faders provide smooth, long fades versus typical 60mm faders found on other mid-format consoles.

INTRODUCING THE NEW ONYX 4-BUS LIVE SOUND MIXERS.

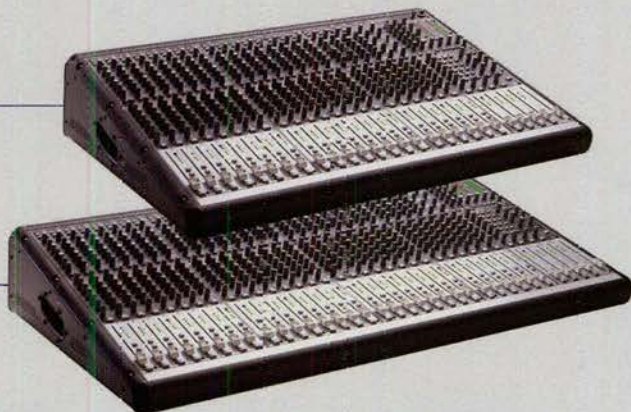
In the seven years since we introduced the wildly popular SR24.4 and 32.4 VLZ-Pro mixers, a lot has changed. So we knew our new mid-format live sound mixers could not merely offer incremental improvements. They needed something monumental. And by "monumental," we mean "Onyx."

The new Onyx 24.4 and 32.4 Premium 4-Bus Live Sound Mixers offer boutique-quality mic preamps on every channel, completely redesigned analog circuitry with massive headroom and the industry's lowest noise specs, plus a built-in high-quality analog compressor, a 6 x 2 Matrix mixer, and more routing than any analog mixer this size.

Better still, the Onyx 24.4 and 32.4 are robustly over-built and rigorously tested for the unspeakable tragedies which await in the world of live sound. Check out these next-next-next generation consoles online at www.mackie.com/4bus. Or simply visit your authorized Mackie dealer for an Onyx 4-Bus mixer demo today.

ONYX 24•4

ONYX 32•4



FALLEN OPERATOR RECOVERING

"I was hooked up to the safety gear, which failed"

Andrew Oakeshott is convalescing after almost losing his life falling from a follow spot ladder while working on Boy from Oz. He was climbing the 13 meter wire ladder and almost at the chair when he fell. He broke all the ribs on one side, punctured a lung, ruptured his spleen and his diaphragm.

"I was conscious as I fell, and blacked out before I hit. Then I woke a few seconds later. I almost died", he told CX. The ambulance guys cut the harness off him, and he was rushed to surgery.

After fifteen days in hospital, he was sent home and remains in recovery and heavily reliant on pain killers which he says affect his emotions. He

expects to be off work for six months.

The day of the accident Andrew was employed by Event Personnel Australia in Adelaide. He says that he was asked at the last minute to do follow spot up on the lighting truss on stage left, as the scheduled operator had not arrived.

"I normally carry my own harness, I am a safety nazi. I didn't have my harness that day since I didn't expect to go up there. They were hurrying us along, and the band were tuning up. Someone hooked the inertial reel onto the back of my harness, because you can't reach the dorsal point when you are in the harness".

Andrew questions whether a climb

of more than 10 meters should be allowed. "There was a hoist and platform to get the star up to the piano, we, as an industry, could design something like that where the climb is more than 10 meters. I can climb ten meters, but the extra three meters really takes it out of you."

"A wire ladder is a stupid, old fashioned way to get up to heights", he added.

Being injured and off work, sitting around at home all day and being cared for by his girlfriend, Andrew feels isolated. He says only one industry mate has actually called him, although plenty of people have sent texts.

"It's one thing being injured and off work, but in rehab terms people don't realize the face to face side of it. People avoid talking to you (when injured) because they don't know what to say or they think you don't want to talk about it."

Work Safe SA are investigating the accident. Andrew just wants to get back to work. CX want to ensure that he remains respected as someone with a first rate safety culture. 

**For quality works
behind the scenes...**



Lots of Watts.

Suppliers of quality Professional Audio and Lighting.

Hire - Sales - Installation

The company everyone else uses

**Lots
of
Watts**
PTY LTD

2 Bridge Street, Rydalmere NSW 2116 Tel: +61 2 9638-0302 Fax: +61 2 9638-0331
Email: sales@lotsofwatts.com.au hire@lotsofwatts.com.au Web: www.lotsofwatts.com.au

**SHOW US
YOUR GIG!**

Send us a photo of YOU at YOUR gig – and a few key fact-oids. Like where it was, when, with whom, and generally what it was all about. That's all! And we might run it, here in CX! Oh, and include your contact number too.....

www.CASES.com.au



Table Rack
\$749rrp



Over 200
Racks
Online !!



Custom Cut
Pico Cases



4U FX \$159
rrp

:: over 1250+ cases online
:: deal with us by EASY email
:: web order fax order email order



www.CASES.com.au
incorporates GO Case & Blue Cat Case Company
Unit 1, 4 Combarton Street
Brendale QLD 4500 Australia
we ship Aust-NZ Every day
Fax ++617 388 99 744
Fax 07 388 99 744
Tel 07 3889 7755
(up to 4 hr response)
Email sales@roadcase.com.au
(response within minutes)

Wholesale Enquiry
wholesale@roadcase.com.au

insurance you can touch!



Drawers
4 drawer \$575



Suspension Racks
\$268-\$925



In house CNC & die cutting for foam shapes



Mixer Cases
most under \$500



Pickers
15 under \$500



3 Lidded Mixer Racks from \$319



Tilt and Roll Cases
from \$349



Racks from \$165

MEYER REDEFINE VENUE ACOUSTICS WITH CONSTELLATION

Meyer Sound has announced a system that enables push button reconfiguration of a venue's acoustics, without the need to move baffles and panels in the ceiling. Many venues struggle to service more than one genre – a theatre often is not adequate for opera; or for symphony. The ideal venue reverberation profile for each genre differs.

Meyer's Constellation electroacoustic architecture is a complete package of equipment and services centered around Meyer's VRAS technology, that gives venues the flexibility to alter their acoustics instantly and accommodate a variety of events and source material while remaining virtually invisible to the eye.

The system uses multiple small speakers throughout the auditorium such as the self powered Stella 4 and Stella 8, which include a gimbal mounted version that emulates a downlight. These require 18 volts for amplifier power, plus an audio line. Meyer also have a mini subwoofer, and a UPJ speaker for this system; along with their own calibrated microphones (also installed throughout the venue) that feed the processor from various points around a venue.

Traditionally, venues have been designed to have acoustics optimized for specific uses: theatres are designed for plays, concert halls for music, lecture halls for speech, cinemas for film surround sound. To use one of these venues for an application with different acoustical needs meant either putting architectural solutions in place or compromising a performance with

inappropriate acoustics. But variable architectural solutions can be very expensive and have a limited range of effectiveness. Yet today's venues are expected to be capable of presenting the full spectrum of program types.

"Most new venues are being built to be multipurpose, and existing ones are broadening their scope of events, says Meyer Sound President/CEO John Meyer. "

Constellation enables a venue to provide acoustics appropriate to the needs of each program at the touch of a button, yielding numerous benefits. For the audience, a music concert in a multipurpose venue can have all of the warmth and resonance of a concert hall, while a play in the same space will exhibit increased intelligibility. Musicians enjoy an increased ability to hear each other, creating an onstage acoustical experience conducive to ensemble musicmaking. Constellation can even aid in presenting a balanced sound, helping to surmount well-known challenges like bringing instruments with poor projection, such as an orchestra's French horns and string basses, into the proper aural perspective. It also removes the need to design a sound shell, and removes banners and baffles and the associated mechanisms which until now have been the compromise solution when changing a room acoustic.

The system employs Meyer's VRAS variable room acoustic system processor in combination with newly designed Stella loudspeakers and Constellation microphones. The VRAS technology, originally developed by Dr. Mark Poletti of Industrial Research Limited, employs a powerful DSP engine capable of generating multichannel reverberation and early reflections, as well as mixing,

processing, and routing them.

The sound of Constellation is natural because it behaves like a real room, with early reflections generated from stage sound and accurately directionalized, while reverberation comes from a combination of a digital reverberation chamber and a regenerative acoustical structure. The regenerative portion of Constellation incorporates the natural acoustics of the room, rather than ignoring them or simply trying to overpower them with artificial reverberation. Pitch shifting and other artifacts are never incurred in Constellation, making it the best choice for delicate material like classical music.

All Constellation components, including microphones, loudspeakers, and processing electronics, have been designed expressly to meet the system's requirements.

Proper design and installation of electroacoustic architecture requires expert consideration of the quantity and placement of microphones and loudspeakers, along with a careful regenerative optimization process. Each Constellation system is created and commissioned by certified and accomplished professionals in acoustics and digital signal processing.

Meyer assert that Constellation is most likely to be designed into a new venue; and having visited many venues with so called 'variable' acoustics using moveable panels, CX can see immediate benefits. The provision of moveable solutions in a venue usually becomes misunderstood over time, venue staffs are reluctant to spend unprofitable hours resetting between shows. Constellation promises to do the job instantly, with the press of a button.

www.meyersound.com.au



MORE AT

Acoustic Technologies announce the release of two new loudspeaker models, the SS24 and the SFM24. The SS24 is a compact high output 2-way speaker designed specifically for high-end production applications. The SS24 employs a high output 12" LF transducer and a 2" HF compression driver with a choice of 100x 40 degree or 70x40 degree waveguides.

The SFM24 is a purpose-engineered, low profile 2-way Stage Foldback Monitor system. Both models are constructed from premium grade, void free Finnish birch ply using precision CNC

machining. All transducers feature Neodymium motor structures for improved performance with reduced weight.

The SS24 and SFM24 can both be operated in full range mode using the sophisticated built-in passive dividing network or in bi-amp mode using the factory recommended LMS settings. Passive or Biamp mode is user selectable by means of a simple recessed switch on the input panel.

Both products have been well received by the rental/production market with sales already to Norwest productions (Australia's largest Production Company) DW Sound, Downs Sound and many other



Graeme Whitehouse, general manager Norwest Productions with the SS24.

regional rental companies.

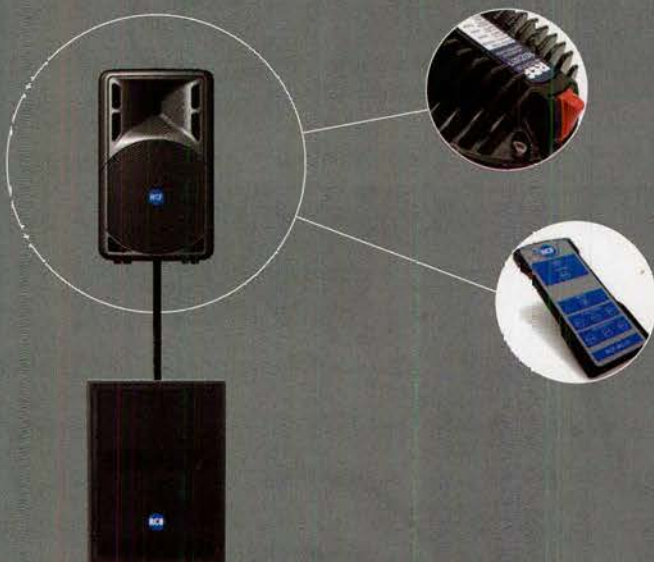
www.atprofession7al.com.au



THE NEW RCF ART SERIES...



Used by more professional audio hire companies
than any other active speaker in Australia.



Including the NEW Compact ART 310A

350W bi-amplified active 10" bass & 1" HF driver

And, of course the rest of the great ART range

ART 312A - 350W bi-amplified active 12" bass & 1" HF driver

ART 315A - 350W bi-amplified active 15" bass & 1" HF driver

ART 322A - 400W bi-amplified active 12" bass & 2" HF driver

ART 325A - 400W bi-amplified active 15" bass & 2" HF driver

All feature light weight neodymium HF driver, new electronics with optional wireless control capability, more power, efficiency and bigger range.

Need more bass?

Check out the feature packed Art 7C5AS self powered 300 watt RMS compact sub bass module.

YAMAHA ADD CAT 5 CABLE OPTION TO CONSOLES

A variety of digital multicore options expand the possibilities

EtherSound is a growing format where 100 metres of Cat 5 cable are used to send or return audio, like a multicore but without the thick and expensive multicore. Now Yamaha have adopted the technology and introduced products that make audio life far simpler.

Anyone convinced that Yamaha's previously released trio of live digital mixing consoles (PM5D, LS9 or M7CL) were compromised because all the inputs and outputs are on the console, can think again. While many people are perfectly happy to run analog audio cables all the way to the console, and all the way back to the stage, just like we have always done for 30 years now, Yamaha have a solution to remote rack the audio onstage.

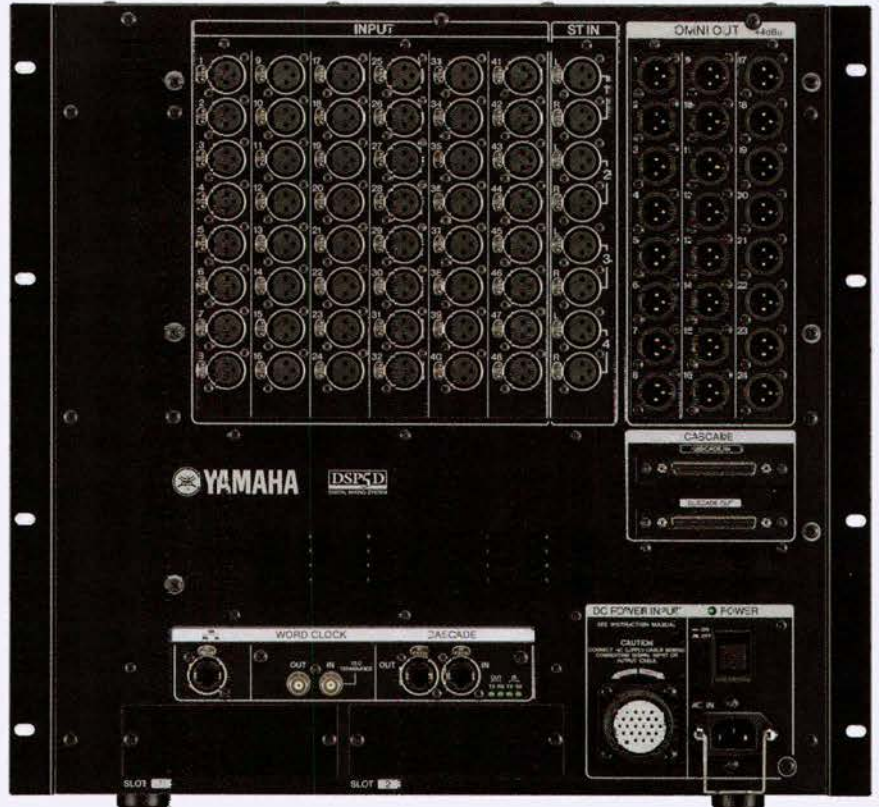
In fact they have two solutions, one tailor made for the PM5D-RH which is the current console of choice for upper mid level live audio. The new DSP5D is a stage rack that can either be used to double the console's inputs (using all four layers on the control surface, and allowing a total of 96 mono and 16 stereo inputs) or it can be remote located, like as a stage rack.

Using the DSP5D (pictured top right), a system engineer can do either thing plus another thing. This is the kind of versatility audio people enjoy.

Thing one is to just double the console inputs, so the DSP5D can be situated close to the console, connected with a control loom. This way, all the mic lines run to the console area.

Thing two is to remote the DSP5D and interface its control loom with a breakout box to connect up to 120m of Cat 5 cable, run back to the console. At the console, a card in the card slot accepts the Cat 5 connection.

Thing three is to use a computer and



software to control the DSP5D, and even mix the show, if you dare.

Now that we've dealt with the PM5D, users of the newer, lower market consoles known strangely as MC7L (the one with the touch screen pod) and the LS9 (the brand new 16 or 32 fader really inexpensive console) can use another EtherSound solution, to remote the audio.

The NAI48-ES (pictured below) is a one rack unit box that does 48 channels of bidirectional audio, so you can run up to 100 metres of Cat 5

from it, to one of the new consoles, and again connect to the console via an optional card in one of the console card slots.

In addition, the NAI48-ES can be a digital multicore, with a unit at each end to convert the audio. Analog audio runs in and out of the centre via 25 pin D-sub connectors, which are these days fairly common and for which there are after-market conversion looms that go from 25 pins to a bunch of XLR's.

www.yamahamusic.com.au



PEEL AV STEPS UP

Based in Mandurah (WA) for over 6 years, Peel Audiovisual has recently taken delivery of a Dynacord Cobra 2-PWH Compact Line Array System. They say it is the only portable line array available for hire in the Rockingham and Mandurah regions.

The Cobra System made its debut in a half system configuration in Meadow Springs for Mirvac Fini's Jazz

in the Park Concert.

Peel AV crew were happy with the clarity, coverage consistency and head room. "I have to admit myself it was a good sound." Steve Rowe, Hire & Sales Manager of Peel Audiovisual noted. "I even had general public coming up and asking about the system and how it can achieve so much clarity and coverage from so few cabinets." Steve concluded.


www.peelav.com.au





The world has embraced digital mixing.

DIGITAL MIXING CONSOLE **LS9-16**
\$8,000 incl. GST



DIGITAL MIXING CONSOLE **LS9-32**
\$14,500 incl. GST

Now it's your turn.

Audio professionals are turning to digital mixing to enhance sound quality, efficiency and commercial advantage.

Available in a rack-mountable, 16-fader, 32-channel chassis or a mid-sized, 32-fader, 64-channel format, the Yamaha LS9 is the most advanced, versatile and lightweight digital mixing console in its class, with an interface even easier to use than analogue desks.

This is the live digital mixing solution you've been waiting for.



YAMAHA

CO
commercialaudio

For more details on the LS9 go to:

<http://www.yamahamusic.com.au/products/commaudio>

Yamaha Music Australia, Commercial Audio Division, P.O. Box 268, South Melbourne VIC. 3205 Phone 1800 805 413

MIX WITH THE BEST.

The best sound mix starts with the best product mix. That's why we've stacked our new showroom with the world's latest audio and visual equipment. Plus it offers a sound suite where you can test drive your favourite studio monitors, PA speakers and mixers. Mix with the best at Soundcorp - Best Products, Best Service and Best Price.



Amplifiers



Computer Audio



Accessories



Digital Workstations



Mixing Consoles



PA Speakers

SOUNDCORP

New showroom located:
570 City Road South Melbourne 3205
phone. (03) 9694 2600 fax. (03) 9694 2626
email: sales@soundcorp.com.au
www.soundcorp.com.au

Sydney Branch Office:
phone. (02) 8596 5855 fax. (02) 8596 5850



Playback and Record



Headphones



Studio Monitors



DJ Gear



Software



Microphones



Signal Processors

SHURE
It's Your Sound™

M-AUDIO®

ADAM
PROFESSIONAL AUDIO

DENON

dbx
PROFESSIONAL PRODUCTS



JBL
PROFESSIONAL

lexicon®

NEUMANN.BERLIN
BY THE MICROPHONE COMPANY



RCF™

SENNHEISER

RØDE
MICROPHONES

SONY

Soundcraft

MACKIE

TANNOY
HEAR|BELIEVE

YAMAHA



CMI CONTOUR ARRAY LAUNCH

Christian Stumpp from HK Audio has launched the new HK ConTour Array System on behalf of distributor CMI in Melbourne. This was the second such event that CMI have run with HK Audio professional PA products, having previously launched Cohedra line arrays in the last year, and they are attracting a lot of attention.

CMI flew some of the most highly qualified Audio wizards from all over the country down to their Melbourne warehouse to demonstrate the ConTour. CX also attended, minus a wizard hat. ConTour is an entry level line array, designed to be used in four or eight box combinations.

Using the new DDO technology this line array falls into place between the Cohedra Compact and the HK Projector in which it was lined up against for comparison. Each CTA 208 Mid/High unit is loaded with 2 x 8" drivers and 4 x 2" voice coil high frequency transducers on a Cohedra acoustic lens. The CTA-118SSUB is loaded with a dual channel 1,000 watt x 1,000 watt amplifier, to drive itself and the top boxes or even other Cohedra family boxes. An external smart box, the DDO

Pro, does the nice things and ties everything together.

At the launch Christian ran through detail of how line array technology works, switching between the Projector and the ConTour Array to show the huge difference between technologies. Like all things HK Audio, the devices are finished in that certain German way, highly engineered and seemingly very tough.

Leading Australian sound engineer and owner of Johnston Audio Services; Bruce Johnston; personally took some time out from conquering the world to mix the Farnham Band at the launch. On stage were the ConTour CT 115's run in both Active and Passive modes as Monitors.

Once the band had left everyone stuck around to have a play with the new HK toys and of course not a person in the room could resist the need to power up the Cohedra Compact to compare against the ConTour Array. Although different beasts both have a very similar dynamic response range considering the compact is packing 10' subs and the ConTour an 18.

CMI are offering packages of 4 or 8 ConTour array boxes (and integral amplifiers) with stacking plates, on



special finance assist deals for production companies. Payments start at \$1370 per month.

www.cmi.com.au



Will your system meet the new **AS60849-2004** standard?



**AUSTRALIAN STANDARDS FOR
EMERGENCY SOUND SYSTEMS
HAVE CHANGED**

Installed in major airports in Australia and around the world, Eosch **PRAESIDEO** was the **first combined digital public address and emergency sound system** to be certified to the international standard IEC60849, and is now the **first to be certified to the NEW AS60849-2004**. For the offshore market, **PRAESIDEO** is also SOLAS certified.

Proven in over 2000 prestigious sites worldwide, find out more about **PRAESIDEO** by contacting Product Manager Chris Dellenty on 02 8282 6702 or email chris.dellenty@au.bosch.com or visit www.boschsecurity.com.au



BOSCH
Invented for life



GENERATION CHURCH GOES TO THE FOREFRONT

Serving the Gold Coast with its multiplicity of ages, cultures, races and social backgrounds is just the job for Generation Church and their dynamic Pastors Andrew and Vanessa Hoyes who hail from Hillsong.

'Our Church is devoted to impacting all generations and peoples and we do it through a vibrant mix of music, praise, worship and relevant teaching ministry,' stated Pastor Hoyes. They commissioned Forefront Productions to design, specify and supply a complete audio, lighting and video projection system for the main auditorium at the Varsity Lakes campus. The upgrade needed to enhance the church services, with equipment the volunteer operators could grow into and continue to use for years to come. Furthermore the entire installation needed to accommodate a move to a much larger venue in the near future.

No spring chickens when it comes to understanding the importance of quality presentation in communicating the church's key values Pastor Hoyes and his ministry and management team made the brief simple: 'Make it look and sound fantastic!'

Of course there was a budget to work to, but unlike the usual arbitrary figures this budget was arrived at via consultative discussion – looking at the options and what they delivered vis-à-vis what was affordable and necessary for the congregation.

Forefront's proposal featured Martin Audio's 15" 3-way all horn loaded Blackline H3H backed up by Martin S1E 18" subs with EM15 for fill, and F12's for monitors, all powered by QSC PL2 amplifiers. A Yamaha M7CL-32 takes care of mixing duties with Audio Technica mics used throughout including the new 3000 Series wireless and Artist Elite wired instrument mics. In ear monitoring is by Sennheiser IEM3000G2's.

On the lighting side of things Forefront recommended Geni Oby3 moving heads, Martin SCX600 moving mirrors, Kupo multipars, profiles and fresnels with dimming and patching by Lamps and control by Martin Lightockey equipped with a Fingers wing board.

A very impressed Pastor Hoyes commented, 'Forefront interpreted my vision for the look and feel of the church. They designed and specified sound, lighting and video systems that met, in fact exceeded our expectations.'

Associate Pastor Josh Brett was equally impressed. 'Thanks to Nick Burns and Forefront Productions, Generation Church has just completed a transformation of our sound, lighting and video systems. Forefront came highly recommended from a number of other churches including Edge Church International in Adelaide. Throughout the whole process we found Nick and Forefront excellent to work with – nothing was too difficult and there was a solution for every challenge. The end product is exactly what we wanted and the change it has made to our services and ministry is amazing.'

www.ffp.com.au



AKG ACOUSTICS

Perception Becomes Reality

NEW
PERCEPTION
400



The AKG Perception 100, 200 and the new 400 are 1-inch large diaphragm, side address and externally-biased condenser microphones, designed by AKG's engineers in Vienna, Austria.

The Perception series will give you AKG's world-famous sound, plus solid consistent performance that no other value-priced microphone can touch. They deliver a smooth response and capture every nuance of any voice or instrument.

Perception 100:
Base model with Stand adaptor and Case.

Perception 200:
Bass roll-off, -10dB Pad, Spider Suspension and Case.

Perception 400:
Three selectable Polar Patterns, Bass roll-off, -10dB Pad, Spider Suspension and Case.

High quality at great prices!



audioproducts
Group

Australia:
Call 1300 13 44 00 or visit
www.audioproducts.com.au

New Zealand:
Call 0800 111 450 or visit
www.audioproducts.co.nz

KUDO INVENTORY CONTINUES TO EXPAND IN AUSTRALIA

KUDO rental companies across Australia have continued to rapidly expand their L-ACOUSTICS inventory. KUDO the latest horizontal AND vertical line source array from L-ACOUSTICS has achieved worldwide sales of more than 2000 elements since its release in March 2005.

Norwest Productions with offices in Sydney, Melbourne and Brisbane has purchased an extra 22 KUDO and associated rigging making a total of 118 KUDO in their rental inventory. Norwest Productions recently provided a 96 KUDO system for the Hillsong Church Conference held at the Acer Arena in Sydney. Norwest as the sound contractor for the upcoming 15th Asian Games to be held in Doha, Qatar will be supplying the largest KUDO system ever yet assembled (110 KUDO elements) for the Opening & Closing Ceremonies.

Adelaide based Novatech Production Services also recently added an extra 12 KUDO to bring their total to 36. Novatech provides lighting/staging equipment for numerous local & international artists and also recently completed a L-ACOUSTICS system installation at the 'HQ Nightclub' in Adelaide with KUDO, SB218 sub-bass, 115XT HiQ monitors, LA48a amplifiers. Novatech this December will also for the first time provide a large KUDO system for the annual 'Carols by Candlelight Concert' to be staged outdoors in Elder Park, Adelaide. In Perth, AAA Productions has seen



KUDO System (Acer Arena Sydney - Hillsong Conference 2006 / 96 x KUDO elements Norwest Productions.)

a strong demand for their new system and have added an extra 18 KUDO and rigging to make a total of 42 KUDO, including 8 ARCS, and a 115XT HiQ monitor system all powered by LA48a amplifiers. AAA will be providing a KUDO distributed system for the 'Red Bull Air Race' to cover an audience which will be spread over 2 kilometres of the Swan River foreshore in Perth. AAA have also been chosen to supply KUDO for this seasons 'Summer Series' concerts of the West Australian Symphony Orchestra.

Frontline Tasmania has been servicing many interstate touring artists since receiving its KUDO system in early 2006. Due to the customer demand it has now expanded its rental inventory with an extra 12 KUDO, making a total of 24, along with

SB218 sub-bass 115XT HiQ floor monitors also powered by LA48a amplifiers. Frontline will be supplying KUDO for the upcoming 'Chris Iszak' outdoor concert in Hobart as well as the 'Military Tattoo' at the Aurora Stadium in Launceston.

CON-SOL based on the Gold Coast has taken delivery of extra MTD108a/SB118/LA24a systems and continues to have strong client demand for its KUDO system. CON-SOL specialise in providing audio/lighting/staging/AV equipment to service both local and interstate conventions/corporate events. Recent KUDO clients include the International Congress (IAEE) at the Gold Coast Arts Centre and the BMW Ball at the Royal Pines Resort.

www.randomaudio.com.au



TANNOY ADDS iDP TECHNOLOGY TO PRECISION MONITORS

Tannoy have added iDP (Interactive Digital Programming) technology within two new Precision monitors - Precision 6iDP and 8iDP. These active monitoring systems bring together Tannoy Dual Concentric and WideBand technology with digital processing from TC Electronic.

Loudspeaker positioning compensation in the software guarantees the same reference sound irrespective of their placement, whether in a corner, against a wall or on top of a console. Matching to the listening environment is possible as each monitor can be individually

optimised, taking into account its exact position within the room relative to the room boundary, and its own performance relative to the acoustic properties of the room.

iDP technology also allows the user to control parameters in 'real time' - such as bass management, global level, recall of different preset settings, and solo or mute functions. Tannoy's WideBand technology extends high

frequency response to above 50 kHz. This extended range not only provides all of the bandwidth required for today's wide bandwidth digital recording formats, but also ensures that phase error is minimised through the entire audible spectrum.

www.syntec.com.au





"...a Bose® sound solution will elevate your space to a new level."

Engineered to suit your venue, designed to blend in with your décor, a Bose® sound solution will elevate your space to a new level.

Bose Professional Systems Division have a team of specialist designers and audio industry professionals which enable them to provide a tailored sound solution specific to your business requirements.

For a premium sound solution for your next project, please call Bose on 1800 659 433



FreeSpace® 3 System
RRP \$1,247.00



AUDIO-TECHNICA JOIN WITH PLANETSHAKERS

Planetshakers is an explosive Christian movement based on music and ministry - it's a church, a conference and a powerful music group and now it's sponsored by Audio-Technica.

The team has been weaving its unique blend of topical cutting-edge speakers and explosive music since their first weekend conference in 1997. That first event drew 300 students in Adelaide, South Australia. In the years that followed, the Planetshakers conference has ballooned at rapid rates, reaching 4,000 attendees by January 2000. Summer 2006 saw a total of 25,000 faithful attend the five major conferences in Melbourne, Adelaide,

Brisbane, Sydney and Perth.

Much of the Planetshakers message is presented in music which is brought together by singer, songwriter, producer and multi-instrumentalist Henry Seeley. "We're not here to build a movement about ourselves," says Seeley. "It's not about being the next big thing, it's about us empowering young people and connecting with them."

For Planetshakers production manager Brian Vayler it's a hectic schedule of touring plus full weekly setups for the ever expanding church home base in Melbourne. "We take every part of our ministry very seriously and that includes our equipment," he states. "To be honest we have been using Audio-Technica for a number of years both in the church and in our touring system and for very good reason. It is superbly engineered and delivers accurate, precise and uncolored audio. That's exactly what we want. We use a full kit of A-T 5000 Series wireless, Artist Elite wired mics, including the AE5100 and dual capsule AE2500, plus AE3000 and PRO35 clip ons" says Vayler.

"It's great to formalise this relationship between Planetshakers and Audio-Technica" commented Nick Burns of Forefront Productions who initiated the tie up. "I've been involved with Planetshakers for some time. They are the real deal, superb musicians and in great demand. It's rewarding to see musicians like these pay such close attention to every component of their performance - audio hardware included. Their choice of Audio-Technica is an important part of that."

www.ata.com.au



BYTECRAFT BUYS KINESYS AUTOMATION SYSTEM

Leading Australian lighting rental and production company Bytecraft has invested in a 10 channel Kinesys Elevation 1+ automation system.

The system consists of 10 Elevation 1+ controllers, 10 1 tonne Liftket chain hoists, an Array PD-ES distribution module and Kinesys' proprietary Vector software.

Bytecraft's technical manager Darren Irving explains that they first became aware of the Kinesys system after it was highly recommended by crews and rental companies both locally and overseas. "It's now also

being specified on numerous shows, so getting one over here was a really logical step" he concludes.

The Elevation 1+ can be configured for different hoists and beam trolleys, and the system can be driven manually with the Rigger 8 hand-held remote controller. Irving says he likes the intuitive interface of Vector and its multiple playbacks, which are great for complicated moves. He adds that the accuracy and level of control over the motors "Puts fixed speed systems to shame!".

The new system's first tour was the Dixie Chicks, where it was specified by LD Alex Reardon. Even with a very tight delivery date, the new kit arrived on time, ensuring that crew chief

ULA OPENS SYDNEY OFFICE

Lighting and Audio distributor ULA Group have opened an office located in Botany, 10 minutes from the heart of Sydney. ULA has had a permanent presence in Sydney since 2001, steadily building business in the market offering a quality choice to industry.

The Sydney office relocation follows the relocation and redevelopment of ULA Victoria and Queensland. "Keeping on top of new technology and being able to provide our clients with the products and services they require locally is paramount in helping our clients grow their business" says Cuono Biviano, ULA's Managing Director.

Included in the new Sydney facility is a fully staffed and stocked warranty service centre. Warehousing has also been expanded to stock many key product lines.

New Sydney showrooms include the Professional Showroom with Robe, SGM, Acme, iSolution, Avolites, E:Cue, SoundiVision and LiteCraft products, all of which are exclusively distributed by the ULA Group. The room is set up for easy access and control of each lighting fixture allowing for detailed demonstrations. The Architectural Showroom focuses on particularly on LED technologies from Anolis, Traxon and iLED which are more suited to installations. The third showroom is dedicated to the HardCaseCo range.

Location: 3/15 Baker Crescent (Off Baker St.) Botany, NSW 2019

www.ula.com.au



Michael Webber could thoroughly acquaint himself with the system and test all the components, leaving Reardon to concentrate on the programming. Five rear trusses were flown into different positions and levels throughout the show, creating a visual effect in their own right.

The fact that Reardon had the continuity of sourcing Kinesys systems locally for the UK, US and Australian legs of the tour not only cut any re-programming time required, but also eliminated intercontinental shipping costs.

The Bytecraft system is now out on Kylie's "Showgirl Homecoming" tour (LD Vince Foster).

www.kinesys.co.uk



PREMIER LIGHTING FAILS

The company known as Premier Lighting Pty Ltd is no more, having been placed into the hands of a liquidator, Kenneth Stewart Sellers of SimsPartners. Premier Lighting was unable to pay all its bills for some time, and action was taken by a Worker's Compensation insurer.

Some time previously, the underlying business was sold off to the Premier Technology Group, which continues to trade. In Sydney the company has relocated to Fox Studios. Premier Technology Group has some of the former Premier assets and staff, but is a different company.

Premier commenced operations in January 1992, buying the lucrative Strand Lighting Hire businesses in Sydney, Melbourne and Brisbane. Widely regarded as a license to print money, the Strand business became Premier and progressively suffered from a chronic lack of investment. Initially at least, Premier should have made excellent profits, but inability or reluctance to plough some back into the company eventually took its toll.

In later times, reports of payment


disputes and delays dogged the company.

Strand Hire had run for many years as a virtual monopoly, and was well managed and resourced, especially in Sydney. Premier took the un-usual step of discarding some experienced staff, specifically they failed to retain and indeed snubbed the Sydney hire manager, Rob Nichols, who was widely regarded and popular. He subsequently joined Chameleon which has gone on to become the largest lighting hire company in the southern hemisphere. Chameleon founder Tony Davies credits Rob Nichols, who retired several years ago, as responsible in part for the company's success.

Premier were also caught in a pincer movement by Bytecraft, who established and built up a very significant lighting hire business, eventually dominating their home state of Victoria, and also operating what is today Sydney's second largest lighting hire company. Bytecraft acquired some assets from the break up of the Strand business in the early 1990's, but not the hire businesses.

It is significant that at the time Premier came into existence, neither

Chameleon nor Bytecraft had measurable impact on the lighting hire market. It could have been all Premier today, but instead it is all in the hands of the breakup specialists.

Premier Lighting was run by Bob Prosser and Andrew Holmes. 

SHOW US YOUR GIG!

Send us a photo of YOU at YOUR gig – and a few key facts. Like where it was, when, with whom, and generally what it was all about. That's all! And we might run it, here in CX! Oh, and include your contact number too.....



Norwest Productions



FEATURED DEVICE:

ADAMSON Y10 and Spektrix

Norwest have a complete Adamson system comprising 48 x Y10 Line Array Cabinets, 8 x Spektrix, and 12 x T-21 Subwoofers all driven by Lake and Lab Gruppen.

AUDIO PRODUCTION AND RENTAL

AUSTRALIA'S MOST VERSATILE RENTAL INVENTORY

Accurate turnkey audio for important shows of any size, anywhere. Olympic Games, Commonwealth Games, Major Events, Corporate, Festivals, Concerts, Theatre and Broadcast.

BRISBANE

Ph: +617 3854 1000
Graeme Whitehouse

SYDNEY

Ph: +612 9737 8522
Dave Rennie

MELBOURNE

Ph: +613 9555 4468
Tim Millikan

- L'Acoustics KUDO (118 cabinets)
- EAW KF760/761 Line Array
- Funktion Resolution Concert System
- EAW KF750, KF730, KF850
- EAW SB1000, BH760 subs
- Acoustic Technologies Blackbird Line Array

- Adamson Y10 Concert System
- Dolby Lake Processor
- Lake Contour, MESA
- XTA DP428, DP226, DP224
- Optocore Digital Network
- LabGruppen fp6400
- Camco Vortex 6
- Crown Macrotech VZ5002

- Yamaha PM10, PM5d
- Yamaha M7CL, DM2000
- Yamaha D1V/96 (40 consoles)
- Digico D5 112/EX
- Midas XL4, XL3
- Midas Heritage 3000, 1000
- Midas Verona, Venice

BOSCH PRAESIDEO FUSES PA AND NEW EMERGENCY SYSTEM INTO ONE



Bosch's new Praesideo system satisfies the often stringent demands placed on voice alarm systems in virtually all types of building. It is also a fully functioning public address system.

There are currently a number of clearly evident trends which influence the choice of evacuation/emergency systems. The first is a growing public indifference to alarm signals. Time and time again, it has been seen that standard alarm signals and tones simply do not convey enough urgency to mobilize the public into prompt action (as a parallel: how many people react on hearing a car alarm?) There is a definite advantage in using voice alarm systems, which are much more effective in drawing attention to potential danger and communicating instructions in the event of an emergency. A combination of spoken message with alarm tone works particularly well.

This trend is mirrored in the increasingly strict requirements for evacuation systems in new (larger) buildings. Simple alarm installations often do not meet these requirements, which require a more comprehensive voice alarm system for the protection of people who will work at, live in, or visit the premises.

Fire Brigade approval of such installations is now virtually mandatory.

Then there is the matter of liability. In the past, meeting the requirements laid down in a tender was often subject to interpretation by installers or building contractors. But today's requirements are stricter and more clearly defined. What's more, if an incident should occur (e.g. a fire) whereby property is damaged or people injured due to inadequate installation or functional limitations of the emergency sound system, it is the installer who may be held at least partly responsible, and not the company who manufactured the evacuation system.

There is no point in taking risks. Bosch assert the Praesideo system addresses all of these issues. It fully meets the requirements of many of the world's main standards on emergency sound systems (also known as voice evacuation or voice alarm). For instance, it is fully compliant with IEC 60849, which is the 'International standard applying to sound systems for emergency purposes to be used to effect a rapid and orderly mobilization of occupants in an indoor or outdoor area in an emergency situation'.



The system basically consists of a network controller, call stations and control panels, and multi-channel power amplifiers. Unlike traditional PA systems, the Praesideo uses a network configuration rather than having all system elements connected to a central controller. By connecting the network ends together, a redundant loop is created so any break in the main cable loop doesn't affect operation. Redundancy also means that the system can function even without the central (network) controller; if necessary, a fireman's panel can take control and make all call announcements to every amplifier in the system. And automatic switching to back-up equipment or battery power supplies takes place if operation is disrupted or the main power supply fails.

The Praesideo is the world's first fully digital PA/emergency system. By keeping all audio processing, communication and control functions entirely in the digital domain, the Praesideo is able to offer significantly better audio performance, as well as increased functionality. Signals of CD quality make sure that messages are just as clear coming out of the system as they are when they go in. And a vast amount of customized messages of all length can be recorded and stored on the compact flash card built in the network controller – the only limitation is the chosen memory capacity. Up to four different messages can be played simultaneously to different zones.

www.boschsecurity.com.au 



NEW ROBE 700 RANGE

The new Robe 700 range of intelligent moving lights has finally been slated for a November release. The new range of Robe fixtures will include the ColorSpot 700E AT, ColorWash 700E AT and a specialised ColorWash 750 AT Tungster, which specialises in flicker free output for Television. Robe has worked closely with Philips to produce a special MSR Gold 700 SA/SE Fastfit lamp, which is both bright and long lasting. This new double-ended lamp has been designed to fit all the new Robe 700 fixtures.

Each of the three models includes a prompt CMY colour changer, which allows for rapid colour changing to give the appearance of instant colour change. Other than quick colour changing, the ColorSpot 700E AT & ColorWash 700E AT both have a new variable CTO ability, which is unique to the Robe 700's. CTO or Correct-to-Orange is used to correct for fixtures using a discharge lamp output. The CTO varies the output colour temperature from anywhere between 6000°K to 3200°K, giving the light operator full control over colour correction. The Robe ColorWash 750 AT Tungsten offers CTB or Correct-to-Blue, making it ideal for television.

ColorSpot 700E AT come with an advanced variable CTO, super-fast CMY colour changer and Philips new MSR Gold 700W Fastfit lamp, and also a colour wheel with 8 replaceable dichroic filters; a static gobo wheel with 9 replaceable gobos and a rotating gobo wheel with 7 replaceable gobos. These are all "slot & lock". There is a replaceable animation wheel and a rotating 3-facet prism. The zoom range is 15 - 42° and there's also dimmer, shutter, strobe effects.

The Color Wash 700W offers the full CMY + CTO colour mixing system, a colour wheel with 8 replaceable "slot & lock" dichroic filters, a rotating beam shaper and a linear zoom range of 8°-50°.

Finally, ColorWash 750AT Tungster's 750W halogen lamp make it ideal for theatre, TV and architectural markets, where colour temperature of 3200°K is required along with full linear dimming. The beam path is uniform and without hotspots, it has warm colour tones and smooth electronic dimming. Flicker free output, permanent rotating beam shaper, linear zoom of 8°-50° and Variable CTB also come standard.

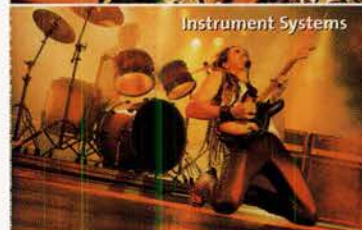
www.ulagroup.com



G2 wireless audio Setting standards

evolution

G2 Series 300 & 500



The 300 and 500 series G2 expand the capabilities of evolution range still further.

The 300 series systems offer the use of nine channel banks with up to 8 switchable frequencies per channel.

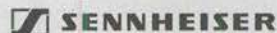
The 500 series (sold as components) offers up to 20 switchable frequencies in nine channel banks.

This allows for optimum flexibility in building a secure system for performance for all kinds of sizes of venue. It also guarantees that your performers will benefit from interference free sound.

Lapel, headset & camera systems also available.

Syntec Australia
1800 648 628
sales@syntec.com.au
www.syntec.com.au

Syntec New Zealand
(09) 263 9885
sales@syntec.co.nz
www.syntec.co.nz



www.sennheiser.com.au

dB TECHNOLOGIES

**No Plug?
No Problem**
With Opera 110 Mobile



The DB-110 Mobile is a superbly engineered 90W RMS active loudspeaker with built in 12V rechargeable battery giving up to 12 hours performance time. Inside is a 16 channel UHF 900R receiver providing the ultimate freedom when taking your performance live, anywhere.



The DB Mobile-50 has an integrated 50W RMS digital amplifier offering maximum efficiency at the lowest power consumption anywhere, any time. With up to 5 hours of performance time and an integrated wireless receiver. Includes a choice of either remote hand held or Laval mic. Simply the best answer to amplification when a power plug is just too hard to find.

For more information visit, www.cmi.com.au/branddetective



Michael Hasset with Toby Wailey and the latest family of Barco projectors.

TDC ESCALATE AS LIVE VIDEO RUNS HOT

Here comes the 20 projector show, they predict. But what about the lumers?

Sydney based vision firm TDC have added yet more Barco projectors as insatiable demand pushes the live vision business forwards. CEO Michael Hasset told CX that while LED is still a growth business, the projector is having a comeback.

"We thought the ten projector blend at fashion week was large, but now we are increasing stock - again". The firm now has over 40 current model Barco projectors in the fleet, with an increasing number of R20, 20,000 lumen machines.

"Now the 10k G10 machine is the bottom specification for concerts", Michael says. "But the 20k machines are approaching the limit in terms of size. The 20k chassis will get tweaked to 25k with the onset of the 4.5k Xenon lamp instead of the 4k lamp. The lumen limit has almost arrived".

Meantime the LED tile is a hot ticket at TDC, who currently have around 600 tiles under management on shows in Australia and overseas. They own something approaching 300 tiles, and have now got a handle on possible life expectancy. A LED tile will outlive projector, since the LED itself has a half life of 50,000 hours. But TDC report that they are already changing failed LEDs.

"You really notice just one pixel failure on a 10mm or a 6mm (pitch) LED screen", Michael says. Each tri-colored SMD LED takes about an hour and a half to replace, since the tiny legs of the solid state device must be carefully de-soldered from the circuit board after the unit is pulled apart.

"We've probably replaced 600 or 700 LEDs so far, out of maybe 320,000 LEDs on our panels.

As to whether there is a looming hardware war, where someone puts a cheaper LED tile onto the market and every second audio and lighting company rush in to buy video walls, Michael doesn't see a threat. Yet.

"So if you have a wall, you need rooms, you need control, processors and ancillary equipment - what do you put through it? And there is no one aggressively marketing LED tiles. Yet.

TDC have a rolling acquisition program that includes the first Folsom Encore control system in Australia which enables seamless blends of many projectors, even in the round. This technology may see 20 projector blends soon, they report. With each Encore output card costing up to \$50,000, this kind of control is beyond the reach of most companies.

TV producers are starting to swing back to projectors, away from LEDs, according to TDC. This is because under some circumstances LEDs produce a moiré effect from some camera angles, and the resolution of projection.

That doesn't mean high definition TV is here, either, since over the last two years TDC have worked on just two shows that were shot in HD, and they were for overseas clients.

Meantime, TDC are working at more than full capacity and short of skilled crew. Michael does shows and wonders whether some younger generation Y crew will last the distance. "I don't get it, I can be in the back of a truck at 1am loading, so why can't other people?"

He recently flew to L.A. for one day, to inspect technologies and systems in use there.

www.tdc.com.au





Melbourne based lighting designer Andy Mutton pictured on the job in Melbourne. He has a very neat new website: www.lightninglighting.com.au & www.myspace.com/andymutton CX

PUBLIC REVIEW OF DMX512 CABLING STANDARD EXTENDED

The public review of the draft standard, BSR E1.27-2, Entertainment Technology Standard for Permanently Installed Control Cables for Use with ANSI E1.11 (DMX512-A) and USITT DMX512/1990 Products, has been extended through 25 December 2006. The draft standard describes the types of cable to be used to interconnect products that comply with ANSI E1.11-2004 (DMX512-A) or with USITT DMX512/1990 in permanent installations. The description includes definitions of acceptable cable and connector types and the ways in which they may be used. The draft standard and its supporting public review materials are available at http://www.esta.org/tsp/documents/public_review_docs.php

The review was originally announced to end on 20 November, a date that was determined by being 45 days after the expected announcement of the public review in ANSI's weekly publication Standards Action. However, the announcement of the review in ANSI's publication has been delayed until November 10, so the public review ending has been pushed back to December 25.

* Meanwhile, ESTA are making progress with the E1.6 project to draft standards for powered rigging systems in theatrical venues

The Rigging Working Group is particularly interested in having people who would represent a dealer or rental company join as voting members.

www.esta.org



ESP VISION SIGNS WITH BYTECRAFT

The lighting "visualisation" tool with real-time photorealistic rendering capability straight from your lighting console to the screen is now available through Bytecraft. Announced at LDI, this deal provides easy access to this software tool for Australian lighting designers.

The Vision 2.0 software received the Lighting Software Product of the Year award from LIVE DESIGN during the 2006 LDI show in Las Vegas. Designed to operate with CAD design softwares Vectorworks and AutoCAD, users are able to output their lighting plans from these CAD Programs, and then show the client in real time exactly what the final design will look like. Unlike other real-time rendering options, this system uses the capabilities of your computer's graphics card to show exactly what the gobos should look like, and the colours/shadows on the stage, set and performers as many light beams mix – just as they do in real life. Some international designers have even created movie files, and had these edited together with music to show the client whole pre-plotted sequences. Users can control the visualisation from the computer using the HoopPC software. In addition, visualisations can be controlled using any console or software with Artnet output, or any DMX console via the DMX to USB "VBox".

Price for ESP Vision per DMX universe \$1,15E (inc GST). Bytecraft has also made arrangements with OzCad – the Australian importer of Vectorworks, so that a whole software solution can be offered. For a limited time only, Bytecraft is able to offer special bundle pricing as a part of this launch – vectorworks Spotlight 12.5 with ESP Vision (one universe) \$3987.50 (inc GST). Education and student pricing on request. www.bytecraft.com.au CX

INDUSTRY GEAR

AUDIO 2007

HUNDREDS OF HIGH TECH LIGHTING EFFECTS

CORPORATE

SESSION

TOURING

STUDIO

INSTALLATION

HELP OVER FOR MORE INFO

INDUSTRY GEAR

LIGHTING 2007

HUNDREDS OF HIGH TECH AUDIO PRODUCTS

CORPORATE

TOURING

INSTALLATION

PROTECTION

ARCHITECTURAL

HELP OVER FOR MORE INFO

NEW

CATALOGUE OUT NOW

CALL NOW FOR A FREE COPY

Look out for this sign
in your local area:

AUTHORISED DEALER

“If your local dealer
doesn't sell Industry
Gear, ask why not?”

Distributed by LSW
Ph: (02) 9718 4900
sales@lswonline.com.au
www.lsw.com.au



ROBERT JULIAT UPGRADES LANCELOT

The newest and largest addition to the Robert Juliat range just became a whole lot better. The Lancelot was designed to be as much a precision effects projector as a long throw followspot, with rotating and indexable gobos, animation disc effects to add to the standard suite of followspot controls.

At LDI in Las Vegas, that newest upgrade was revealed – Chromix is a set of colour magazines that allow fully variable transition of colours and effects. With up to five cassettes per followspot, the user can easily have full CMY colour mixing and variable CTO – just by fitting the required gels

into the frames. By allowing the user to select the gels to be fitted, the only limitation is the designer's inventiveness for what can be achieved through colour and effect mixing.

Lancelot itself is a 4000w HTI followspot intended for long throw applications in large entertainment venues, arenas and sports venues. The output of this unit is even capable of cutting through significant amounts of ambient light as a recent test at Twickenham Stadium under full lighting proved (see www.robertjuliat.fr for photos).

www.bytecraft.com.au



TITANIC – A NEW MUSICAL, AFLOAT

Unlike the mega musical and with no mega set, Titanic – A New Musical carries itself as a traditional musical. The show finishes in Sydney during December and transfers to Brisbane.

Directed by John Diederich, the production comes from Broadway and won great reviews for the Sydney opener. It is obviously one of those stories where you know the ending, so it is all about: character, drama, script and score – which are the fundamentals of musical theatre.

The design is relatively simple, with a bridge that flies in, and effective use of projected timelines to place some scenes. The impact with the iceberg, immediately before interval, is a simple subwoofer effect with some strobe light from the rear of the set.

The set was designed by Dale Ferguson, and lit nicely by Phil Lethlean. He uses a rig from Resolution X, while System Sound are responsible for sound and sound design. All technical elements were working superbly when CX saw the show in Sydney.



MADISON GO CLOCK

Madison Technologies has recently added distribution of Clockaudio's Professional Microphone Systems into to the broadcast, professional audio and audiovisual markets.

www.madisontech.com



EIGHT FOR THE ROAD

Audio-Technica has engineered a completely new eight model road-ready line-up specifically design for live performance. These new models are the latest incarnation of the company's Artist Series which have been pounding the highways and byways for almost a generation.

The new range includes specialist vocal, instrument and drum mics for every stage where artists and audiences connect. The new handheld vocal models, ATM710 cardioid condenser, ATM610 hypercardioid dynamic and ATM410 cardioid dynamic build on the industry standards.

The new instrument mics feature a fast transient response and low distortion characteristics. ATM650 is a

hypercardioid dynamic ideally suited to guitar cabinets, snare and percussion, ATM450 cardioid condenser is an innovative side-address stick mic offering various placement options, and the ATM350 is a flexible miniature clip-on cardioid condenser with an array of applications like brass, reeds, piano, snare, toms, and violin.

For the drums, Audio-Technica has built on the legacy of its AE2500 with the ATM250DE, a dual-element kick-drum mic that combines two perfectly phase aligned capsules - a cardioid condenser and hypercardioid dynamic. The ATM250 hypercardioid dynamic with its warm low frequency response is suited for high SPL applications like drums, bass, brass and upright bass.

Retail prices for the new Artist Series range from \$155 to \$525.

www.tag.com.au





pure logic...

why not start with a... line?

"±90° dispersion up to 20kHz., perfect on- and off-axis response and an amazing intelligibility and throw, "the Ribbon" sound system delivers unsurpassed performance in all applications from the smallest club to the largest arenas. Without creative "plumbing"...

The dedicated (either analog or digital) controlling and amplification of the ALC makes the LR-6 system really "plug & play". The LR16 is also inventory of The Ribbon Network, Alcons' global dry-hire network. For each project the perfect system.



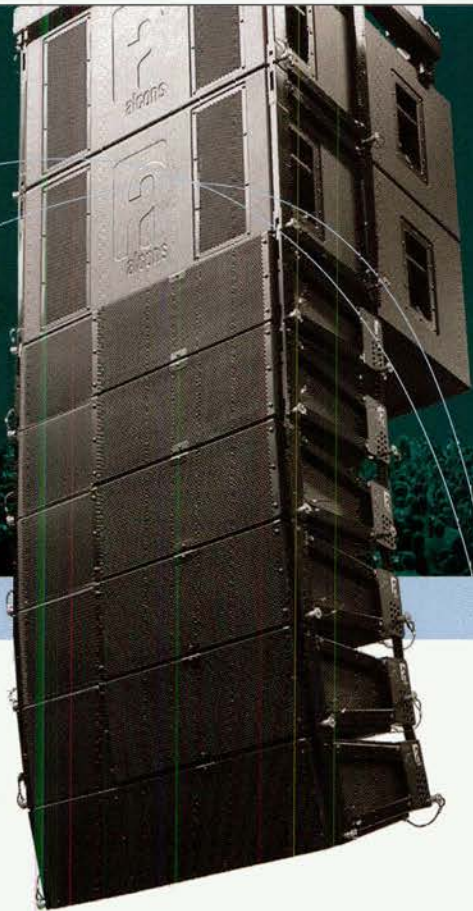
ALC, dedicated controller/amplifier



RBN601, world's most powerful 6" pro-ribbon transducer

For more information visit www.alconsaudio.com or contact Loud And Clear Audio: (02) 9439 9723 or 0418 295 086 or www.loudandclear.com.au

evolutionary audio solutions™



Portable & Flexible Sound

Introducing the Redback Portable Public Address System Rugged, durable & lightweight!

Designed to endure the punishment of every day use.

Great for hire companies, schools, auctioneers etc.

Employing an industrial strength extruded aluminium enclosure with hard wearing powder coat finish. It is fitted with "luggage" type trolley wheels and extendible handle for ease of mobility.

A modular design has been employed allowing MP3 and wireless microphone upgrades if required. These are easily connected by the PA contractor or the end user. This allows systems to be tailored to individual needs.

The in-built Class D amplifier exhibits very high efficiency. This helps to increase battery life & reduce system weight.

An in-built top hat allows easy mounting to speaker stands.

PA MODELS:

- C 7172 Portable PA with Wireless Mic.
- C 7173 With CD & Wireless Mic.
- C 7177 With Cassette & Wireless Mic.

ADD ON MODULES:

- C 7161 MP3 Recorder / Player
- C 7166 Additional Wireless Mic.

MODULAR DESIGN:

Build a system to meet your needs. Choose from CD or Cassette models, then add wireless mic & MP3 modules as required!



Wireless Mic Module (C 7166)



MP3 Module (C 7161)



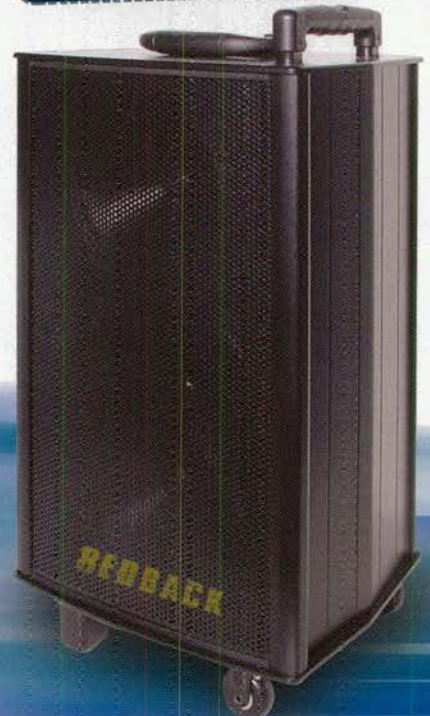
CD Module (C 7176)



Cassette Module (C 7177)



Amplifier Module (All Models)



FEATURES...

- CD & Cassette models available
- MP3 player & wireless mic modules available
- Trolley handle and wheels
- Carry handles top and side
- Desk, floor or stand mounted
- Sturdy design
- 6 to 8 hours use from internal battery pack
- Two wired microphone inputs
- Individual level controls for each module
- Built in top hat for stand mounting

For more information visit: www.redbackaudio.com.au

ALTRONIC
DISTRIBUTORS PTY. LTD.

Available exclusively from Altronic Distributors

■ Sydney ■ Melbourne ■ Perth Phone: 1300 780 999 Web: www.redbackaudio.com.au

REDBACK®

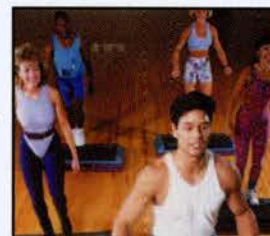
MATRIX REVOLUTION

eight zones, one solution, 8x8 audio matrix controller



PX-0288

- _ RS-422 full duplex communication with remote stations
- _ 5-stage priority control for audio outputs
- _ Built-in digital record and playback module
- _ 2-band HF/LF equalization on each channel
- _ 8 sets of dry contacts for triggering emergency announcements
- _ May be connected to the LM-88 or PS-88 remote stations (up to 8 units)
- _ 1 paging microphone input channel (with phantom power switch) for local paging
- RM-88 remote microphone station
 - _ 8 zones with individual zone and "all zone" selection switches
 - _ Audio output level LED display
 - _ 8 inputs by 8 outputs matrix
 - _ Built-in pre-announce chime
 - _ Monitor speaker level control
 - _ Audio output level control
 - _ The audio program input channels of PX-0288 are shown on the alphanumeric indicator
 - _ LM-88 provides for local inputs for audio program and MIC



Distributed in Australia by: Magna Systems and Engineering,
Unit 2, 28 Smith Street, Chatswood, NSW 2067 Australia
Tel: (02) 9417 1111 Fax: (02) 9417 2394

Distributed in New Zealand by: Edwards Sound & Lighting
20-22 Nikau Street, Eden Terrace, Auckland, New Zealand
Phone 09 358 4361, Fax 09 358 4366

interM

FOR REAL? CULTURE CLUB RETURN

This year, John Moss (Drums), Mikey Craig (Bass), Phil Pckett (songwriter and keyboard player) and Tony Gordon (manager) decided to bend to public pressure for Culture Club to play live and re-enter the touring circuit.

After launching a daunting but successful quest to find 'Sam The Man' - a front man to temporarily replace the inimitable Boy George - they performed their first live gig since 2002 during this summer at London's Too2Much club, where front of house engineer Mark Portlock and monitor engineer Liam Halpin made groundbreaking use of their DiGiCo D1 Live digital mixing console.

"As production manager as well as foh engineer, sometimes I have to make difficult decisions for the overall benefit of budget and ultimate show delivery," says Mark. "With DiGiCo I feel that the decisions are now far less difficult."

Playing a small venue like Too2Much brought with it the normal conundrum of how to fit all the equipment Mark and Liam wanted to use into very limited space. The remarkable solution was to use just one console for both the front of house and monitor mixes. And it was Liam's ingenuity that made it possible.

"It just kinda developped really," says Liam. "We started out by planning to split the channels, so we had monitor channels on layers below the FoH channels, as there was no room in the

club to put a separate monitor desk.

"We had no production rehearsals or prep time either, so was programming the desk on the day of the gig while Mark and Keith Reynolds (stage manager) got everything else ready.

I'd decided to hook up a laptop running the remote software for the D1 so that I could make adjustments to the monitors. But as soundcheck drew nearer, I realised running backwards and forwards to front of house was going to be a nightmare for a nine piece band, especially as time was already looking tight for soundcheck.

"So I decided to try a remote desktop control of one computer from my other laptop via a wireless connector. I had tried this before, but it hadn't been successful. I gave it a go and realised very quickly that the communication between the two computers was too slow to be any use. So I decided to abandon the Wired connection and the second laptop, and just plug the wireless unit straight into the desk. Once I'd reset the IP addresses it just worked.

"I got through the soundcheck mixing the monitors while actually being stood behind the artists on stage. Some of the band were quite confused about why there was this bloke wandering around the stage holding a laptop, until we explained the PC was actually the monitor desk!"

Liam had some control groups setup as separate mute groups for monitors and FoH. To make sure these were



Sam is the man!

permanently available on the control surface, and still allow Mark his eight VCAs, Liam programmed mute control onto the Macro buttons on the surface along with Delay Tap tempo.

"Because the band's mix consisted of 28 channels, by the time I'd doubled everything up and added effects and media, the channel count had gone over the standard 64 channels that the desk was configured for," says Liam. "I reconfigured the desk to enable us to up the amount of processing to cope with 96 channels.

"That many channels on a postage stamp of a desk is quite crazy, but the D1 took it all in its stride and performed flawlessly even though I didn't see it throughout the show."

"I have never felt so in control in such a high pressure and technically absurd environment as I did behind my DiGiCo that night" adds Mark. "I don't think there's any going back now!"

www.digiconsoles.com



Digital Wireless Intercoms

Many applications: One clear choice.

BP200 Belt Pack

All-in-one Headset

DX100 Portable Digital Wireless Intercom

DX200 Wireless Intercom System

Murray Tregonning Sales Pty Ltd.
Melbourne (03) 9819 6455

www.mtasales.com.au
Sydney (02) 9310 2799



STILL PASSIONATE WITH PEAVEY 41 YEARS ON THE JOB, AND KICKING. **HARD!**



Mr Hartley Peavey.

Hartley Peavey knows how to build things, and the largest thing he has built in 41 years as owner of Peavey, is factories. He has more than a few. His company makes everything you need on a stage, except the lights. His is the only company anywhere that makes the whole lot – musical instruments, drums, amps, keyboards through to all parts of the PA system.

CX met with Mr Peavey on a whistle-stop visit to Sydney recently. He was in the country to meet dealers with his relatively new distributors; Audio Products Group. APG won the Peavey business year before last; the account doesn't change hands very often. Mr Peavey is a long-term kind of manufacturer.

Peavey defies the pundits. An English music trade magazine publishes a 'Top Ten' of manufacturers every year, using publicly reported earnings from the few conglomerates that are active in our industry. They then estimate turnover for those that don't disclose turnover.

"So how much does Peavey turn over?" I asked Mr. Peavey. "I'm not going to tell you", he replied smiling. He goes on to say that the estimates

in the UK trade magazine are wrong, and won't say which side of wrong they are. He just doesn't want to share the information, and doesn't need to. He is the sole owner of the company.

He doesn't know what the global worth of the industry is either, but then no one has really tackled that one. In a world where Sennheiser assert there are more than 80 manufacturers of professional audio wireless microphones, Peavey occupies a very solid chunk of marketplace across

music and pro audio.

"This is an industry full of giant egos. They lie", he says. Another Hartley Peavey truism is that people somehow equate making musical amplification and making pro audio equipment as two very different disciplines. But, "I don't know where pro audio starts and M.I. stops", he says. He does say that Peavey does more business is pro audio than they do in musical equipment.

I'm guessing Hartley Peavey is the closest thing to a southern American gentleman that I've met. His home town of Meridian, Mississippi may as well be renamed Peavey-ville, since he is the largest employer there by a significant margin.

I've used Peavey products on and off in my time in Audio, and I was always surprised at how reliable they were. There was a time when many 'serious' audio professionals didn't take Peavey seriously, and that time ebbed away when they launched Media Matrix around ten years ago. That product redefined the brand, since it was then and is now the market leading digital audio control system on the planet.

Peavey is not glamorous. The

products probably reflect the man. He is an engineer and an inventor, who loves nothing more than tinkering with products and with his factory processes. The motto at Peavey is 'good gear at a fair price'.

I have an hour in which I am briefed, very accurately, on the state of play of a range of companies, but only on condition that I don't report that Mr. Peavey is saying anything negative about his competition. He has an acute perspective and one thing he is very happy to share with you is that he sees the current era as being one of consolidation.

He is scathing of the outcome when a company gets sold to an investment bank. "When the money boys bring in the bean counters, the passion and creativity departs. If people don't remember history, then they are doomed to repeat it".

Peavey operates in a world of compliance, meaning all of what they do is subject to legislation within each market they sell to. Mr Peavey points out that some manufacturers are blatantly fabricating compliance, and falsely claiming their products meet standards when they plainly do not.

He is rather significantly frustrated at what he called the blizzard of legislation that affects his business. The growing number of environmental laws, and safety standards, is a case in point.

"Take valves, for instance. We have to put a screen in front of the valve, so people don't get burned if they touch them. The hell I say! Look at THIS" Mr. Peavey grabs the table light and holds it sideways, pointing at the sixty watt light globe inside. "I can touch the thing...."

He has a swipe at some of the more extravagant marketing claims of our era, which sadly I cannot share. But, "Musicians believe in legends. If they get told that an old hermit winds pickups under moonlight and that this gives them soul – they believe it. If you don't understand science, then it's magic!"

Back to Australia and his plans here, he is very determined to build market share. Plans were laid during his visit, and Audio Products Group is on the march.

www.peavey.com





Pictured in happier times at Metropolis: Nikki Jones (front) Kim Rothbart and Ern Rose.

METROPOLIS FALLS

The end of a significant era in Australian recording history has come, with the collapse of Metropolis Audio. The recording studio, a Melbourne institution, closed in October when the landlord locked the remaining staff out of the building; alleging non payment of rent for a considerable period.

Metropolis was known as Armstrongs, and has its roots in the origins and history of the Australian entertainment industry. As a studio it probably was the most significant of its time – likened by some as Australia's version of Abbey Road. Armstrongs went on to become AAV, and eventually morphed into the company that today operates Staging Connections. AAV has had no association with Metropolis for some time.

In 2005 the Metropolis business was struggling, and a little known public company, Celtex Limited, arrived as a white knight, acquiring 51% of Metropolis. The transaction was completed, the business operations of Metropolis were assumed by Celtex head office in Toorak, and soon after, rent payments to the studio landlord dried up.

Metropolis director and former owner Ern Rose is very well regarded in the music industry, and he appears to be a victim of matters outside of his own control, at least from the moment he signed away control of Metropolis. At the time, Celtex boasted of the potential of Metropolis by asserting that with the studios 60% occupied, they could lift profits through better occupancy. Sources in the audio industry say that money dried up, and some engineers and suppliers are unpaid to date.

Celtex remains listed as a public company (ASX Code: CXE), and its remaining activities are Ausmusic, several niche businesses without significant turnover, and a real estate development in Tasmania. The company reported a profit of around \$100,000 at June 30, 2006 against a loss of around \$500,000 in 2005.

The Metropolis studio is run within a building owned by Digital Pictures Melbourne, who grew weary of broken promises and eventually were forced to change the locks. A legal dispute then arose regarding the plant and equipment installed within the premises, and drags on today.

Celtex CEO Ken Roberts issued various statements relating to the takeover of Metropolis, including one where he promised that Ausmusic would establish an Institute within Metropolis.

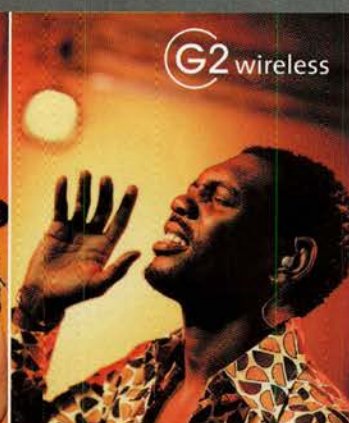
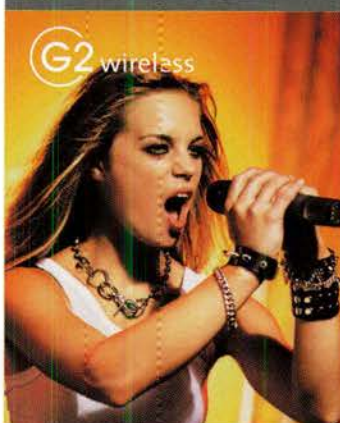
The Celtex (Motto: 'A Diverse Forward Thinking Company') Annual Report for June 30, 2006 lists security for bank loans to the group as including property belonging to a director of Metropolis. Included in the short list of security is also the much touted Tasmanian development property, but not any property belonging to Celtex directors.

The Celtex share price remained unchanged at 0.10 at presstime.



Super Size Me

With Evolution Wireless G2, RF specialist Sennheiser offers flexible state of the art RF wireless systems with an excellent price/performance ratio. These pre configured systems are ready for any audio challenge.



Handheld System



EW 135

Monitoring System



EW300IEM



GA 2 RACKMOUNT KIT
ANTENNA KIT

CC2 CARRY CASE



IE4 KIT

TO PACK EARSLEEVES
(S/M/L, MED or JRG)

Package price

\$999

*Authorised Dealers Only

Package price

\$1699

*Authorised Dealers Only

Syntec Australia
T: 1800 648 628
E: sales@syntec.com.au

SENNHEISER

www.sennheiser.com.au

LETTERS

EMAIL & FLAMES FROM OUR READERS

Email CX now! mail@juliusmedia.com

RE: VI6 STORY, CX AUG 15 – OCT 1

Thought I would get in the middle of the "enemy" issue and the wording used in your magazine during the latest console rundown. Firstly, I understand that no sleight was intended with the use of the "e" word but at the same time, I join Sarah and Webby with their fear of its interpretation by your readers. We at DiGiCo take a very relaxed and philosophical stance with our competitors in the market place and like to think that we can all coexist in a friendly way, never knowing when we will need each others help.

With this in mind the use of the word "enemy" is entirely inappropriate and positions DiGiCo in a place we are not and will never be. Additionally, some of the product statements and assumptions detailed in the piece below regarding DiGiCo products are inaccurate. Firstly, apart from the smaller frame footprint of the D1 package, the digital engine, software and feature set are identical to the D5 having 40 busses, 160 channels of processing, the capability of 224 I/O and the ability to expand entry level rack and I/O compliment in line with the growth of our end user as their customer in turn demands change.

Secondly, the piece is entirely inaccurate insinuating that DiGiCo do not offer complete "plug and play" packages. Conversely, it is the competitive lead created by DiGiCo (and Midas before) by offering packages that has resulted in this concept becoming the accepted norm. To illustrate, 85% of all shipments by DiGiCo are D5 EX56 and D1 48DR packages so this point has to be corrected also to your readers.

Bob Doyle
Managing Director
DiGiCo (UK) Ltd

Soundcraft didn't refer to DiGiCo as 'the enemy', that was my handy work. Also Soundcraft didn't say they were to only people packaging a console, once again I am capable of making rash statements. My point was (is) that the Vi6 comes as a

package, DiGiCo offer a variety of ways to buy D1 or D5, which is probably an advantage. Sorry for any confusion. -

Julius



Vi6 ChrisTate from College Hill Productions, with the Soundcraft Vi6 digital audio console which they have just purchased.

DISK CRASH

Sorry to read about your disk crash. I had a bad experience at the start of this year, but ended up going to 'doctor disk data professionals' in Melbourne.

After some frightening quotes, and 8 weeks of ringing up regularly at one particular place, little was achieved. I finally picked up my 2 HDs, one of which was read quite quickly, but which wasn't the vital one, I came home and by chance rung disk doctor. The woman who took my call must have been very sympathetic to me after hearing my story. She even waived the examination deposit as I had already paid one to the previous company. I sent the disk down in an overnight package and that was on a Friday. They had recovered 60 gig out of 75 even before she rang back with a quote, and I got the disk back the following Thursday, before getting the invoice. Their price was

\$1700, including a new 200 gig HD on which the data was put. I had sufficient data back to quickly rebuild my work.

Sid Kidman

THE BOY FROM OZ SOUND

Just went to see the boy from oz at the Burswood Dome here in Perth and my personal opinion of the sound was excellent. I've heard the V-DOSC rig a few times now (Rogue Traders, Deep Purple and Status Quo) and it goes to show that a rig like that can cut it no matter what type of concert or musical production its used for. I was impressed with Antony Love's FOH mixing of the whole show, it just sounded so clean and clear and it was fairly obvious that a digital console was used in the production.

Its was a real pleasure to see a world class show with a world class sound production from JPS to back it up.

David, Salter Point W.A.

VIVA CX

But of course you can do better, sunshine. Here is my critique of your latest issue, the one that continues the theme of males on the cover. What is it with you – every issue this year has had a male!

Priscilla hits the road is a good story, although it is heavy on lights. Countdown is a good story that is devoid of technical stuff. Boy from Oz is a good story with everything I want to know, and a lot of pictures but the pictures are of Hugh Jackman and hardly any of technical people.

Then again, you made up for that with a lot of pictures of technical people elsewhere.

I like CX, have been reading it since Channels days. My baby has grown up in that time, and I feel like I have and that our industry has too.

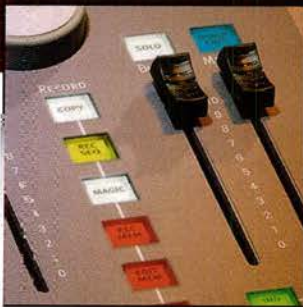
Keep it up!

Joe Sandberg, Western Campus, Vic
Thanks Joe. We thought we had some ladies on the Priscilla cover, but later on we discovered the horrible truth. So this issue sorts out the problem with men always on the cover. –
Ed.

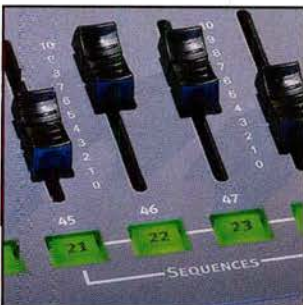
Get Smart



SmartFade 1248



SmartFade programming buttons



SmartFade channel faders

NEW!

SmartFade – a compact console with serious power under the hood

Much more than a two-scene preset board. Take it to a gig or make it your backup board in a DMX system. SmartFade gives you ETC quality and service at a smart price.

You don't have to be a lighting professional to use SmartFade – the most powerful little light board you already know how to use.

Available in three configurations: SmartFade 1248, SmartFade 1296 and SmartFade 2496.

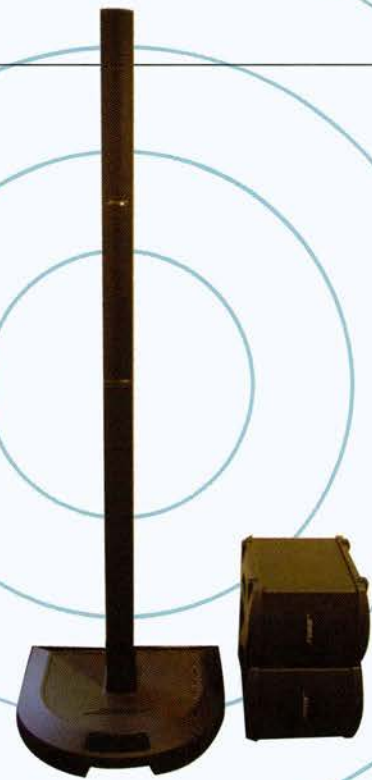
ETC's Smart Solutions family just got even smarter, with SmartFade lighting control.

For more information, go to www.jands.com.au

SMARTFADE™

SMART SOLUTIONS FROM ETC

BOSE REDEFINE STAGE SOUND



The Bose L1 is a brand new concept. Bose have made a product that is intended to be the personal 'sound system' for each and every musician in a group. This is wildly different to the current paradigm, where there are musicians, and then there is a sound system, or 'PA' with stage monitors.

By **ANDY MACKENZIE & JULIUS GRAFTON**

Under the Bose plan, each musician, whatever their specialty, has an L1. They discard any other form of amplification. If they play an electric instrument, that is plugged into the L1. Until the guitar pod came along this would not be possible. A guitarist relied on the amplifier as part of the whole guitar sound. That has all changed, so the L1 can now be used to reproduce guitar and as a personal vocal PA.

To better understand what the L1 does, go to the parts. The system is a 2m metre tall 'stick' called the L1 Cylindrical Radiator Loudspeaker, a kind of line array, that breaks into two parts for transport and sticks into a slot on a semi-circular base unit that contains amplifiers and smart electronics. The base unit is called a Power Stand, or PS1 for short.

There are additional bass boxes called the B1 bass module, you can use one or two with each base unit. The bass boxes are loaded with 2 x 6.5" woofers. Using one or two is a question of sound pressure levels, we tried it both ways and figure that if your instrument is a bass guitar or a keyboard, you'll want two bass boxes.

So straight away, you have maybe replaced a guitar or bass amplifier, and possibly two PA speakers, two speaker stands, and a mixer-amplifier for the PA.

A group using only L1's on stage produce a very interesting sound. Instead of separate stage amplifiers, plus stage monitors, plus two PA speakers on stands one either side of stage, there are a bunch of L1 'poles' around the back of the stage, behind the musicians. That is it.

The aesthetic is wonderful.

Used properly, the sound can be wonderful too. There is a certain clarity when you remove all those sources and replace them, and spatial placement becomes very defined. A musician on the right side of the stage produces one source of sound – which is on the right side of the stage.

Suddenly mono and stereo mean nothing, because the stage becomes the sound source. The same general idea of how an orchestra sounds, when there is no PA, which is the way most orchestras work.

THE PARTS

Down on the PS 1 power unit are controls and connections. The pole just slides in, located on a keyed aluminum tongue. The upper pole slides into the first one, there is no

wrestling like we do on a daily basis with a plastic speaker married to a speaker stand.

Speaking of this, as part of our test we used a plastic speaker and a speaker stand and they were so well acquainted that at the end we could not pull them apart. It took two strong and rugged (and handsome) CX male staff to eventually twist the flipping speaker stand out of the buttocks of the speaker. This is a daily problem, all over the planet.....

There are 12 x 2.5" speakers in each L1 column, the two columns make for 24 total. The horizontal dispersion is around 140 degrees (nice and wide) but the vertical is about 10 degrees. This means that the top of the column is the top of the sound field. If playing in a raked auditorium, you would need to tilt the system upwards. This is a good thing, since the system is not throwing good sound up at the roof, where it is not needed, and where it would often just bounce back to annoy us.

The power unit has 2 Microphone or line inputs with a combo connector that accepts XLR or 6.5mm jack; plus two line inputs. There are 2 XLR outputs as well – one for each microphone input. We assume that the idea of these outputs is that you can output each microphone channel to another L1 or to another PA.



Bose base unit.

There are 2 amplifier direct inputs, but we were hard pressed to find a reason for those. They are there, if you figure out you need them. The idea of the L1 is that it is almost idiotproof which arguably makes it suitable for musicians.

So this brings us to the two extra speaker output connections on the power unit. Naturally there is one Speaker speaker output for the subs, colour coded blue to match the supplied blue subwoofer speaker cable. But Bose also include two 'extra' speaker outputs, also Speakers.

We swallowed hard and got a musician tester in, to try to find the weakness in the system setup. Naturally he tried to plug the two Bass bins into the two external speaker outputs, despite the sign on the Power Unit that says not to do this. Strangely the muso we called in was a very smart cre. and when the system refused to work, he was reduced to reading the warnings on the Power Unit, reconnected the Bass modules, and a was good.

It is really fast to put together - we put the system together from emptying carry bags to checking sound in just 2.5 minutes. The carry test from the boot of a small car to the stage was two trips, the Power Stand is a one handed carry. It isn't a light weight unit, but not off the scales either, at 16 kg. There should be a shoulder strap on the bag for this unit, as the one handle might be a problem for some of the smaller singers or musicians out there.

There is a wired remote, the R1, which comes with a Velcro strip so you can strap it to the mic stand. This has the volume and tone controls on board. You have to use the remote if you want tone controls as they are not replicated on the Power Unit. The system will run without the remote.

USING THE L1

We tried the system with voice using a Shure SM 58 and music. Sonically it sounded quite good, and the system seems to run as loud as required. At the point of way-too-loud, the system then started to sound harsh - which was either clipping or the system protection getting angry. But it was way, way loud.... any other system would also be sounding edgy at that time.

So how loud is loud? We did a semi-scientific test, to see how loud we could get an SM 58 microphone, on a



Cnr Brodie St & Mary Parade.
RYDALMERE NSW 2116
Phone : 02 9638-6500
www.kirbyproductions.com.au

Sound Vision **Style**

Home of the Bose® L1™
Personalized Amplification System™



Specialists in Bose®
Professional audio
systems to suit any
application.

- Musicians
- Live Performance
- Education
- Worship
- Café/restaurants



L1™ system add-ons
featuring the new
A1 PackLite amplifier
250w in 1.4Kg

502® Panaray® systems for
exceptional clarity in
voice reproduction



802® series III
The best just got better

Come in and hear the entire
Bose® range including
Bose® Home Theatre Solutions.

Summer Promotion

Free Wave® Music System and
integrated controller with any
Bose® Lifestyle® Home Theatre!!

Via redemption from Bose®



Valued over \$1000

Valid 1st Nov - 31st Jan





Susi Ozkurt demonstrates joining the two columns together.

stand, 2 metres in front of the L1. The system was set up like a musician would use it, which is different to how a sound person would use it. Namely, the L1 was situated at the back of the stage, facing forward, and the singer was in front of the L1 with his back to the L1. Both the L1 and the singer faced the audience.

You know that a normal PA would start to feed back when used this way, correct? Maybe, or maybe not.

We set up the room to see how loud we could get the L1 before any hint of resonating feedback or annoyance started. As a reference we set up a Mackie SRM 350 powered speaker, on a stand, in the same configuration.

At the point of annoyance, in the given space, the Bose developed an 800Hz ring at about 98dB (A-weighted) measured 4m front the L1. This was way loud, used with a vocal microphone.

The Mackie used in the same configuration ran to 97dB and then developed a 160Hz resonance.

So does a single dB make a difference? Not on paper. But – the Mackie is a small point source, whereas the L1 is in effect a 2 metre tall line source. The L1 will get sound

cut, past a musician singing into a mic, and to an audience, some of who would have all the sound blocked by the musician using the Mackie.

This is all dependant on where the L1 (or the Mackie for that matter) are actually sited on a stage. Bose suggest offsetting the L1 slightly to the side, and since your ears, and those of most musicians actually face forward, this is not insane.

From a normal point source, like any conventional speaker system, you have an essentially spherical wave front which expands in all directions. This gives rise to the inverse square law, where for each doubling of distance you lose 75% of the power you have (6dB).

In a line source system the interaction between the drivers reduces the vertical dispersion, and the more drivers, the more it is reduced. This produces what is known as an extended near field effect. Because the wavefront is cylindrical rather than spherical, the loss with distance is only 50% (3db) for every doubling of distance.

Can you run the L1 without the add-on bass bin? Yes you can, but it sounds just like a voice PA used for speeches. It wouldn't be musical.

Finally, the Power Unit has a selection switch on each of the two main inputs which enables you to preset the input to suit a variety of microphones, or to emulate different guitar amplifiers. This digital emulation is handy, we tried an SM 58 microphone with and without emulation, using the Bose emulation it sounded somewhat different as you would expect.

There is also a couple of noise gate settings, which would be handy using the system with a lectern mic, where the gating would shut out the noise of notes being rustled.

SO THE OUTCOME IS...

Pass the envelope. Bose have invented a new set of applications, for a contemporary audio idea. Bose dealers tell us that schools are buying L1 systems like crazy, because of the versatility of the system and the ease of use.

If a band were to embrace the system, each player would need one. It would mean getting rid of the rest of their kit. If a player doesn't have one, and intends to sing into a microphone, then a normal PA is needed. If they just play an instrument, then no L1 is needed. They just turn up with their guitar or bass amp.

What about a drummer? They may feel the need to get an L1 with two Bass units, to do the kick drum and maybe also an overhead mic. The two microphone drum kit is not a silly idea, try it sometime. You could 'Y' split two overhead microphones into one input. People do that all the time.

There are two main inputs for instruments and/or microphones; plus two extra line inputs that a keyboard player would probably choose to use. We guess that maybe one or two members of a band could connect to a neighboring L1, depending on what it has already running through it.

It is super interesting contemplating how a band will use the system; and trying to second guess how a stage sound will end up balanced out, with players using the system and hearing 'their' sound, without additional stage monitors.

There is absolutely no reason why you could not use 2 L1 systems as a traditional PA – this is truly a plug and play sound system, that seems to do most things for most people.

Bose sell the L1 from about \$3,000 for the column, the Power Unit, and one bass unit.

CX



Bose inputs.

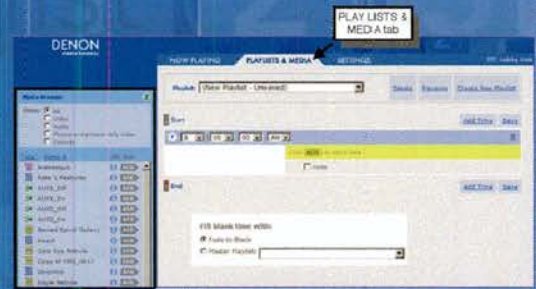


Traditional speaker on a stand, -v- Bose L1 at right.

Anywhere you have a sign,
you'd rather have a
digital sign.



DN-V755 Network Audio Visual Player



Media Browser

DN-V755 Web Application

Visual messaging captures attention by using audio, video and graphics. Messages can rotate or play on a schedule. Visual signage can even interact with users. Retailers can easily update promotions daily. Lobby signage can display schedules or directories, interspersed with marketing material. Museums can create interactive kiosks. And any of these can be turned into crisis management signage at a moment's notice.

The Denon Professional DN-V755 Network Audio Visual Player is revolutionary. Connect the DN-V755 to a LAN and you're off to the races. There's no software to install and it can be accessed with any standard web browser. When you connect, it behaves like a website, and adding media is as easy as dragging-and-dropping. Think about that: you can control your message from anywhere in the world.

DENON
Professional Audio Brand

audioproducts
Group

Australia:
Call 1300 13 44 00 or visit
www.audioproducts.com.au

New Zealand:
Call 0800 111 450 or visit
www.audioproducts.co.nz

ENTER THE GREEN ERA

How much does it cost to run our shows? Julius Grafton reports on the scary new world order where everything is changing, faster than you think. Power was like water. Now power is like oil. Rude shock warning...

By JULIUS GRAFTON

What a difference a month makes. On November 1st, the world changed forever when the Stern report really did convince most skeptics that global warming really is happening. The week before we had readers emailing and saying that comments like those by Thom Yorke, the lead singer of Radiohead, who said he may quit touring as he is concerned about the impact on the environment were rubbish. After Stone it seems sentiment shifted hard.

Being green no longer means hugging trees. Yorke went from tree hugger to the voice of conscience. Generation Y started to ask what it all means.

Recently I've been at Arena concerts where during the mael break before the show I have wandered alone across the stage and looked up to see and hear the thrum of one hundred moving lights all burning, shuttered off dark, discharge lamps all on. Aside from the power draw, the cost of maintaining fixtures that are always hot is another issue.

Several years ago the technical manager of a 3,500 seat church told me it cost better than \$2,000 to power the auditorium for any summer Sunday. And we now over power sound systems that once delivered the same sound pressure levels with one tenth of the RMS

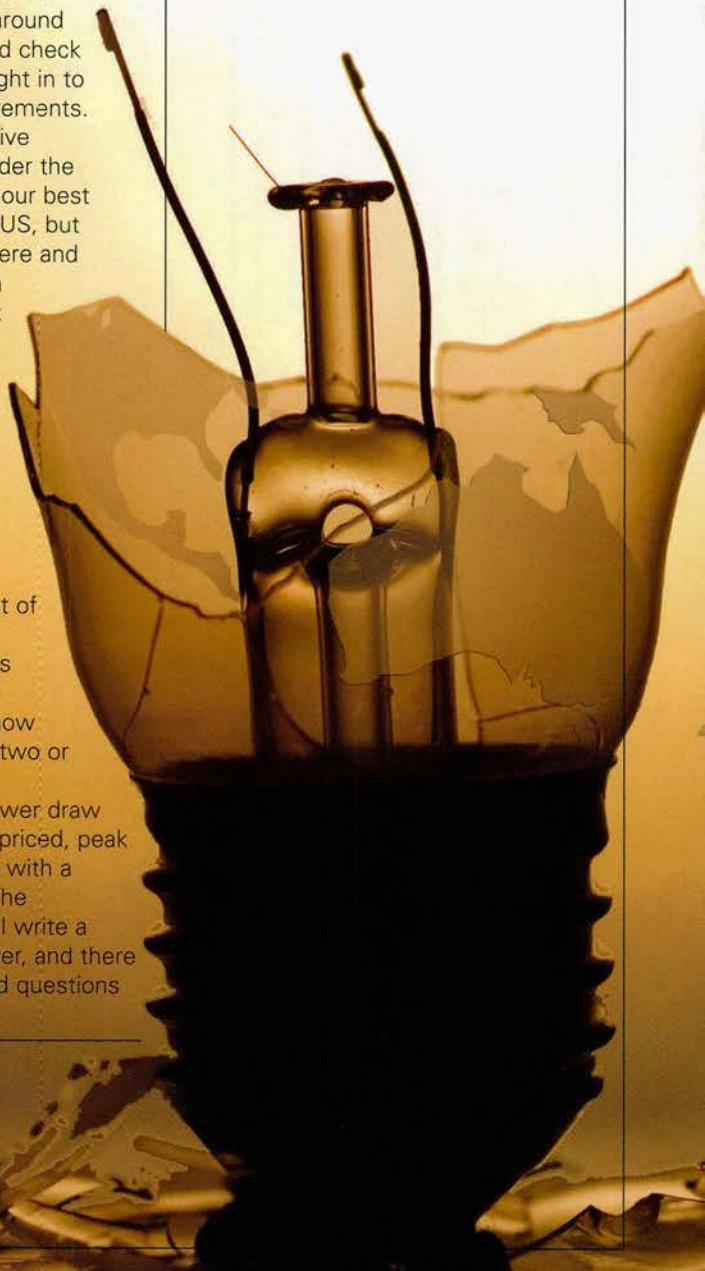
output.

Bottom line: no one is watching the bottom line. We now use too much power. Ask venue operations managers, and go walk around outside some venues and check out the generators, brought in to feed our insatiable requirements.

Environmentally sensitive musicians like Yorke ponder the bigger picture. "Some of our best shows have been in the US, but there's 80,000 people there and they've all been sitting in traffic jams for five or six hours with their engines running to get there, which is bollocks. I would consider refusing to tour on environmental grounds, if nothing started happening to change the way the touring operates."

The environmental cost of an audience getting to a show is outside our focus right now, which is to examine where we are now and where we will be in two or five years.

The problem is that power draw will start to be premium priced, peak tariff loaded, and on sold with a markup by the venues. The promoter or producer will write a cheque for metered power, and there will start to be some hard questions asked





30 Years and Still Rocking the House

The latest Yamaha PC-1N Series amps.

Power amplifiers are the keystones of professional sound. If they don't perform, the whole show grinds to a halt. Yamaha is proud to have made valuable contributions in 30 years of professional power amplifier production. Super efficient EEEngine technology, advanced distribution amplifiers and leading networking capabilities are just a few examples. But we are most proud of the fact that amplifiers we built 30 years ago are still delivering superior sound and power, show after show. They have not let their owners or audience down after years of use and abuse. The same goes for any Yamaha professional power amplifier you choose today. It'll still be rocking the house 30 years from now.

The innovations keep coming, but the basics are always there: solid sound, power and performance you can depend on for decades.



Well-worn but fully functional Yamaha F220C amplifiers made in 1976 are still in use around the globe.

 **YAMAHA**

commercial audio

<http://www.yamahamusic.com.au>

Yamaha Music Australia • Commercial Audio Division
P.O. Box 268, South Melbourne VIC 3205
Phone 1800 805 413

PRODUCTION COSTS

Right now the live production industry is worried only about technical excellence and the cost in energy draw is not on any touring spreadsheets. It will be, when the kilowatt hour tariff starts to reflect carbon trading and peak loading deterrents.

Some insurance companies have started to sneak waivers into the policy fine print where shows will not be covered for loss of profit through cancellation where the power grid fails outside the venue. The grid already fails in some places when peak loads dictate.

The NOW solution to getting our power draw reduced starts with limiting the extravagant practice of specifying moving lights with discharge lamps. These need to be fired up or 'struck', with a ballast, and can't be electrically dimmed. The power draw for a lighting rig made up of these is constant – strike them up, and they draw power until turned off.

By contrast, a tungsten halogen light source is 'dynamic', in that it can be dimmed and is turned off when a blackout is required. There are some

high output tungsten halogen moving lights emerging. Used alongside traditional luminaires like Lekos and Pars, and you have a lighting rig where the power draw is linked directly to the lumens on stage. Which incidentally are maybe double what they were a decade ago. Our stages are now too bright.

We assert that within 5 years, people will shake heads and wonder what they were thinking, having a rig full of fixtures that consumed large amounts of baseline power, while shuttered off and shooting no light. It's the lighting equivalent of watering your lawn for hours in a rain storm.

Speaking of dynamic power loads, we love the LED tile wall, but it is a power hungry creature. Each (rough measurement) 500mm square tile wants 400 watts, which equates to 1.66 amps. A 10 x 10 tile wall will need 55 amps per phase (3 x 55 amps) when run at full 2000 nit intensity. Many walls are much larger.

We were amazed to discover that a 6mm pitch LED tile, with 5000+ LEDs onboard, consumes the same amount of power as a 10mm pitch tile with under 2000 LEDs. Go figure.

Very interestingly, the super-duper 3mm tile has arrived, albeit at about half the physical size of the current batch (250mm wide instead of 448mm) and it still will use roughly the same power per square metre of wall. Looks like Barco have de-rated the individual LEDs so that all their tiles are matched for light output.

Video people usually don't run a LED wall at full blast – it is actually TOO bright. So while run at lower output, it will draw less power. But the ability for the thing to be run at full power means it will be – especially when lighting or show designers decide to blast colours, or strobe open white.

With the addition of big vision systems, plus the unfettered ability of lighting people to specify what they want (which is as much as humanly possible), shows have outpaced venue power supplies.

BIG AUDIO MEETS THE CURVE TOO

Twenty years ago the standard concert amplifier delivered 300 watts a channel, so the mains draw was correspondingly relative. An amplifier



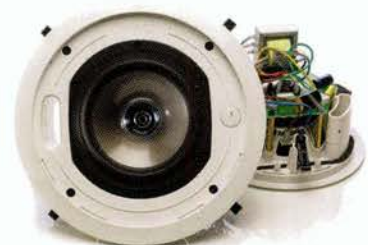
DON'T MISS THE CONNECTION

PRECISION ENGINEERING DELIVERS TRUE VOCAL INTELLIGIBILITY WITH EASE OF INSTALL AND RELIABILITY

SOUND QUALITY

- ⊗ Available with either Tannoy Dual Concentric™ or ICT™ drivers
- ⊗ Point source designs for superior vocal intelligibility
- ⊗ High power handling and wide bandwidth for unsurpassed fidelity
- ⊗ Wide dispersion providing excellent coverage
- ⊗ Simple to install with all accessories included
- ⊗ CE approved

THE MESSAGE IS CLEAR



Syntec Australia
Syntec New Zealand

T: +61 2 9910 6700
T: +64 9 263 9885

E: sales@syntec.com.au
E: sales@syntec.co.nz

tannoy@com.au

rack with four Yamaha P2200 or Crown DC 300 or Jands J 600 amps could be powered from one 10 amp circuit.

Today each ultra high powered amplifier, typically offering 1,500 to 2,500 watts per channel, needs one 15 amp power feed. A rack of four will chew more than half a 32 amp three phase outlet! How did we get to this?

The answer lies generally in speaker efficiency, where 20 years ago the speaker cabinets were almost uniformly horn loaded, to deliver up to 6dB gain and so work against the amplifier output limitation. When amplifiers arrived delivering 700 or 800 watts per channel, those horn loaded systems got head room and started to sound nice.

It was these 'second generation' amplifiers that allowed speaker system designers to eliminate the horn loading, and drive down speaker cabinet size and weight. Then the 'third' generation amplifiers emerged, offering up way more power and speaker cabinets got correspondingly smaller while transducer design allowed yet more power.

Now we often have too much amplifier margin, depending on how they are deployed. Using a high power amplifier at 2.6 or 2 ohms (running three or four 8 ohm speakers per channel) can be cost effective in mains power terms. Running at 4 ohms, or even (why would you?) at 8 ohms is just wasteful.

One thing is certain – a concert sound system requires up to three times the mains feed these days, where just a decade ago the same seating plan was served with much less mains draw.

No one wants to go backwards in sound quality, so the answer is to match the amplifier loads to the speaker system even more carefully than before. And stop the phony war about how you can't run a concert sound system at less than 4 ohms, because you can, and many people do.

One shining beacon in this debate is the in-ear monitor system, which when fully deployed or a show removes between four and sixteen amplifiers from the grid.

POWER PROBLEMS

The entertainment industry faces a three way challenge with power. The obvious one is cost per kilowatt hour, and while venues today pay between 10 and 20 cents per kilowatt hour, no one actually cares.

Today it costs about \$100 to supply power to a 100 amp per phase outlet used across seven hours – the typical system check and show duration.

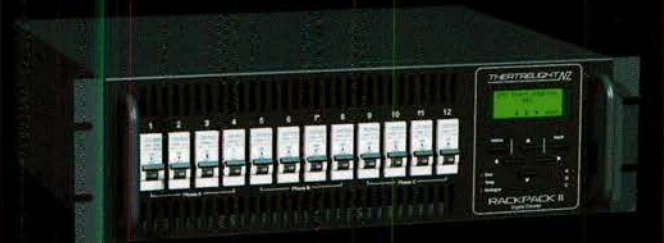
But peak and demand tariffs are the words that production accountants will start to dread, and quite soon. Peak demand power stations are being built now in many grids, they are designed to kick in when the load exceeds 90 percent and usually blow heaps of hot gas and sometimes run on jet fuel. The standing cost of one of these plants is massive when amortized against use, and the hourly use cost is staggering as well, compared to the relatively efficient, dirty coal plant.

An example is the Laverton North 320 megawatt gas turbine power station for Snowy Hydro. Siemens signed to build \$1 billion in power plants like this for the 2003/2004 fiscal year.

Governments are very worried about peak power outages, and are quietly signing often insane deals with urban infrastructure funds (read: merchant banks) to build, own and operate peak power plants. They will expect to make fat returns, for a plant that might only operate a hundred hours each year.

The banks are demanding a base payment whether or not the plant is actually used.

The new face of Theatrelight



THEATRELIGHT NZ

E-mail: info@theatrelight.co.nz

6 Rowe St., Onehunga, Auckland, New Zealand

Tel: 64-9-622 1187, Fax: 64-9-636 5803

Web: www.theatrelight.co.nz

CONTOUR ARRAY™

The ConTour Array bridges the gap between conventional PA systems and large touring line arrays. Today this new system is the first of its kind to put this technology to efficient use as a cost effective package for many sound reinforcement scenarios. Now even performances on a limited scale can get into the professional line array game with ConTour Array. Alongside excellent audio quality, this line array is all about light weight versatility and easy practical handling. A Self Powered highly scalable solution, the ConTour Array is in itself amazingly flexible.

For even greater flexibility, the processor in the self powered subwoofer has the parameters to be combined with 8", 12" and 15" ConTour Series speakers.

CONTOUR CT112

The CT 112 is a passive speaker cabinet that may also be configured in bi-amp mode. Featuring a dual purpose housing, it can serve as a FOH speaker as well as a stage monitor.

CONTOUR CT115

The CT 115 is a passive speaker cabinet that may also be configured in bi-amp mode. Offering an extended low frequency range and featuring a dual-purpose housing, it can serve as a FOH speaker as well as a stage monitor.

CONTOUR CT108

The CT 108 is an extremely compact, passive public address / full-range speaker cabinet. Featuring a dual-purpose housing, it may be employed as an FOH or delay speaker as well as a stage monitor.

SPECIFICATIONS	CTA-208 Array	CTA-118 Sub	CT-108	CT-112	CT-115
Power-handling RMS	500W	1000 W	200 W	400 W	600 W
Frequency Response +/-3dB	95Hz - 19kHz	42 Hz - fx	100 Hz - 19 kHz	30 Hz - 16 kHz	65 Hz - 16 kHz
Sensitivity 1W@1 m	105 dB	101 dB	101 dB	107 dB	106 dB
Max. SPL peak	136dB @ 10% THD	133 dB	130 dB	139 dB	140 dB
Nominal impedance	8 ohms	8 Ohms	16 Ohms	8 Ohms	8 Ohms
High driver	4 x 1", 2" voice coil		1", 2" voice coil	1.4", 3" voice coil	1.4", 3" voice coil
Woofer driver	2 x 8"	13" with compression chamber	8"	12"	15" neodymium
Connectors	1x Speakon NL4	1 x Speakon NL 4	2 x Speakon NL 4	2 x Speakon NL 4	2 x Speakon NL 4
Weight	29kg	59 kg	10 kg	25 kg	33.7 kg
Dimensions	51 x 52.5 x 34.6 cm	51 x 73 x 71 cm	23.5 x 40.5 x 23.5 cm	38 x 52 x 34 cm	45x 69.5x 39.6 cm
Internal Power Amp		2x1000 Watt			
Controller Network		DDO-Pro Technology			

The new HK AUDIO ConTour Series™ offers high performance speakers for near-field sound reinforcement and on-stage monitoring. They are the right choice for every application demanding high sound pressure levels, ample headroom, the ability to cut through on stage, and sonic precision over short or medium distances.

Courtesy of state-of-the-art components and leading-edge engineering, ConTour Series™ delivers superb dynamic response and exceedingly faithful sound reproduction. Alongside excellent audio quality, this series is all about utmost flexibility, light weight and easy, practical handling. All told, the ConTour Series™ puts into the hands of sound tech's a range of sound reinforcement systems robust enough for daily use and versatile enough to adapt to the most diverse sound reinforcement scenarios - no ifs and no buts.

The astronomical prices that will be charged are already foreshadowed, on the spot power market, where one power utility on sells capacity to another at a time of high demand. Governments are being quiet about this issue, because on the one side, having sustained grid failure is electoral suicide, and on the other side, if people knew what the actual cost of a stop gap peak power plant really was, there would be a riot.

Readers unlucky enough to live where a toll road has been privately built recently will know a little of some of the Byzantine rules and conditions that end up binding the tax payer to the banks, with strange algorithms that increase the returns to the banks whenever things get busy in the city.

Peak power plants use a lot of oil or gas, and that oil or gas can also get sold at a 'peak' premium price. You will need the skills of an actuary, sitting alongside an experienced tort lawyer, assisted by half a firm of chartered accountants, to really understand what is 'fair and reasonable' once peak power billing starts to kick in.

Some of the crazy millions that will be charged, and paid, to private peak power providers at times of high demand will be subsidized from standard use of power. The rest will come from industrial peak users, and that, dear reader is you and I when we run a show.

I predict the standard cost per hour to power a show will quadruple in three years, and that peak power incidents will arrive where with only a short warning from the utility, if any at all, power rates will increase twentyfold on a hour by hour basis.

This could see an 'average' concert with 2 x 100 amp and 2 x 50 amp three phase supplies run from costing \$300 to power today, through \$1200 (standard rate) to \$24,000 or more at peak rate. And those numbers are before a venue applies a mark up.

Adding to the peak power crisis will be the increase in venue hire, since air conditioning power draw is almost as expensive as powering the production. It is not beyond belief to see a mains power levy on arena venue hire of as much as \$40,000 plus, under 'peak load' conditions.

Understand there really is no limit to what a utility can charge you for

power use. The only limit is what is presently on your usage agreement or contract – if you have one. Expect that to change, real soon now.

Finally, if you think it can't happen, then consider the excess download charges some people – like us – have faced with 'charge by the byte' internet plans. We contested a \$20,000 bill last year, which was reversed, but not until we had a fair dose of stress. Or the \$10,000 bill a holidaying family faced when a burglar rang the talking clock in New York and left the phone off the hook. For a month.

The second face to this problem is that promoters, venue owners and audiences will all expect to see significant reductions made in power consumed. If you think this is far fetched, try running a bore or tank water fed sprinkler system in suburban Australia. Within minutes of turning the tap, you have concerned bystanders ringing your door, asking if you know we have water restrictions.

Before long you can expect to see environmentally friendly production companies, providing better designed and lower powered systems to environmentally friendly productions, bands and shows.

One more thing – before you shrug and start looking up the current cost of generator hire, you can bet that once this becomes a 'global' problem, which Stern has already flagged, then states and nations can and will tax generators according to usage. The last thing anyone wants is for 'do it yourself' power generation to be cheaper to run than buying the stuff off the grid. Because the emissions from a portable gen-set far outweigh even the dirtiest coal fired power station on a kilowatt hour comparison.

The third challenge will be the one alluded to by Mr. Yorke from Radiohead, where audiences chew significant fossil fuel just getting to the venue. That one is out of our hands, but it does play into the lounge room simulcast scenario, which with digital copying of TV and sound means that bands and record companies, and TV stations really do know that a live concert is worth money while it is live, but worth nothing much when it is over.

So expect to see more simulcast concerts.

Welcome to the rest of your life. 

L.U.C.A.S - The next Generation Life just got easier

L.U.C.A.S Experience

The Advantage
of Being Original and The Best.

Originals are often copied. But while the imitators are busy copying the old, the original is transforming itself into the new.

In 1998 L.U.C.A.S revolutionised the market for compact PA systems with a new design concept. That design has since been acclaimed eleven times by readers and journalists from the most important European and international trade magazines as the best compact PA system available. Most recently, the brand new L.U.C.A.S MAX won the 2006 Readers' Poll of Europe's Soundcheck magazine.

Naturally HK AUDIO is happy to receive so much positive reinforcement, but there's no sitting on our laurels. All this acclaim only inspires HK Audio to strive that much harder to make L.U.C.A.S that much better. And so the new generation of L.U.C.A.S incorporates all the advantages of the latest technologies, such as Class-D power amplification and neodymium loudspeakers, thereby reducing system weight by as much as 20 kg and reducing setup stress that much more. And with their innovative DDO™ controller technology, L.U.C.A.S MAX, L.U.C.A.S PERFORMER and L.U.C.A.S IMPACT are bringing in a new era of greatly enhanced audio fidelity with a previously unheard of degree of sonic detail. Hearing is believing.



2005

4 Systems for Entertainers, bands, and DJs
Select the solution that's perfect for you!

2006



Portable
Sound

5 Year
Extendable
Warranty

Please call your territory manager
or phone cmj head office now!

<http://www.cmi.com.au/branddetective>

GUITARS FOR SOUND PEOPLE

Chances are if you've ever worked with any kind of band then you've encountered at least one guitarist. The guitar is one of relatively few instruments which can be used solely as the basis for a whole performance piece without any accompaniment (it's up there with the piano) and sound good. So it seems like the humble guitar is a logical place to start when taking on the topic of various different sound sources we encounter on stages.

By **JIMMY D**

Guitars in live sound vary in their nature and complexity. A guitar setup can be as simple as an acoustic guitar running into a DI, or as complex as an electric with a wireless setup, stomp boxes, other effects units, and twin amp stacks. We'll take a look at the whole signal chain starting at the guitar, and cover the various processes a guitar signal undergoes before it shows up on our VU meters.

QUICK HISTORY

Origins of the acoustic guitar are really hard to trace, spanning at least some 5000 years. If you could look back far enough you'd probably find an early guitar type instrument made out of some Pterodactyl bones and stretched out rhinoceros gut, invented by a guy sitting in a cave. Maybe it was tree branches and not a dino-bone. We can only guess. I digress...

BASIC CONSTRUCTION & PHYSICS

Suffice it to say a long history has led us to the modern acoustic guitar. The acoustic guitar is a string instrument, usually hollow with 6 to 12 strings which are commonly nylon or steel. Starting at the pointy end, the major parts of an acoustic guitar are as follows:

- Headstock** – the end of the guitar incorporating the tuning keys (or machine heads). Keys are usually arranged symmetrically, though an in-line 6 configuration is also common
- Nut** – the small piece of bone/plastic/brass/graphite over which the strings run once they leave the headstock
- Neck** – the long slender piece of the

guitar which incorporates the fret-board and frets

Heel – where the neck of the guitar meets the body

Sound board or top deck – a thin sheet of timber designed to resonate and amplify the sound of the strings. This is connected by the body sides to the bottom deck. The sound board will usually have one or more sound holes.

The strings, upon meeting the body pass over the sound hole and the bridge nut, and are terminated on the bridge.

Strings – commonly there are 6, but other guitars including 8 and 12 string versions are available. Standard tuning for these strings is E,A,D,G,B,E.

To sum it up in a sentence, a guitar works by producing standing waves in the strings, which resonate inside the body of the guitar, and escape through the sound hole in the sound board or top deck. (I can't believe the most technical name I could find for the sound hole is "sound hole"?!) Smaller or thinner strings produce higher notes. The physics of this is curious and there's some interesting reading to be had on the internet about it. In a nutshell though, it works like this:

The note a string produces when it resonates is controlled by the frequency at which it does so. The frequency is governed by the length of the string, the tension on it, and the mass of the string.

The shorter or lighter the string, the higher the frequency will be.

The heavier the mass of the string, the lower the resultant frequency will be.

ACOUSTIC GUITAR

Guitar Tip #1 – If you need to mic an acoustic guitar, keep in mind that most

of the sound comes out through the front of it (from the sound hole surprisingly). The bottom deck acts as a resonator, but is usually against the player's body which absorbs some of the sound. The sides of the guitar are made from much heavier wood, so are less able to resonate freely. If you're placing a mic, keep in mind that the player needs a degree of freedom to be able to play the instrument without thumping the mic every time they strum.

Guitar Tip #2 – If your guitarist has a guitar of reasonable quality, chances are it will be loud enough that a dynamic mic will work pretty well. An SM57 is a common choice, but not the only one. I am not normally a big fan of using condenser mics in live sound reinforcement applications if a dynamic will do the job, but I make exception for string instruments. I like the Mann M11 small-diaphragm condensers, and find the relatively tight pattern works well on an acoustic if you need a bit of distance. That said, there are a bunch of other great mics out there – the one best for you is



Amp & Shock Mount Racks



Drawers Cases & Packers



DJ, LP's & CD Cases



www.stands.pl

MADE IN EUROPE

Producing stands out of Europe for the
music and entertainment industry
worldwide for 14 years



Stock is now shipping for Procases and Athletic products.
For further information contact National Audio Systems.

T: 03 9846 3566 | Orders: 1&00 441 440 | F: 03 9846 3544
sales@nationalaudio.com.au
visit our website: www.nationalaudio.com.au



Sasna Verin.

whichever you find works well.

If I plan to use a condenser mic, try to make sure the player is aware the monitors may not be loud enough for those in the adjacent suburb to hear. Assuming the rest of the band is reasonably under control and your monitoring setup is decent, giving the guitarist sufficient level to hear themselves shouldn't be a problem.

Guitar Tip #3 – If your guitarist is just starting out, or one of their mates ran over their good guitar or they cocked it for some beer then they might have a really awful sounding guitar. The kind which sounds really toppy, and has a sort of “bo ng” resonance thing going on which only kicks in on certain notes. Short of finding another guitar you can “cloak” this by adding a short reverb with HPF set at around 250-300Hz, and LPF shelving it off somewhere around 1K. It's cheating a little, but it will body up the guitar sound without adding to the “twang” factor.

Guitar Tip #4 – Guitar pickups vary in output quality. If the guitar sounds good when you listen to it acoustically but the output from the pickup is incredibly crap, consider using a mic instead of (or as well as) the pickup! If it's an active pickup it will need a power source (usually a 9v battery). Sometimes a fat battery will present itself as a weak or distorted signal, rather than just a complete lack of one. Also, some pickups work well with active DIs and some better with passive units, so try a different type of DI if you can.

I recently saw a pricey active DI go microphonic for no apparent reason. This demonstrated that while active is nice, it ain't necessarily the best and



Takamine D series headstock.

end all. I've found that a reasonable quality passive DI (something around the \$150 mark) will generally be a safe bet for most applications.

Guitar Tip #5 – Guitarists are people just like you and I. We're all human, and they will from time to time forget things like guitar leads. It doesn't hurt to carry a couple of 2 - 3 metre guitar leads to cover the “oops I forgot my lead” contingency, or my favourite: the “I don't understand, it worked fine last time I used it?” factor. Since guitars generally output unbalanced signals, I try to minimise the length of any cabling between the guitar and the DI. Since the DI output will be balanced, this is a better place to implement a longer cable run.

I'm sure there are plenty of people who'll be happy to tell me just how wrong I am for failing to see the point of vastly expensive guitar leads. I know a guitarist who will argue till he's blue in the face that his \$200 guitar lead sounds better than anything costing less. To avoid bloodshed we've agreed to disagree on the matter. I suppose if you have your guitar, amplifier, DI, and everything connecting these items together re-wired with the same quality cable then the quality of the lead would have more bearing on the sound. Hang on a tic while I pull out my studio reference PA speakers...

For those who would rather spend the \$200 on something else, some reasonable quality shielded audio cable (something around a couple of bucks a metre), combined with some quality connectors and good workmanship is probably in most cases, sufficient. I've found the slightly chunky connectors

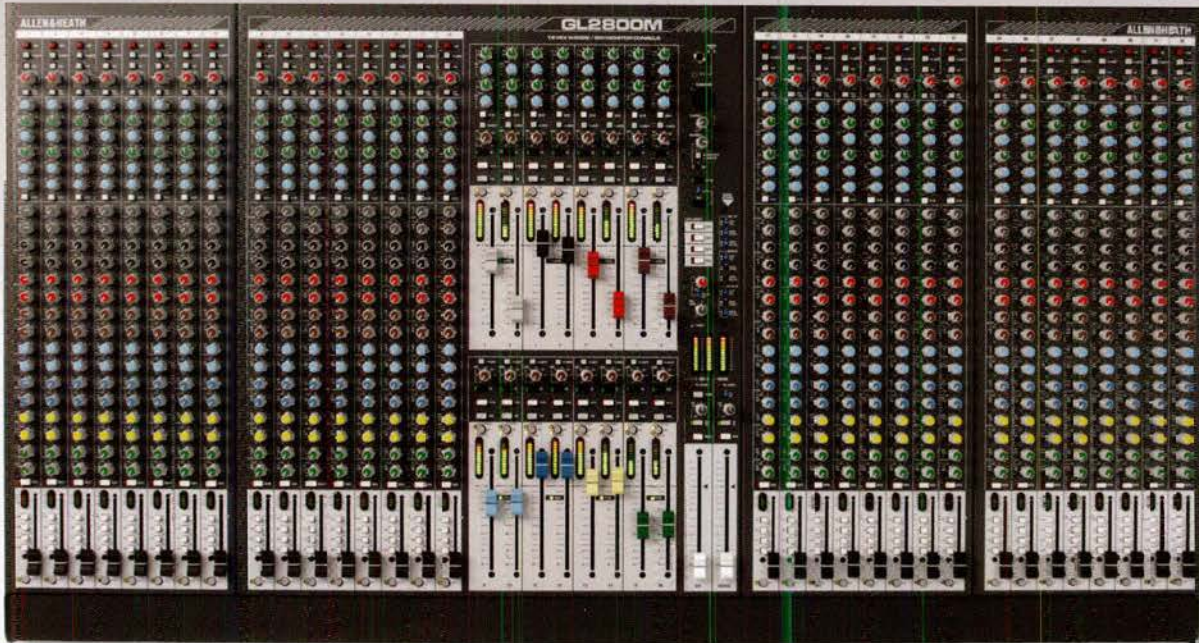
with a plastic strain relief system to be more robust than the kind with the metal springy ends. Plus they don't rust. Again, this is a personal thing - when choosing leads it is worth doing your homework beforehand to make sure you'll be happy with your selection.

Guitar Tip #6 – If the signal from a guitar sounds a bit gutted when it hits the console and there are no effect units in use, maybe it came out of the guitar that way? Lots of acoustic guitars have little pre-amps built into them with, and most of these include some form of EQ – often a 3 band graphic. Rather than try and put something back into the signal at the desk that's been taken out on the guitar, wouldn't it just be easier not to take it out in the first place? Talk to the guitarist and ask them to change the EQ on their guitar. If their instrument is acoustic and they are relying on you to provide monitors, you can always tune their monitor sound more to their taste without having to compromise what's being sent to FOH.

ELECTRIC GUITARS

Electric guitars came about due to the need for louder guitars, to keep up with horn sections in big bands. They are constructed in a similar fashion to acoustic guitars with probably the most notable difference being that they are generally solid bodied, and usually have a couple of integrated pickups and controls for these. Some electric guitars have vibrato (or tremolo) arms, extra necks and other such fanciful things, but fundamentally it's still a tuneable string instrument. The main

How Many Sends Is Enough?



According to Carey Davies, Allen & Heath's head of design, 'the evolution of multiple wedge and stereo in-ear systems means the required size for a typical monitor console has jumped dramatically.'

So, how many sends? 16 is his answer and he's designed the GL2800M to prove it.

Big on being small, it's a fully-featured, yet very affordable, 16 send dedicated monitor console that occupies less than a meter!*

* 24 channel frame size

- 16 mixes assigned mono or stereo pairs
- Built-in mic splitter
- Dual output engineer's wedge/IEM monitoring
- On board oscillator/pink noise generator
- Talkback directed to each performer or to FOH
- Channels: HPF, 4 band mid sweep EQ, mute, PFL
- Masters: HPF, AFL, mute and -6dB 'dim' button
- Mixes 1-8: 2-band swept output EQ
- 24, 32, or 40 channel frame sizes

GL2800M from: \$12,995_{RRP}



Investigate www.gseries.com for more or contact TAG: Ph (02) 9519 0900. E. info@tag.com.au





Eddie Lolesi with modelling amp.

difference is how we get the sound out of it, and what it sounds like when we do. The guitar is only part of the equation, with the rest being made up of pickups, processing and amplification.

Pickups work not by detecting air movement, but rather the interruption caused to the magnetic field of the pickup when the metallic guitar string moves within it. Electric guitars often have multiple pickups, and a method to switch between one or the other (or a mix of both).

Processing or effects units are available in a number of different configurations. Some have MIDI connections, some are multiple effects built into a pedal board, some are single effect units (stomp boxes), and sometimes they are built into guitar amplifiers. With the exception of internal amplifier effects, they almost all have one thing in common. They will have an input and an output jack. Often multiple effects units will be cascaded onto one another. Some units have multiple outputs which allow the guitarist to route the output off to another unit which is not connected to the amp – commonly a tuner. Guitarists sometimes refer to the tuner as a fish. Effects units will be large, also require power. Stomp boxes often run off 9v batteries, whereas larger combination pedal boards will usually have one of those fantastically irritating “lire-lump” or “well-wart” power supply units which never fit into the power outlets on stage. Short extension leads are a nicer way to

power these things than power boards, since they let the adapter lie flat on the ground so it's less likely to unplug itself. It's worth knowing these power supplies can induce a lot of noise into unbalanced audio lines (such as the one coming out of the guitar), so it's generally best to keep the two as far away from each other as is feasible.

A recent trend in processing is toward DSP units for guitars, which not only allows for effects but also “amp modelling”. The idea of this is through the magical wizardry of digital signal processing, a guitarist can modify their output to sound like it's running through a selection of different amplifier/speaker cabinet combinations. There seems to be some conjecture over the accuracy of the models, but at the very least it's more convenient. I think everyone would agree that a 2 rack unit box is loads easier to carry around than 40 different amp and speaker combinations.

Line 6 is one manufacturer who has taken the digital modelling theory a step further. Their “Variax” guitar has individual transducers (mounted at the bridge) for each string, which in turn are connected to A2D converters. Once the signals are digital, they are used as triggers for on-board processing which models different guitars based on mathematical algorithms. You turn a knob on the body of the guitar, and it sounds like something completely different. You can even get it sounding like a sitar. A Cat5 socket allows you to connect the guitar to a USB interface and subsequently a computer. Using specialised software, you can build a custom guitar on screen, and hear what it will sound like when you play it. Pretty cool stuff.

GUITAR AMPLIFIERS

Guitar amps are something soundies seem to love to hate, especially the really big ones. So far as I can determine, the Marshall stack originally started life as an 8x12” cabinet. Marshall made about 6 of these and then upon realising nobody was prepared to lift the thing, changed it to a pair of 4x12” cabinets. Guitar amps are usually one of two breeds: valve or solid state. Within these categories, there are amp head and speaker cabinet setups, as well as combination (combo) amps where both are built into one cabinet.

Whilst solid state technology has come a long way since its inception, some guitarists will stick with valves well into the foreseeable future. Ask

why and you'll probably get an answer which includes the words “warmth”, “saturation”, “distortion”, and “have you seen my keys?”. It seems the choice between valve and solid state is just as personal as that of the guitar itself. I find people will generally use the gear they do because they either like it, or it was the closest thing they could afford to what they really wanted. Occasionally you'll run into someone who's chosen a particular amp for practical reasons too!

ELECTRIC GUITAR LESSONS LEARNED

Guitar Amp Tip #1 – Guitar amps are often very loud. Once the guitarist starts playing they become even louder. If you're putting a mic in-front of a guitar cabinet, make sure it's something which will cope with the SPL you expect the cabinet to produce. Expect that this could be lots.

Guitar Amp Tip #2 – Guitar amps throw midrange. Because a lot of these amps are open backed they, don't tend to resonate bass really well.

Furthermore, since many amps are built using a single cone speaker (no horns) they're not incredibly good at throwing high frequencies either. So when a single speaker, open backed guitar amp is turned up loud in a small-medium sized venue, lots of midrange then washes off-stage often overpowering the vocals in your carefully assembled mix. This event usually coincides with the other good folk on-stage requesting more level from their monitors. Some amps have a little leg inside the back of them, which can be rotated outwards. This allows the amp to be tilted backwards and aimed directly at the guitarist's head, thereby enabling them to hear themselves better. If there's no in-built leg, angle stands are available which also permit this.

Being able to hear what they are playing is not the only reason guitarists run their amps loud. A large part of the sound electric guitarists seek is distortion. The nature of distortion is basically that of turning something up until it stops working properly. In guitar amps, this can occur in a lot of different places (especially in valve amps), but commonly the speaker is one of those. To get the speaker to distort you often have to run the amp pretty hard. Often this process is accompanied by lots of sound.

I worked a cultural festival a few years back, and had an awesome little Italian trio show up. Their basic

Digital Snake

Multi Channel Digital Audio Transfer System

RESS
by Roland
www.rolandcorp.com.au

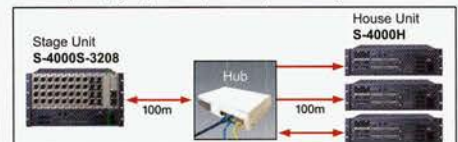
Next generation audio transmission system DIGITAL SNAKE

Next generation audio transfer system brings analogue multicore into the digital age. Roland's new REAC transmission protocol provides 40 channels of ultra low latency, pristine 24-bit, 96 kHz audio transfer over a single Cat5 Ethernet cable at lengths up to 500 meters using standard Ethernet Switching Hubs. Designed from the ground up for professional concert staging, corporate event sound reinforcement and broadcast applications.

NEW **S-4000 SERIES**
 • S-4000S-3208 Stage Unit
 • S-4000H House Unit
 • S-4000R Remote Controller



The Digital Snake S-4000 Series consists of the S-4000S 40 channel I/O Modular Stage Box, the S-4000H 32x8 Front of House unit with 8 inputs and 32 outputs and the S-4000R Remote Control Unit which provides easy to operate control of preamp gain, phantom power and pad switching for each channel.



Using low cost Cat5 Ethernet cabling and standard Ethernet switching hubs as the basis for the S-4000 system, expansion is simple and very cost effective.

For a one on one demonstration, contact Marc Allen at mallen@rolandcorp.com.au or call 0413 611 866.

EDIROL
by Roland

Finally an affordable video mixer for the foundation of your multi-format video production.

With capability to input 4 SD video sources and 4 HD or RGB video sources, the V-440HD enables seamless mixing and switching of multi-format video signals. With a single unit allowing images with different aspect ratios (16:9 or 4:3)*, the V-440HD can also be used as an independent SD mixer or HD/RGB mixer. Add various effects like PinP, 2 Keyers or transitions and it's easy to see how this unit becomes the center of all your multi-format video production.

Pick Hit Award From
Broadcast Engineering Magazine
at NAB 2005

MULTI-FORMAT VIDEO MIXER
V-440HD

For a one on one demonstration, contact Marc Allen at mallen@rolandcorp.com.au or call 0413 611 866.
visit us online: www.rolandcorp.com.au



Line6 Pod.

arrangement was drums, keyboard through a Leslie amp, and electric guitar. The festival organisers had thoughtfully provided a Marshall quad box and matching head for the guitarist to use, in lieu of the requested Fender twin. The band arrived, the guitarist looked at the Marshall quad, looked at me, looked back at the quad, then back toward me and said something in Italian which I didn't understand. I was pretty sure he wasn't saying "wow, that's exactly what I asked for!". Problem was that he needed an amp small enough that he could drive it into distortion without overwhelming the sound of the rest of the band. We managed to find him a Fender Twin before they started so it all worked out well.

Guitar Amp Tip #3 – Different amps are appropriate for different situations and styles of playing. In almost all smaller venues, smaller amps often work better than enormous ones.

Guitar Amp Tip #4 – The fabric speaker covers on guitar amps look nice but can make it difficult to know where the sound actually comes out of the thing. If you're not sure, ask the guitarist – it is their gear after all, so it's not unreasonable to expect they will have some idea of how it works. Failing that, ask them to play quietly and put your ear next to the amp and listen to it. The other thing to know is that the closer you position a mic to the dust cap of the speaker, the more top end you'll get out of it.

Guitar Amp Tip #5 – If your electric is a bit absent in the mix but you can't turn it up without killing off vocals, add some top end to the channel. It's a simple little thing but it works really well, just watch out for solos!

Guitar Amp Tip #6 – If anyone carrying a guitar case and wearing a Nirvana t-shirt turns up at your gig, ask them to turn it down. This may save time later.

GUITARISTS ON GUITARS

There are some things about guitars which I've never really understood, so I went out and talked to some guitarists to find out more. First cab off the rank was one of my mates, Sasha Verin. Sash plays a Takamine D series acoustic, and Fender Squier Esprit Electric with a 40 watt Legend amp. I started by asking why he needs two guitars.

Sasha explained that different guitars work better for different songs. He reckons the acoustic is the go for solo performances without any accompaniment, but once you add drums in the electric's probably the go. For big ripping guitar solos, he says the action is easier on an electric, plus you can get heaps of different sounds out of it which you don't get from an acoustic. So why do electric guitarists change guitars mid-show? Like amps, different guitars sound different. A Stratocaster for example is rougher (I'd take that as rockier) than a Telecaster (which legend has it started life as the Broadcaster, but was changed because there was a Gretsch drum kit with a similar name). Okay, why do some guitarists play near the bridge and some play nearer the neck? Basically the sound you get playing near the bridge of the guitar will be a lot "twangier" than the resultant sound from playing near the neck. Also, notes played near the bridge will sustain for longer.

So that's answered some of my questions about the guitar itself, but what about the rest of the signal chain?


I talked with Eddy Lolesi about the topic of modelling amps. Eddy was using a twin 12" modelling amp when I ran into him, and he's had it for about 4 years. He explained that he originally bought it to save carrying around a walrus, wahwah, volume, flanger, phaser, and about 5 other stomp boxes (effects pedals). He reckons it's good for jazz type gigs, and it works pretty well with his Archtop Epiphone guitar. He doesn't find it as good on his Strat, which he feels is really better geared up to be plugged into a valve amp. The modelling lets him play quieter but he finds it gets lost a bit in the mix of the band sometimes, so he reckons it would probably be better suited to recording applications. As far as replacing a valve amp, I asked Eddy what he thought. "It's good, but it's not the real deal, you can tell." He mentioned that it almost seemed like everyone had got into modelling amps

as a bit of a craze, but now people seem to be turning back to old-school valves. He's planning on buying another valve amp sometime soon.

I wanted to find out more about the reasons why guitarists love valve amplifiers as they do, so I went to see Mick Grafton who is a guitarist and major electronics guru. He explained to me that the input stages in valve amplifiers are cascaded, allowing gain to be increased to a level where it saturates the valves. This saturation is what produces distortion, this being one of the key characteristics of a rock guitar sound – "you can't get a decent sound from a valve amp without cranking it". Mick explained that the hardest part of the non-linear sound of valve amplification to reproduce is the last piece in the chain – the speaker. An example of this is the Celestion Blue G12 Alnico speaker. This speaker was originally made with a surround which restricted the movement of the cone, giving it a very pronounced roll-off at around 5 KHz. When the driver hit the limits of its excursion, this further added to the non-linearity of the response.

I asked Mick if he thought digital amp modelling technology has taken or would ever take the place of valves. He says it's about 95% there, but as yet nobody's really managed to truly replicate the response of a valve using pure electronics. Modelling is basically all maths, and while a linear response is very easy to replicate, the more non-linear the response the harder the math behind it becomes. The harder the math, the more boffins you need to come up with the equations, and the more processing power you need to solve them. As Mick put it, non-linear stuff is a bit of a black art. He did suggest that it would be better suited to recording (or other applications where you don't have the scope to run loud) than live use.

So depending on the application, modelling amps may or may not be suitable and/or believable substitutes for the ones with the glowing glass things inside. They are easier to transport, and I'd hazard a guess probably more robust than their not-so-solid-state counterparts.

I'm really only scratching lightly at the surface of the whole amplification/distortion issue. I've now been given a nice logical and semi-technical answer to the valve question, so I've decided to call it quits on my quest for a deeper understanding of guitars – at least for this week. 

Professional recording made simple

THE RØDE TO RECORDING SYSTEM

- RØDE NT1-A Studio Condenser Microphone
- PreSonus Inspire Firewire Interface with Cubase LE & Acid XMC
- Event ALP-5 time and phase corrected monitors
 - 20' professional balanced microphone cable
 - Premium grade studio RCA cables
 - RØDE Tripod desktop mic stand
 - Pro Pak Software Suite
- Detailed step-by-step instruction guide

**ONLY
\$1595**



COMPUTER NOT INCLUDED

RØDE
MICROPHONES

EVENT

PreSonus

www.rodemic.com

DIGIDESIGN D-SHOW

Just before the middle of last year, the folks at Digidesign sneaked quietly out of the pro-tools lab, deposited their first live console on the market and slipped just as quietly back into the lab. CX were among the first to see the Venue series D-show in its earliest production version. Almost 18 months later, with a cut down work surface soon to be released for the system which is gathering momentum in the international touring market, we revisit Venue series.



By **ANDY MACKENZIE**

To start with, let's have another look at the fundamentals of the system. Venue uses a remote stage rack and digital multicore (on 75 Ω coax rather than cat5 or fibre) to connect the stage to the FOH rack where all the processing is performed. The FOH rack is connected in turn to the control surface. The processing includes all the options we have grown to expect in digital consoles including dynamics and parametric EQs on all channels, a range of graphic EQs and effects processors,

snapshot automation and a range of possible configurations.

The stage rack and multicore can support up to 48 inputs and 48 outputs, either analog or digital depending on the cards selected. The analog circuitry and conversion is sourced from pro-tools interface technology, so the quality is what you would expect in a product designed for the recording market. The multicore system uses one coax cable to carry signal to the FOH rack and a second to carry the returns. Good quality RG59 cable gets you 75m, RG6 pushes that out well past the 100m mark, and the connectors

are standard BNC (so if the snake fails you can borrow one from the video guys). Not that a failure is likely, given that the stage rack and FOH rack are fitted to take a second, redundant, pair of cables – which switch automatically without interrupting audio in the case of a failure.

The whole system is designed for extremely high reliability. Every component includes redundant power supplies, and it takes a lot to stop this thing passing audio. Reset the FOH rack? Audio continues as before while the system recovers. You can't

EPM

MULTIPURPOSE MIXERS FOR ANY EVENT



Looking for a simple, easy to use mixer that delivers an exceptional audio performance?

For recording, live, install or broadcast use there's an EPM mixer for you. EPM is available in three models: EPM6 (6 mono inputs), EPM8 (8 mono inputs) and EPM 12 (12 mono inputs), each with 2 stereo channels as standard.



KEY FEATURES

- Multi-point signal channel status monitoring with proportional illumination
- Precision GB30 mic pre-amps
- True, professional +48V phantom power for condenser microphones
- Insert points for external processing
- 6, 8 and 12 mono input channel frame sizes, each with two stereo inputs
- 2 Aux sends, each globally switchable pre or post-fade
- Universal internal power supply
- Simple rack mounting options



Distributed by **JANDS** • 40 Kent Rd. Mascot NSW 2020 • Ph:(02) 9582 0909 • Fax:(02) 9582 0999 • www.jands.com.au



change anything while it resets, but at least the show doesn't stop. Accidentally disconnect the control surface and set fire to it? The show keeps going, albeit with rather less user control (although you can still drive with the GUI). Not much short of a complete system crash or blackout will stop the show – hook the FOH rack up to a UPS and you're pretty near bulletproof.

MIX ENGINES

The FOH rack is a big grey box which is not actually very interesting to look at. Behind the scenes, however, it has a range of interesting features. In its basic configuration the rack contains two DSP cards (referred to in the literature as 'mix engines'), which is enough to run a 48 channel system with a hostful of graphic EQs, effects and plug-ins. If you want more, you can option up to as many as five mix engines to cope with an extra stage rack and loads of extra plug-ins. Optioning on a second stage rack gives you a system up to 96 channels with up to 96 outputs to stage. In order to deal with the inconvenience of having all the I/O miles away from the console, Venue also gives you eight analog ins and outs on the back of the FOH rack with the option of eight more plus four AES/EBU I/Os. There's also a mass of other connectivity options including Ethernet and protocols – more on this later.

The D-show control surface comes in two bits – the main unit and the sidecar. The main unit includes eight input channel strips, the output control and monitoring section and the comprehensive assignable channel section (selected channel controls). The sidecar consists of sixteen input channel strips and connects to the main unit using a standard 3-pin XLR AES/EBU cable. Up to three sidecars can be connected to the main unit, but the standard package includes one. Assigning the input sections is extremely simple, so whether you want the sidecar on the right or the left you can keep your channels running left to right. Or not, you choose.

Each bank of eight input strips covers four layers, so the main unit and one sidecar is enough to allow you to control 96 channels as long as you don't mind layer

nexia



**Need a quality,
cost effective,
digital audio system?
Then look at Nexia!**

Nexia is part of the family of digital audio products from Biamp Systems.

Nexia consists of the Conference System, Speaker Processor and Presentation Mixer, perfect for microphone intensive applications, installations where speaker processing is required and AV presentations such as video conferencing and multimedia presentations.

Set-up and control is achieved through Ethernet port. With NexLink, you can link up to four units together to create totally different combinations of functionality.

Discover the power and ease of Biamp's Nexia.

BIAMP  **audioproducts** 

Australia
Call 1300 13 44 00 or visit
www.audioproducts.com.au

New Zealand
Call 0800 11 14 50 or visit
www.audioproducts.co.nz

hopping. Each channel strip includes the fader, mute, select and solo buttons, and two rotary encoders along with a substantial collection of LED meters and a six character display. The rotary encoders can be assigned to a range of functions including gain, pan, HPF, gate or compressor threshold, delay or any of the aux buses – and either rotary can be flipped to the fader at the push of a button.

The eight input faders on the main unit also serve as the faders for the sixteen FX returns and the graphic EQs. Normally selecting a fader layer or encoder mode on any of the control surfaces makes the same selection on all surfaces, but it is possible to isolate this control to make each sidecar and the main unit autonomous – particularly useful if you're trying to get two operators on the one console. The metering on each strip is comprehensive, showing dynamics functions as well as signal level in large, easy to read LED ramps. If you overdrive an input, you don't get one tinkly-wee red LED to tell you about it – the whole ramp goes red. And it doesn't sound too bad either. The preamp might be overdriven, but it doesn't have the harshness of digital clipping. The red ramp shows up if there's an overdriven stage anywhere in the signal path.

When a channel is selected its label display turns red. This is a nice feature as it shows up very clearly. Another handy feature of this display is the source button – this makes the display show which input is feeding it. Very useful when troubleshooting. Anyway, when a channel is selected, it appears in the assignable channel section (ACS). This section has all the features you would expect, plus a few little extras. The EQ has two modes: digital, consisting of four fully parametric 20Hz-20kHz filters like most digital consoles; or analog, in which the parameters are more restricted and the functionality more like that of an analog device. The EQ and dynamics controls can be used to control either the standard processors or plug-ins. The ACS also includes a fader, so you don't need to try and function with one hand at either end of the work surface.

The output section includes eight assignable faders and eight assignable rotary encoders to deal with all the group, VCA, aux master and matrix business. There is also a collection of mute masters, tone generators, talkback, monitoring controls and so on.

MODULAR ASPECTS

The snapshot automation in Venue is impressive, giving the operator enormous flexibility in which elements of the current scene he or she may wish to store, or which elements are to be recalled. When snapshots are edited, you also have the choice between absolute and relative values. What does that mean? OK, let's say for some reason I need to swap out a mic for one that sounds a bit different. I modify the EQ on this scene until I'm happy with it, then I want to copy the changes into other channels or scenes. If I copy the EQ as an absolute, it will change everything to these values. If I copy it as relative, it will make the same changes to the other scenes or channels that I made to this one – so different starting points mean different finishing points. At any time I can also recall protect any or all elements of any or all channels to avoid accidentally recalling a scene over the top of them.

Venue is a modular system. Thus far I've been talking about controlling it using the D-show control surface, but there are other ways to do it than using a main and a sidecar. I've already pointed out that you can option on more sidecars if you want, but you can also go with no sidecars as the eight input faders on the main unit allow you to control up to 32 channels in four layers.

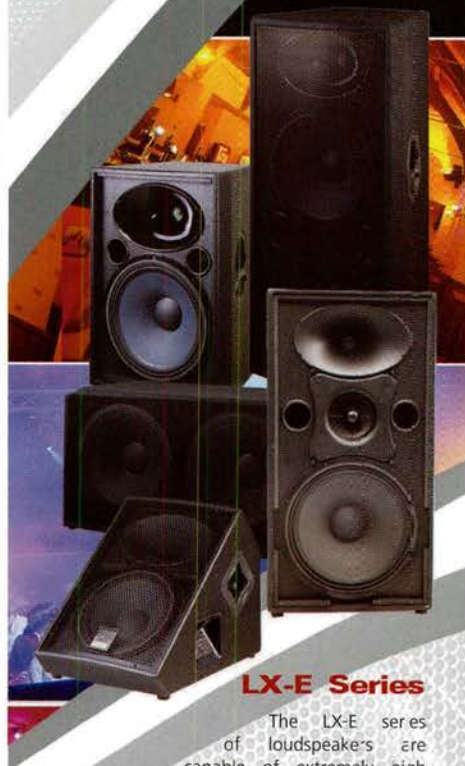
Any day now Venue will add a new option: D-show profile is a cut down version of the D-show which sacrifices some of the knobs and buttons in order to cut down the footprint. While the main and side D-show combination demands a fair amount of space, the Profile is down to 1150mm wide by 790mm deep.

Digidesign have an advantage over many of their competitors in the world of plug-ins as they have a well developed relationship with a large number of producers of third party pro-tools plug-ins. Many



Wharfedale
Pro

**POWERFUL
PERFORMANCE
UNRIVALLED
VALUE**



LX-E Series

The LX-E series of loudspeakers are capable of extremely high powered sound pressure levels and exceptional sound quality - the result of a challenge for our engineers to make a professional performance sound system with the highest sound quality, dynamic range and bandwidth. All of the LX-E series cabinets are made from top quality Birch Ply and are coated in a two-stage durable epoxy black paint finish. For ease of installation all FOH LX-E series cabinets feature rigging hardware. The LX-E series offers a range of systems to meet your sound requirements with front of house available in both 12", 15", a double 15" and horn plus the new 3 way version. For the Bottom end you have a choice of a single 15" a single 18" plus a double 18" subwoofer. For on stage monitors, LX-E are available in 12" plus 15" and horn wedges.

Do yourself a favour and check out the LX-E range of speaker enclosures before you make that final decision on your next Band, DJ or Installation speaker enclosure purchase.

**WHARFEDALE PRO
HEAR THE DIFFERENCE**

For your local dealer visit The Brand Detective site at www.cmi.com.au



New Profile console (work surface).

of these producers have come on board for the Venue series, so there are piles of high quality plug-ins available for the system. And speaking of pro-tools, Venue interfaces directly with a variety of pro-tools systems. Many engineers and performers are using this to their advantage in a variety of ways. A high quality multi-track recording of every gig means that live albums are much easier to produce than in the past and opens up possibilities of selling a live recording of every show over the internet the following day. It also allows engineers to enjoy the benefits of a 'virtual soundcheck'. Instead of spending the afternoon looking for band members and trying to get the others to stop playing along while you're soundchecking the piano, just push the one button that releases the stage rack and selects your pro-tools rig as the source and you've got the recording of last night to play with – everyone's playing at show intensity and you can turn them off or rewind or fast forward whenever you want.

Another convenient feature of Venue is the Personal Q (PQ) monitoring system. This is similar in principle to an Aviom-style system, but with a few important differences. Rather than being a stand-alone system connected to the output of the console, PQ is a system of remote controls for functions within the system. Essentially, each of the eight PQs is a stereo matrix with a remote control controlling twelve

inputs which can include a selection of group or auxiliary busses, LCR busses or a direct input which can be fed from any channel, FX return or outboard source. While the performer has their remote, the engineer still has some control and the PQs can be part of the snapshot automation.

One of the greatest things about all this is that it's easy to use. I was the first person to touch the first D-show in the country, and I was able to set it up and get signal through it in only a few minutes – without tangling with the manual. By the time I'd been playing with it for an hour or two I was getting pretty comfortable: I had the plug-ins working; everything was patched where I wanted it and the whole system seemed pretty intuitive. On looking at it again 18 months later, I find that it's still one of the most user-friendly digital consoles on the market.

So what has changed since we first looked at this system last year? First, the later software version deals with the issue of bus limitations. It is now possible to use the 27 busses in three different configurations: Eight stereo groups, eight auxiliaries and LCR (or L/R/mono); eight mono groups, sixteen auxiliaries and LCR/LRM; or twenty-four auxiliaries plus LCR/LRM. This last configuration in combination with the PQ and matrix sections, makes for a powerful monitor console. The latest version of the Venue software is available for download from Digidesign and makes the preparation of show files

beforehand very simple.

Secondly, the console has proven itself in the touring market, gathering a significant following overseas. Clair Brothers, the world's leading audio company, now have plenty of D-shows in their inventory and have bought seven additional sidecars to increase the available control surface. Many major touring acts are using D-show both as FOH and monitor consoles. Jands Production Services in Sydney have recently added a 96 channel system to their hire inventory in response to demand from touring artists.

The availability of a smaller worksurface in the D-show Profile makes the system viable for those environments in which the footprint of the main and sidecar may have been a problem. We said originally and still say now, it isn't as compact as many other consoles. But the modular nature of Venue will make it attractive to production companies looking for a scalable system.

Finally, the price is right. A 48 channel system with the full-sized D-show control surface, cased and ready to tour, will set you back about \$100K ex tax. Step down to the smaller D-show Profile (everything else is the same) and you're ready to tour for about \$80K ex tax. If you've got a few extra dollars and want a few extra features, they're ready to go – and if you decide to upgrade in a year or two the options are still available, and are no problem to retrofit.

CX

Digital mixing: bit rates, sample rates and other misunderstood concepts

Digital audio is simple – measure the instantaneous signal level a defined number of times per second, send it down the line, then join the dots to recreate the analog signal. The frequency with which these measurements are taken is the sample rate, and the bit rate determines how accurately each sample is measured.

The thing about sample rates is the Nyquist limit. The sample rate must be at least twice the frequency of the highest frequency to be captured, and the signal being sampled must have its bandwidth limited to less than half the sample rate to avoid 'aliasing' – where a signal of one frequency is interpreted as a different frequency. When CDs were first developed, 44.1kHz was selected as a sample rate as it permitted all officially recognized 'audio frequencies'. Since then it has been recognized that frequencies well above 20kHz can impact on the listening experience, and super-high fidelity recording formats such as DVD-A and SACD have evolved. In parallel with this trend, recording systems have

moved into higher sample rates.

Now higher bit rates have also become possible, leading to much more accurate measurement of each sample. Where 16-bit technology allowed 65 536 possible values for signal level, current 48-bit technology allows over 280 billion – and every additional bit doubles the number of possible values.

Higher sample rates mean greater bandwidth, and higher bit rates mean more accurate quantisation. The highest sample and bit rates mean the best quality audio, right? Well, not necessarily.

What about the issue of error correction? We all 'know' that digital audio is immune to the kind of induced noise that affects analog systems, but in fact noise can have an impact on digital signals, manifesting itself as dropouts. In order to avoid this problem, most digital audio systems use one or more error correction systems. Error correction can lead to additional problems because it takes time – and the higher the sample and

bit rates are, the longer the error correction processes take. This contributes to the overall latency of the system.

Latency (also known as propagation delay) is the time delay between the input and output of a digital system which is dependent on the amount of processing performed on the signal. Signals which require more processing, including those with higher sample or bit rates, suffer greater latency.

We also need to consider the accuracy of the system clock. As in any digital system, digital audio is governed by a clock ticking cheerfully away at some obscene frequency and telling everything when to happen. As with all electronics there are good ones, and there are less good ones (why did you think studio owners spend such ridiculous dollars for a system clock when everything in the system already has one?). A clock which has even a tiny degree of inaccuracy can cause degradation of the signal.

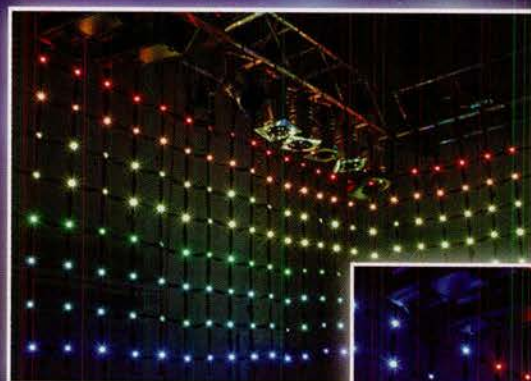
- Andy Mackenzie

Chroma-Q Color Web

Shape your designs with

unlimited flexibility

The revolutionary Chroma-Q™ Color Web provides unlimited flexibility and new creative possibilities for designers when it comes to displaying low resolution visual effects



- Modular 3ft 3" (1m) Square Panels
- Re-Configurable Display Area
- Pliable Webbing Material
- 80% Transparent
- Compact and Lightweight System
- Flexible DMX Control
- IP65 Rated
- Low Cost

Distributed by **JANDS** • 40 Kent Rd. Mascot NSW 2020 • Ph:(02) 9582 0909 • Fax:(02) 9582 0999 • www.jands.com.au



EDIROL V-440HD

Roland have been active and well respected in the audio world for a very long time, producing an excellent range of electronic instruments, effects, recording devices and amplifiers, in both digital and analog domains. Given the similarity of the technology used in vision equipment we should perhaps not be surprised that Roland, through the Edirol label, have entered the vision mixer market. CX recently had their flagship model, the V-440HD, in the review bunker for a test run.

The first thing a new user notices about the V-440HD is the friendliness of the front panel. Everything is big and clearly laid out and clearly labeled. The second thing you notice is that it looks uncannily like two identical mixers sitting next to each other. On venturing around the back, our novice user will be delighted to find a substantial number of BNC and

various other connectors making it possible to hook it up to just about any input or output device you care to think of.

Lets start by looking at it as two mixers sharing a box. The first of these, the SD section, is a fairly straightforward four input, two bus video mixer accepting a range of inputs. Inputs can be connected either as composite, as on many

other video mixers, or as S-video. The traditional problem with using S-video inputs to video mixers is that many of the cue monitors in common use only accept composite inputs, so the loop through connection to the mixer must also be composite. The Edirol deals with this by providing a composite monitor output for each input, regardless of whether the input is composite or S-video. Either PAL or



NTSC formats are acceptable.

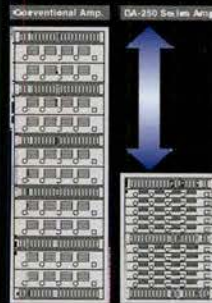
As a basic mixer, this section is extremely functional and intuitive to use. You have a choice of transitions including six wipe effects, mix or cut. These can be controlled either using the delightfully chunky video fader or simply by pressing the clearly marked 'AUTO' button – in which case the transition runs over the time specified on the aptly named 'TIME' display. The transition time is adjusted by the rotary control directly below the display and can be set to any time from 0-4 seconds. Simple, hey? It gets even simpler: you can see which bus is selected by the LED display next to the video fader and the selected input button on each bus is backlit – orange if it's going to screen (and you should think about what you're doing before you change it) or green if it's not currently live (in which case you can do what you like).

The output of this mixer is fed to an S-video and a composite output on the back of the unit, and also to the second mixer stage. There's also a preview output which gives an On Screen Display (OSD) of the menus.

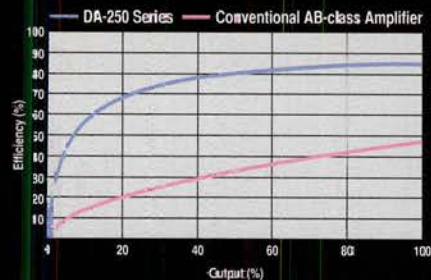
The second mixer, the HD section, is equipped with all the same basic controls as the first, although it has five inputs rather than four, the fifth being the output signal from the SD section. The key difference is that this half of the unit takes the HD inputs. You can input signal as component or as RGBHV (either from a computer or other full RGBHV source). These inputs can be set either to auto-detect the format or to respond only to one format. The V-440HD is compatible with 1080i or 720p HD formats and RGBHV (or VGA) up to 1280x1024. All these inputs, including the feed from the SD section, are automatically scaled to the output resolution before the mixing stage. There are two sets of connectors for each input – a D-sub and five BNCs which will accept either

NEW Digital Power Amplifiers

DA-250F/DA-250FH



"Up to 20 amplifier channels in only five rack spaces!"



- High or low impedance
- Multiple high power output, 4 x 250W
- High-efficiency of 85%
- Compact dimensions of 1 rack unit
- Lightweight design (6.6kg)
- Enhanced reliability for trouble-free operation

TOA

audioproducts Group

Australia:
Call 1300 13 44 00 or visit
www.audioproducts.com.au

New Zealand:
Call 0800 111 450 or visit
www.audioproducts.co.nz



component or RGBHV. Whichever is not used for input becomes a loop through allowing cue monitors to be connected. When a loop through is not used, the 75Ω terminating switch

is a welcome sight.

Still on the front panel, the V-440HD includes picture-in-picture and keying controls on both the SD and HD sections. The picture-in-picture

system is extremely functional and by far the most intuitive I have used. Despite my customary aversion to using the manual, I was quickly able to figure out how to get P-in-P just by pushing a few buttons and wiggling the great big lever. The keying system (chroma keying, for those that don't know – effectively turns the selected colour invisible. This is how they do the weather reporter standing in the map trick on telly) is also simple and effective. Having keying available between camera and computer inputs is quite handy for things like titling or watermarking the display: if the client wants every presenter's name and job title displayed, you can do it; similarly, if they want their logo burned into the corner of the screen for the night, you can do that too.

There is also a handy feature in the output fade control, which allows you to fade the output to black over a predetermined time, then fade it back in at will. As with everything else on the mixer, the operation of this feature is almost blindingly obvious.

Finally, before leaving the front panel, there are a whole host of useful buttons offering shortcuts to menu items, preset configurations and so forth. The ability to program presets could be extremely convenient as it allows you to switch quickly between configurations rather than having to adjust parameters individually. And yes, there is a preset button for factory default settings.

Internally, the V-440HD has a substantial menu structure permitting

CHAMELEON TOURING SYSTEMS

LIGHTING PRODUCTION & HIRE



- ✱ LUMINAIRES
- ✱ CONTROL SYSTEMS
- ✱ MOVING LIGHTS
- ✱ SEARCHLIGHTS
- ✱ POWER DISTRIBUTION & CABLING
- ✱ CHAIN MOTORS, TRUSSING & RIGGING

SYDNEY
 Building 35A, 1A Coulson St
 Erskineville NSW 2043
 Production/Sales: 02 8596 7222
 Rentals: 02 8596 7200 Fax: 02 9557 5445

BRISBANE
 25 Helen Street Newstead QLD 4006
 Tel: 07 3854 1511 Fax: 07 3854 1563
 Email: cts@chameleon-touring.com.au

www.chameleon-touring.com.au

you to make an enormous range of adjustments to input and output settings. These adjustments can be performed separately for each input so you can achieve uniformity (or something close to it) of image quality across the inputs. You can also tailor your output to suit your display device, whatever it may be.

Speaking of output devices, the V-440HD supports the connection of multiple units controlled by MIDI from the master unit, thus enabling them to be used to control multi-screen setups. We didn't test this function, being hampered by a shortage of mixers, projectors and space, but the idea of running several units in hire stock which can be linked for the big shows is attractive.

When we set up the V-440HD for its test run, we weren't really sure what to expect. Sure, Roland have a history of good electronics – but not necessarily in live video. Also, I'd spoken to a couple of video types who said all the stuff that people who don't want to try new things say when asked about new things. I asked a mate of mine who usually works in corporate AV production if he wanted to join me in the test bunker and after some initial resistance (see previous sentence) he agreed.

We hooked up a camera and a DVD player to the SD section and a laptop to one of the inputs of the HD section, and connected the projector to the output. Both the SD inputs were hooked up through cue monitors to give us a visible reference. We also hooked up another popular industry standard multi-format vision switcher in parallel, connected to the second input of the projector – this gave us something to compare the Edirol to.


The image quality of the V-440HD is excellent – more faithful to the original in almost every respect. The only negative point to make about the image is that a couple of times when large areas of the image were moving fast, there was a slight jerkiness in the movement. Would an audience notice? I don't know – we did, but we were looking for it. Given the quality of the picture overall and the kind of video information processed in most live events, I don't see it as a significant issue.

Interestingly my vision operator mate arrived at the test day muttering about the horror gig he'd enjoyed on the weekend, where he had been required to switch too many sources, in too many formats while people kept adding new problems to his collection. By the end of the day, not only had his initial reluctance to play with the Edirol vanished, he actually found himself commenting "This is actually a really good thing. One of these could have made the horror show a lot easier". High praise from a guy who didn't want to waste time looking at it.

The V-440HD isn't going to be everything to everyone. It doesn't have enough inputs for large multi-camera productions and there are a few features of other products on the market that may make them more attractive to some users. But...the Edirol is very competitively priced at around \$16K, it has a solid feature set, it's incredibly easy to use, it puts the whole control system in one box, the image quality compares favourably to other products on the market AND it looks really nice and non-threatening. Don't be frightened – try something new. You just might find you like it.

CX

**We just raised
the bar on
quality
hand
made
custom
cable
assemblies**




Ask for the best by name



trc The Resource Corporation Pty Ltd
Unit 15 / 173 – 181 Rooks Road, Vermont, VIC 3133
tel: 61 (0) 3 9874 5988 fax: 61 (0) 3 9874 0977 e-mail: sales@trc.com.au

rosco
Keystroke™



**Now, cue your PowerPoint™
projections directly from
your DMX control board.**

Keystroke™, Rosco's new hardware/software solution is easy to install, easy to use and will operate reliably for the life of your control board and PC, and costs less than a spotlight! Keystroke™ enables your DMX lighting control board to press the keys on the computer that contains your PowerPoint program. You can build fade-ins and fade-outs into your projections and run them just like you run lighting cues.

One board, one operator for both lighting and projections when Keystroke™ is in your system and, if you prefer, Keystroke™ can run your PC-generated sound cues, or any equipment that requires a dedicated computer. Install Keystroke today. It will make the projections or sound on tonight's show - and all the ones that follow - operate more reliably.

**See it now at your Rosco dealer
or phone Rosco at 02 9906 6262**

Illumination Inflation

but it goes to 11!

“Hundreds of people can talk for one who can think, but thousands can think for one who can see. To see clearly is poetry, prophecy and religion, all in one.” - John Ruskin

By **RICHARD CARDENA**

Hundreds of people can talk for one who can think, but thousands can think for one who can see. To see clearly is poetry, prophecy and religion, all in one. – John Ruskin

A funny thing happened on the way to the top of the grand master fader. I found out that it not only goes up, but it also comes down. It was a complete accident, but it turned out to be a discovery that was right up there with the time I found out my VCR wasn't supposed to flash “12:00.”

When a tour manager voiced concerns about the pacing of a show, I listened intently as he described what he wanted to see. He wanted the show build. He wanted a steady building of lighting looks punctuated by a climax. He wanted to hold back the best for last. In short, he wanted the impossible.

Ordinarily, his would have been a perfectly reasonable request. But in this case I was using some new toys to light a hard-rocking band. I found it as close to impossible as you could possibly get to not get excited about the music and throw every programming trick you have into the mix. And that was just the opening act. So you see, there was nothing left in reserve for the headliner. This

was a problem.

After pondering it for a while, I decided to take drastic action. When the show started and the opening band took the stage, I closed my eyes, said a little prayer, swallowed hard, and did it. I actually lowered the playback fader to half.

Not having enough time to reprogram the songs in the show, I reasoned that by lowering the lighting levels, I could lower the energy of the show. Less light equals less energy and excitement, right? Wrong. In this case, it actually had the opposite

with some projection in the background became very strong projection with some lighting in the foreground. It completely transformed the visuals. To my eyes, if it wasn't pure magic then it was at least a really good illusion.

It's very easy to get caught up in illumination inflation. Automated lights are dropping in price relative to their light output and today, it's much more affordable for a production to have the latest crop of brighter, more efficient automated lights and Lekos. And today's 700-watt fixtures put out

“I closed my eyes, swallowed hard, and lowered the play”

effect.

Excuse me? You mean to tell me you lowered the lighting levels and it raised the energy level on the stage? Have you been hanging out with Mel Gibson? Lucy, you have some 'splainin' to do.

Let me explain. Although I lowered the lighting levels, the projection was on another playback fader. It was left at full. Right before my eyes, what I saw was the relative levels between the stage lighting and the projection on the backdrop swapping places. What started as very strong lighting

about as much light, in general, as many 1200-watt fixtures do. Do we really need all this firepower?

We see by a combination of illumination and contrast – or in simple terms, light and dark. And as lighting designers we sometimes forget about the other half of the equation, the dark, or the contrast. The human eye is an incredibly complex instrument. It has an ability to adjust itself and compensate for varying levels of illumination. When the lighting level goes down, the iris opens up to allow more light to reach

the part of your eye that senses it. So the contrast between light and dark might be more important to a composition than the quantity of light in it.

Tony Award-winning lighting designer Jules Fisher recently told me that the lighting levels on Broadway have risen steadily since he started working there several years ago. He suggested that it would be an interesting exercise to take some old lighting plots and calculate the illuminance on stage and compare it to a modern day production. I think he estimated that it has increased two- or three-fold. Why is that? Do we really need that much light, or are we seduced by the power and punch of a big, powerful beam of light?

This is my hypothesis, and I would love to be proven wrong about this, so don't be shy. As the lighting manufacturers continue to produce brighter and less expensive (relative to the light output) lights, optical engineers are increasingly making design decisions on our shows.

We are to the point where we have enough light on stage, now we're just rearranging the balance between the sources. When you spec a particular light on a show, you can be sure that the programmer will use it at its full output without dimming it. So the determining factor, as far as illumination levels are concerned, is how bright the factory can make it. What should be the designer's decision - how much light do I want on this subject, object or background? - is being determined by the optical engineer who designs the luminaire.

It's not the manufacturer's fault. They are simply feeding our need for speed. The more horsepower we can get, the better. We just continue to push the faders to the top of the range and we're forgetting to balance our sources. If our profile spots and color washes are washing out our followspots, or vice versa, we wouldn't know it because we're too intent on squeezing out every last iota of candle power from our sources. Never mind that you can't see the projection.

From now on, I'm going to work harder to remember my objective, which is to create effective lighting that looks great. I won't be afraid to turn down a fader or three. Even if my fader goes to 11, I'm going to try it on five. I want to let my eyes do the work while I balance the scene, and maybe those projections that I thought were too weak will pop like they should.

This is especially important in the age of convergence with digital lighting and the new crop of pan and tilt yokes for projectors. Maybe we don't need 20K ANSI lumen projectors on every show. Maybe a 5K will do.

After this experience, when I hear someone say a projector isn't bright enough, what I hear is, "I don't know how to balance my sources." I'll bet their VCR is also flashing "12:00" too.

Prove the author wrong.

Send your e-mail to
rcadena@swamicandela.com.



GOBOTECH

Tel: 07 5529 0505

Fax: 07 5529 2226

NEW! 2006 Gobo catalogue out now,
E-mail us for your copy!

NEW! Hire Theme Gobos

NEW! DMX tester/LED torch see below

NEW! MIG Clips & custom video loops



- Custom Dichroic filters
- 50mm Downlight Dichroics
- Effect filters
- 500W flood filters



Huge Stock Gobo Collection

browse online - www.gobotech.com.au



Custom gobos FAST!

Full colour, spot colour, B&W, steel.

Display projectors

Digigobos

DMX/LED torch



No1-20
out now



www.gobotech.com.au

sales@gobotech.com.au

Your 'One Stop' Rigging Shop.

- Ozblok products. The new "S" Series chain blocks, girder clamps and trolleys.
- C.M. Lodestar, GIS, Kito and Hitachi chain motors.
- Standard wire, Superflex steels and custom made bridles.
- Manual and electric winches.
- Black polyester round slings.
- C.M. Stac chain.
- Height safety equipment and fall arrest systems.
- Pocket laser levels.
- Endless webbing ratchet straps and load restraint systems.
- Sisal and manilla rope.



NEW
Ozblok
"S" Series
Chain Block

**HOISTING
EQUIPMENT
SPECIALISTS PTY. LTD.**

NSW Phone: (02) 9531 8033
Fax: (02) 9531 7933
Email: sales@ozblok.com.au

VIC Phone: (03) 9480 5577
Fax: (03) 9480 0855
Email: sales@hesvic.com.au

Help – my favourite tunes have been held to ransom and used to sell me crap that I don't need!



By **DUNCAN FRY**

Remember The Little Heroes? Whatever happened to them? I loved 'One Perfect Day'; I thought it was a great pop song – catchy, good lyrics, finely crafted and a great hook that you couldn't help singing along with. But now it's on the radio all the time being used to try and sell Lexus cars to my fellow baby boomers and me. Sort of kills the fun right there, doesn't it.

As a paid up member of the post war bulge, and proudly carrying most of it around my waist, I'm sick to death of advertisers strip mining 60s, 70s and even 80s music hits in order to sell some more over-priced crap to us.

It's bad enough that advertisers are hacking into our memories - modern day recording artists are too. Cover versions of classic hits abound: Madonna (Like a Version) bingeing on a slice of 'American Pie', Wet Wet Wet (now there's an appropriate name) with a funereal dirge of the Troggs 'Love is all around', and anyone who bought Alphaville's 'Forever Young' in the 80s must want to puke in the gutter every time they hear Youth Group's insipid, turgid version. A 'one hit wonder' band, and it's not even their hit!

Music has a special place in people's hearts. Just hearing a hint of a favourite song can instantly bring back good memories of people and places, and advertisers



are well aware of that. By and large I don't mind too much, but occasionally it all gets too much for me and I start hurling things at the TV.

I guess using 'Unchain my Heart' for the GST started it all, although I could never see any connection between the song and the tax, but here in Victoria the State Government has jumped on the bandwagon (pun intended).

Spending bucketloads of our

taxes in a multi megabuck campaign, they started using 'Eagle Rock', which has to be one of the best Aussie rock tunes of all time, to advertise what a great job they're doing of pouring our money down the toilet.

When Ross-the-boss Wilson was interviewed on the radio after the ads started, he said he was always getting inquiries from advertisers to use Eagle Rock in ads. One of them was from a bird seed company,

A CAREER in ENTERTAINMENT

FULLTIME STUDY IN 2007

ENROL NOW FOR 2007 COURSES STARTING FEBRUARY

Event & Music Management

- Advanced Diploma:
- Event Management
 - Music Business
 - Workplace Training
 - PR, Marketing & Media
 - Show costing and OH&S

Just 1 year!

Nationally recognised qualification: CUE 60403.

Advanced Diploma of Venues and Events

JuliusMedia courses have a business emphasis

Entertainment Technician

- Advanced Diploma:
- Stage Lighting
 - Studio Engineering
 - Video and Vision Systems
 - Staging
 - Live Audio
 - Production Management

Just 1 year!

Nationally recognised qualification: CUE 60203

Advanced Diploma of Live Production, Theatre and Events (Technical Production)

JuliusMedia courses have a business emphasis

Our faculty is made up of industry professionals who love to share. We have generous assistance from many people, suppliers and organisations.

ENTERTAINMENT is a \$3+ billion industry in Australia. It now has a NEW career pathway, thanks to these new qualifications which are government accredited and industry endorsed.

Study at Juliusmedia College in Sydney and you are in very good company. Small classes with the latest equipment. Our campus is comfortable and friendly.

ACCREDITED SHORT COURSES



Do your Certificate 3 in Technical Production - Theatre & Events; in steps, or do it all - during the holidays.

SUMMER SCHOOL 2007:

- Jan 2 Stage OH&S. 1 full day. 9.30am - 4.30pm. \$180.
- Jan 2 Full Certificate 3 Technical Production (Theatre & Events) CUE 30203. 11 days in January, final day Jan 27. \$2,200.

Tailor make your Certificate 3! Choose ANY three courses from below, including our new Stage Management Basics. Note: surcharge for each of the Advanced courses, if combined into a Certificate III.

- Jan 3, 4, 5 Sound Basics, 3 full days. 9.30am - 4.30pm. \$595
- Jan 3, 4, 5 Lighting Basics, 3 full days. 9.30am - 4.30pm. \$595
- Jan 8, 9, 10 Sound Basics, 3 full days. 9.30am - 4.30pm. \$595
- Jan 8, 9, 10 Lighting Basics, 3 full days. 9.30am - 4.30pm. \$595
- Jan 11, 12, 13 Video Basics, 3 full days. 9.30am - 4.30pm. \$595
- Jan 15 - 19 Stage Management Basics. 9.30am - 4.30pm. \$595
- Jan 15 - 19 Advanced Moving Light and Desk Operation. 5 full days. 9.30am - 4.30pm. \$875
- Jan 22 - 26 Advanced Live Sound Mixing Console operation. 5 full days. 9.30am - 4.30pm. \$875

NEW! Stage Management Basics

• Jan 15 - 17 Stage Management Basics. \$595
Learn how to call a production or event. Learn the jargon, phraseology, sequence and methods required to effectively stage manage your theatre or school production, or corporate event. We throw you straight into it - you'll be making public announcements, using talkback, and applying your mind to the right way to call an event. Interpret a script. Use communication systems. 3 full days!

EASTER HOLIDAY COURSES 2007

- April 10 (Tues) Start Certificate 3 Technical Production (Theatre & Events). Final day 21 April. 11 days in full. \$2,200. Includes sound, lighting and vision basics.

Tailor make your Certificate 3! Choose ANY three courses from below, including our new Stage Management Basics. Note: surcharge for each of the Advanced courses, if combined into a Certificate III.

- April 10 (Tues) Stage OH&S (1 day) 9.30am - 4.30pm. \$180
- April 11 (Wed - Fri) Lighting Basics, 3 days. 9.30am - 4.30pm. \$595
- April 16 (Mon - Wed) Sound Basics, 3 days. 9.30 - 4.30pm. \$595
- April 16. (Mon - Fri) Advanced Moving Light and Desk Operation. 5 full days. 9.30am - 4.30pm. \$875
- April 19 (Thurs - Sat) Vision Basics, 3 days. 9.30am - 4.30pm. \$595
- April 19 (Thurs - Sat) Stage Management Basics, 3 full days. 9.30am - 4.30pm. \$595

We are a totally regulated government registered training organisation & accredited college. Location: Sydney

Call +61 2 9638-5955



DJ PRO

BEATMIX WITH MUSIC VIDEO!

Nightlife's DJ Pro Controller integrates with the **HQMS** to give you a total DJ solution.

- 600 GB of Hard Drive Power
- 6,000 music video clips at your fingertips
- Search, preview, cue and beatmix music video and audio tracks
- Load photos live via the USB card reader
- Music updates sent fortnightly
- Advertise in-house using electronic billboards
- Access to fresh content and exclusive remixes from top record labels worldwide



nightlife
music + video

who wanted to have a budgie eat some seed and then start dancing to the song, but he knocked that one back. Well, I don't know about you but I'd be much happier watching a dancing budgie than the winner of a Hymie from Get Smart lookalike contest! For me that song will always have negative connotations now and will never be the same again.

I read in the paper recently that some US bands have been knocking back offers from advertisers to use their songs in ads, saying it would cheapen the songs. Many of them also didn't want their songs associated with products that they felt were wrong, such as the Hummer, the gas guzzling quasi-military vehicle for men who are hurg like a hamster!***

It's a shame that local artists don't show the same backbone.

More classic music comes up on the Good Guys ads for the chain of discount electrical goods. Not only does it feature some of the strangest looking people on TV, musically it features a bastardised version of The Beach Boys 'Good Vibrations'. "Come in and see the good good good guys..." Aaagh - kill me now. This is what happens when your father sells the rights to all your songs for a pittance without telling you, because you're still a minor. Brian Wilson would be spinning in his grave, except he's not dead yet. Just his career.

And now we've got Telstra using the Beatles 'Hello Goodbye' to advertise their new wireless service, aimed at people who absolutely must download TV shows onto their mobile phone, and then watch it while they drive over the occasional cyclist or pedestrian. Obviously the "Hello...hello?" part is when you're trying to get through on the phone, and the "Goodbye" part is when you finally give up and switch to another network. More of our money (51% anyway) down the toilet.


The Beatles get another look in with 'All you need is Love' currently being used in ads for ABC Learning - not a division of the 8 cents a day radio and TV network, but a nationwide chain of childcare centres, the biggest in Australia. See what happens when Michael Jackson owns your back catalogue? The licensing fees from these two songs alone must have paid for a sizable chunk of legal aid.

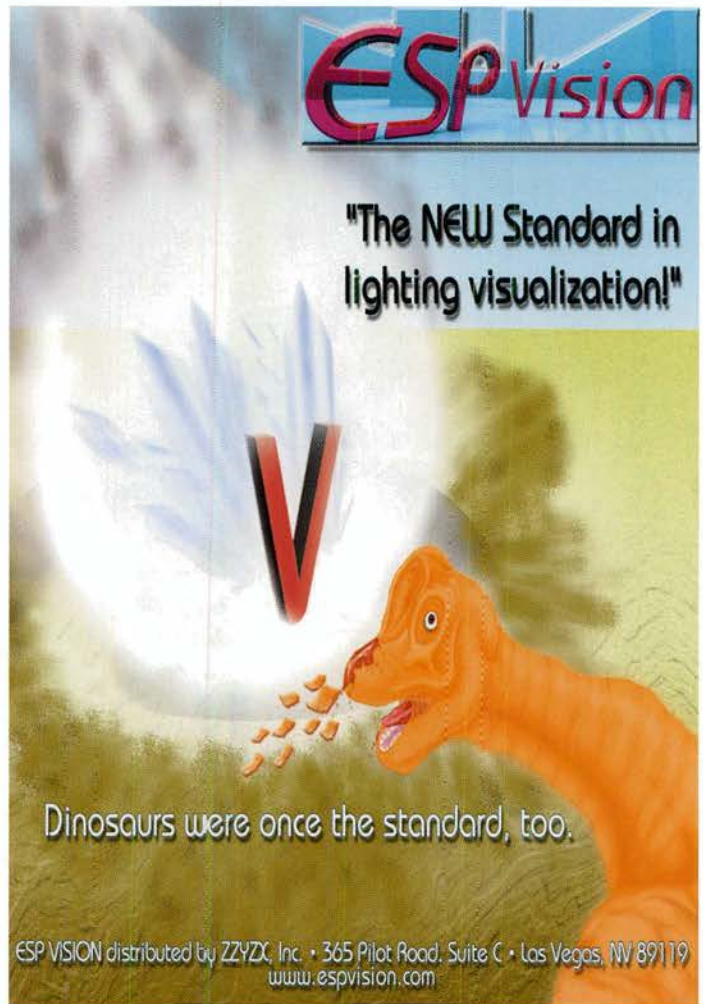
Luckily I'm more of a Rolling Stones than a Beatles fan, but I dread the day when '(I can't get no) Satisfaction' is used in a Viagra or Sniff 'n' Stiff ad. Either that or Sam and Dave's 'Hold on. I'm coming'. Maybe Ian Turpie and Ugly Dave Gray could do a duet!

So we'd better get used to the idea. Funerals, retirement homes, if the baby boomers are going to need it, then their music is going to sell it to them. It's long been rumoured that a haemorrhoid cream company wanted to use Johnny Cash's 'Ring of Fire' but I can't find any confirmation of it.

What about incontinence pads - now there's one for Wet Wet Wet!

*** OK, I know, who am I to criticise when I drive a 20 foot long monster from 1970 with an 8 litre V8? But I drive a 3 cylinder rice rocker during the week, with a total engine capacity the size of just one of the Plymouth's 8 cylinders, so by the weekend I'm one cylinder ahead in carbon credit!

Thanks to Lucy Fry for the ransom note artwork 



ESP Vision

"The NEW Standard in lighting visualization!"

Dinosaurs were once the standard, too.

ESP VISION distributed by ZZYZZ, Inc. • 365 Pilot Road, Suite C • Las Vegas, NV 89119
www.espvision.com

Mobile Image Co
20 years in business, 2006
TV OUTSIDE BROADCAST VAN



We provide live-switched video coverage

with our mid-sized SDI digital OB Van, fully kitted out with 6 triaxial D35 wide screen cameras, 9 digital VTRs, 4 long lenses, comms, commentary and audio facilities. Ideal for live events, corporates, broadcast or pay TV, sports, downstreaming, screen-feeding & DVD origination. Economical dry-hire with OB engineer, or with full broadcast TV crew. More info: www.mobileimage.com.au

Phone 02 9953 3833

Better Faster Bigger
 MS SQL Database
 Superior Performance
 Full Featured!

Rebuilt!
 If you haven't seen RentalPoint Software before, it's time to look at Version 6: the rebuilt, new release. Better - Faster - Bigger



Almost Bionic

Six Million Dollars Worth Yours! For a lot Less!

RentalPoint Software Inc. visit: www.rentp.com

LATE NEWS

Staging Connections have suddenly parted ways with CEO Bill Davidson, after announcing a name change of the parent company, AAV, which will now be known as Staging Connections Group Limited. Mr Davidson confirmed he has left the company, which has adopted a flatter management structure.

AAV CEO Michael Gardner assumes the job, Mr. Davidson says it was obvious that two CEO's would not work.

Things move fast at Staging Connections, the group reported turnover of \$111 million and profits of \$15 million at presstime, and now face the challenge of managing a string of fresh new acquisitions, not to mention re-staffing the Australian Staging Connections businesses, which have had a string of resignations.

FOR SALE

Ex-Hire Shure U Series Radio Microphone Equipment

- UB Frequency Range (692 – 716 Mhz)**
- 2 x Shure U4D-UB Dual Channel Radio Mic Receivers \$2577.00
 - 3 x Shure U2-UB Beta87 Handheld Radio Mic Transmitters \$915.00
 - 6 x Shure U1-UB Bodypack Transmitters \$717.00
- UA Frequency Range (782 – 806 Mhz)**
- 1 x Shure U4D-UA Dual Channel Radio Mic Receivers \$ 2577.00
 - 3 x Shure U1-UA Bodypack Transmitters \$717.00
 - 2 x Shure UA888 Network Interface Units \$2020.00

All prices include GST, but do not include any freight.

Please enquire about complete system lots, as we will do better for a system price. E-mail all enquiries to hire@productionpower.com.au or phone 1300 303 679. We can supply photos of all equipment.



ETY•Plugs™ by Etymotic Research - High Fidelity Hearing Protection

ER-20 High Fidelity Earplugs reduce sound approximately 20db at all frequencies. \$30/pair including GST, now available from Techroom.

Please visit www.techroomsydney.com.au or call 0405 175 269 for further information



SENIOR TECHNICAL SOLUTIONS MANAGER

We are looking for a Sydney based dynamic and proactive team player with the ability to co-ordinate and deliver projects to a high level. You will have the confidence to present to major national and international clients, have an excellent knowledge of Audio Visual equipment, good negotiating skills and the ability to understand customer needs.

You will have a proven projects/ production background serving both production companies and end clients. Please e-mail your resume to mario@twentyfour-7.com.au

B.S.Sound PA Hire

3k PA with separate F/B, LX & crew. Driveway, Vocal PA systems & LX, mics and components also available. Contact Mark Barry for free quote on 03 9808 0388 or 0419 993 966. www.bssound.com.au mark@bssound.com.au

Gloves & Accessories for the Entertainment Industry



Now available from:
 QLD: Pacific Enterprises 07 5596 3595
 NSW: Crew On Call Australia 02 9318 2581
 VIC: Big Shot Film Services 03 9318 0184

ADVERTISING INDEX

CX 24 15 JANUARY 2007

Altronic Distributors.....	33	Mobile Image.....	73
APAC.....	29	Murray Tregonning.....	35
Audio Products Group.....	23,43,59,65	National Audio Systems.....	3,51
Australian Audio Supplies.....	13	Nightlife.....	72
Blue Cat Case Company.....	15	Norwest Productions.....	27
Bose.....	25	Philips Lighting.....	5
BS Sound.....	74	Production Audio Systems...inside back cover	
Classifieds & Ad Index.....	74	Production Power.....	74
CMI.....	30,61,49,48	Random Audio.....	11
Chameleon Touring Co.....	64	Rentalpoint.....	74
ESP Vision.....	73	Rode Microphones.....	7,57
Etymotic.....	74	Roland.....	55,55
Gobotech.....	69	Rosco.....	67
Group Technologies.....	17	Setwear.....	74
Hoisting Equipment.....	69	Soundcorp.....	20 & 21
Jands.....inside front cover,39,58,63		Syntec International.....	37,46
Juliusmedia College.....	71	Subscriptions.....	60
Kirby Productions.....	41	Technical Audio Group.....	9,53
Lots of Watts.....	14	Theatreight.....	47
Loud and Clear Audio.....	33	The Resource Corp.....	67
LSW.....	31	ULA.....	back page
Magna.....	34	Yamaha.....	19,45



**ADVERTISING MANAGER:
 STEVE JAMES**

DIRECT +61 2 8268 4426
stevej@juliusmedia.com
 FAX +61 2 9638 7181

Media kit, mechanical specifications and rates are online at:-

www.juliusmedia.com and go to CX Magazine

**SUBSCRIPTIONS:
 AMY WILCOX**

Call 1800 635 514
office@juliusmedia.com



AFTER YOU HEAR IT, EVERYTHING ELSE IS JUST A BLACK BOX.

Presenting the *EAWNT* Series: self-powered sound reinforcement loudspeakers with sonic performance rivaling the best direct-radiating studio monitors. At last, front-of-house and monitor engineers have tools equal to those of their recording studio colleagues. Response so flat, and distortion so low, that even the subtlest EQ adjustments are immediately audible. Extraordinarily high gain before feedback, with prodigious peak output capability to convey all the power of a live performance. Precise imaging, startling sonic detail, and crisp transient reproduction make the *EAWNT* Series the new standard by which all portable reinforcement loudspeakers will be judged.

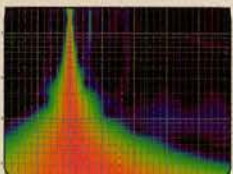


INNOVATION

GUNNESS FOCUSING™ digital correction

PATENT PENDING

More than three years in development, The NT Series feature the world's first implementation of EAW's exclusive Guinness Focusing technology. Employing sophisticated, custom DSP algorithms designed specifically to correct loudspeaker response anomalies, Guinness Focusing substantially eliminates time smear, horn "honk" and low-frequency cone resonances that plague conventional loudspeaker designs.



THAT WAS THEN. THIS IS EAW.



Distributed in Australia by:
 Production Audio Services Pty Ltd
 17 King Street, Blackburn VIC 3130
 Ph: 03 9878 1444 Fax: 03 9878 1455
www.productionaudio.com.au
sales@productionaudio.com.au



EASTERN ACOUSTIC WORKS

NT SERIES POWERED LOUDSPEAKERS

NT.59

A truly **unique** evolutionary step in **lighting** technology...



ColorWash 700E AT

- Variable CTO
- Super-fast CMY mixing
- Philips MSD Gold™ Fastfit lamp
- 8° - 50° Linear Zoom
- Separate Colour Wheel w/ 8 interchangeable filters
- 360° Beam Shaper

ColorWash Tungsten 750 AT

- Variable CTB
- Super-fast CMY mixing
- Philips MSD Gold™ Fastfit lamp
- 8° - 50° Linear Zoom
- Separate Colour Wheel w/ 8 interchangeable filters
- 360° Beam Shaper.

ColorSpot 700E AT

- Variable CTO
- Super-fast CMY mixing
- 15° - 45° Linear Zoom
- Philips MSD Gold™ Fastfit lamp
- Replaceable Animation Wheel
- Colour Wheel w/ 8 Replaceable Filters
- Includes all the additional features of a ColorSpot 575 (Except Frost)



Free Call:

1800 648 111

Brisbane | Sydney | Melbourne

ulagroup.com

