

● Australia's Entertainment Technology Trade Monthly

Connections



**Oh Really?
Backstage
at KISS**

**Finalists!
ENTECH
AWARDS
NAMED**



**O3D reviewed
Yamaha's newest
digital mixer**

March '97

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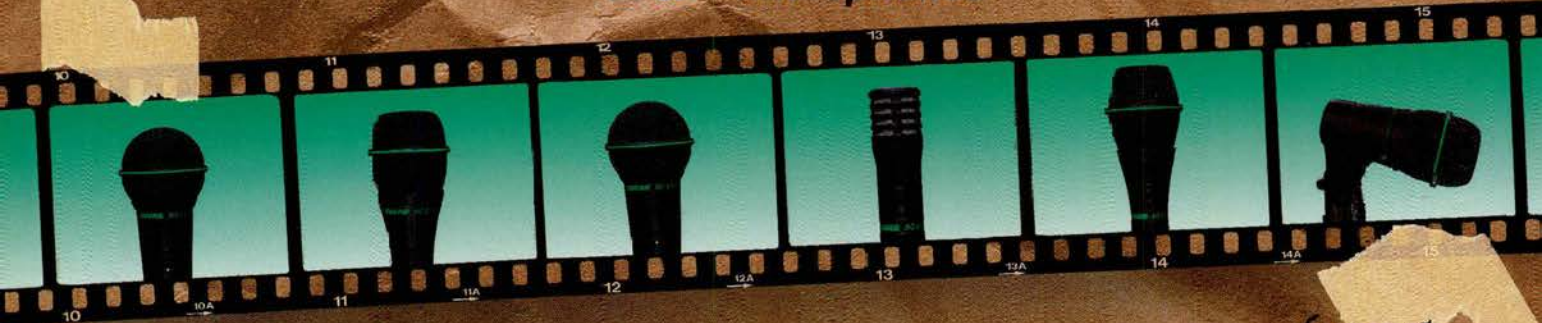


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ON TOUR

KISS CHASING THE BUCK
The sound engineer uses a Recall console. The lighting guy prefers country music. And they never talk to the band. **Page 62**

TOURING IRELAND

Pretty girls, those loveable Irish stage managers ('No', 'No', 'No') and the unexpected crowd at the Olympia. Felix continues his hilarious account of life on the road. **Page 63**

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Only a West Coast USA rock band could insist on snow removal equipment for their Australian tour. And it really did need to be available..... **Page 65**

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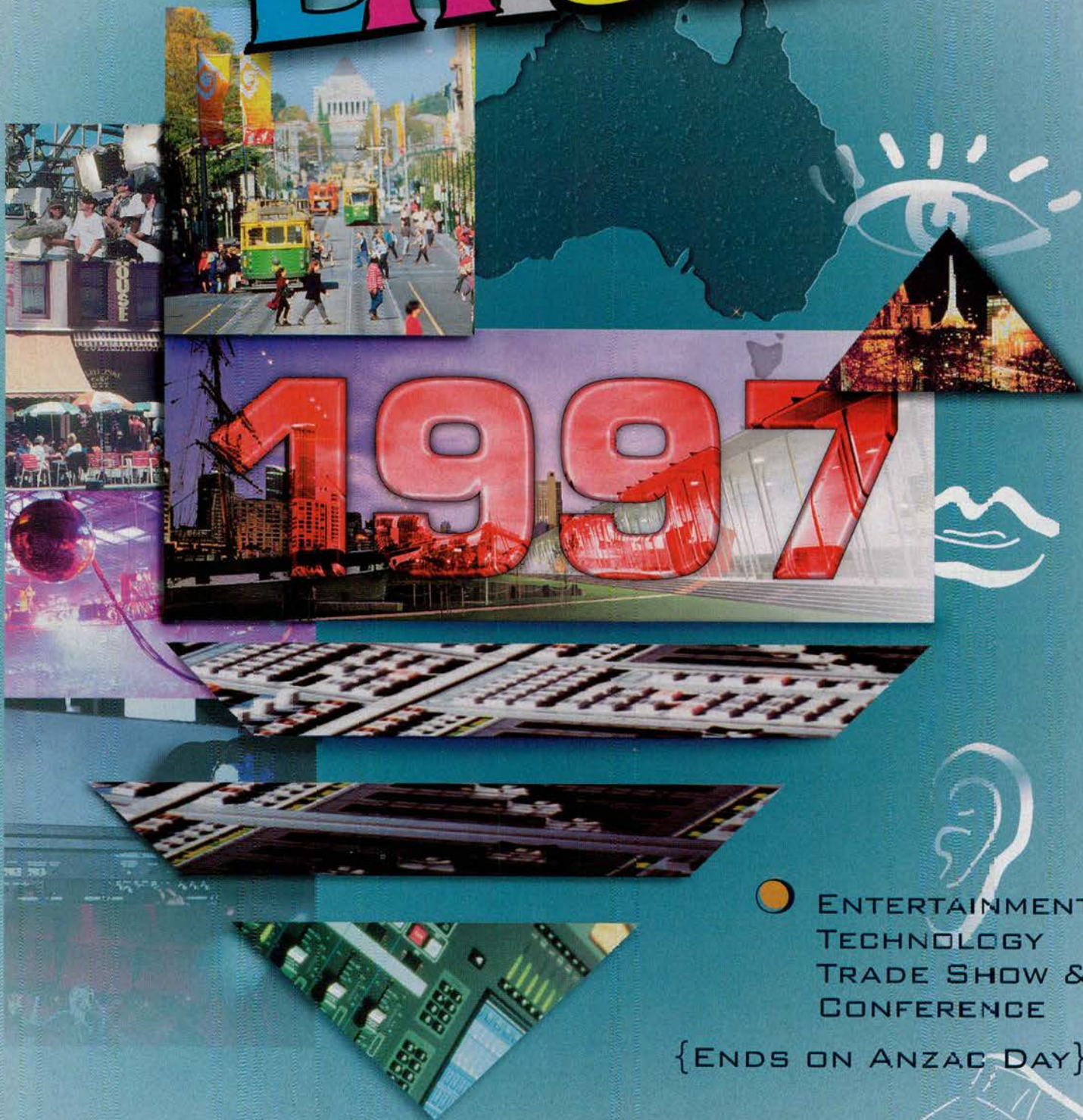
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THE LEARNING TRIP

You don't come to ENTECH for devices and deals alone. The show is now **FAMOUS FOR EDUCATION** by way of Seminars, Workshops, Forums, Conferences, Clinics and Training Sessions.

1997 delivers, with 2 conferences - **DVD TECHNOLOGY** and **TECHNICAL TRAINING** along with a **HI TECH RETAILER FORUM**.

Topics vary at the **24 SEMINARS** held across the the show days, while **PRODUCT CLINICS** will be run hourly on the tradeshow floor. And there's more!

THE FREE THINGS!

People in the Trade **ENTER FREE**, after Registration. For non trade the Public Day is Anzac Day, **FRIDAY 25th April** and public (non trade) pay \$10 to get in then.

Once inside, browse over 100 **ENTECH EXHIBITORS** displays, plus over 40 exhibits in the **VMA trade show** next door. See, compare, get spec's and buy.

Then look at the **MOVING LIGHT SHOOTOUT** in our Interactive Zone, run all day. See the Video screens for what's on next at our **HOURLY PRODUCT CLINICS** held on the tradeshow floor.

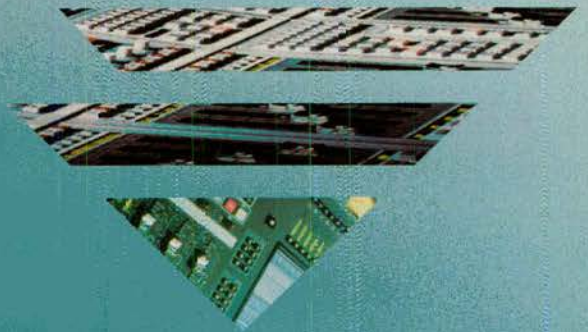
Then at 6pm when the show ends, gather for the **PA CRESCENDO** where the major brands are compared - **LIVE!**

Seminar Program 1997

Briefly: ENTECH has always hosted Seminars, each is of up to one hours duration, and costs \$12. The imperative is to educate, not sell products. Mostly the Seminars are generic, although occasionally a company will present a Seminar on a unique technology. For 1997 we have improved the Seminars -

- Papers / notes supplied with each Seminar
- Seminar Theatres acoustically isolated from tradeshow
- All A/V equipment courtesy of Intercity Gearhouse
- Stream managers on the job for better quality
- 24 Seminars - 8 lighting, 6 audio visual (presented by FOCUS in the Focus Theatre); 8 pro audio; 2 staging.

Full program available NOW - call 1-800-635-514, fax (02) 9876-5715 or log on to website at www.conpub.com.au



THE BUYING TRIP

ENTECH presents the ultimate buying experience. Trade Shows are all about **THE DEAL**. The deal is \$18 million worth of goods at ENTECH - on show and on sale. Get around 100 exhibitors with 3,000 products and devices from the **WORLDS LEADING MANUFACTURERS** in one place and go for it.

You can SAVE more than the cost of attending. It's already a proven fact!

Ideally positioned just weeks from the **NEW FINANCIAL YEAR**, ENTECH gives every buyer an ideal venue to negotiate new technology purchases.

- Hundreds of **SHOW SPECIALS** (the best are sometimes NOT advertised!)
- Buy **SHOW DEMO** stock and take it away or have it freighted to you direct at the close of the show.
- Special show **GIVE-AWAYS** to be had on many stands. An ENTECH tradition!

THE SOCIAL TRIP

Aside from the **NETWORKING OPPORTUNITIES**, ENTECH puts Melbourne on show for you. Discover what all Melburnians have always known ~ it's a party town! ENTECH deploys the fun with social gatherings and our peak event, the **ENTECH AWARDS DINNER** at the **PLAZA Ballroom** on Thursday 24th April. John Blackman is the MC, who will introduce Peter Cupples and his band. It's a huge night!

104 REASONS WHY YOU SHOULD CHOOSE A VEGA WIRELESS SYSTEM



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Connections

MARCH 1997. Number 41

Digital mixing costs fall



Mackie Digital 8 bus

'Flying' faders and instant 'snap' resets are what it's all about. Julius Grafton reports-

Yamaha broke through the digital mixer price barrier almost three years ago with the Pro Mix 01. Before then the cost of the converters (used to convert analogue audio input to digital, then back again) held digital mixing in the realm of the mega costly.

Users embraced Yamaha's little mixer, to the extent Neil Diamond used 11 of them to submix front of house audio on his last tour. 50 ENTECH visitors lucky enough to get a technical tour of the show stood jaws gaping when the system was demc'd in Sydney last year.

Since then Soundtracs has released the Virtua, Yamaha added to the range with the C2R (around \$14,000. The floodgates have opened.

Mackie revealed their digital console, the Digital 8 Bus (above) at NAMM. Tascam revealed a new digital mixer

late last year at the LA AES.

Yamaha again set the pace by releasing the C3D (reviewed in this issue), taking their range to three offerings. When AMS Neve and SSL got started with digital mixers in the late 1980's, Yamaha were already there with the little DMP-7. It brought the whole concept into focus, and was the first of a series of Yamaha products which until the Pro Mix 01 (now reduced to \$3500 retail), were never quite cheap enough.

I was at the first tradeshow release of the Pro Mix 01 in the UK in June 1994, where one UK manufacturer told me bluntly that Pro Mix 01 would never be used professionally. Tell that to Neil Diamond!

Mackie are now the ones to watch, having recently released a different product altogether, the HUI. This is sacrt for Human User Inter-

face, which a worksurface for DigiDesign's ProTools 4.0.

The Mackie Digital 8 bus is a 48/8/2 console which offers an inbuilt modem with which users can obtain software patches and other things - like session mixes. More detail appears elsewhere in this issue, it is scheduled for later in the year at a cost to be advised but thought to be well under \$20,000 here.

Tascam have never been famous for their mixing consoles in this part of the world, so it seems natural that their console, called the Tascam Digital Console, is mostly targeted at the significant raft of post production users of their DA series modular digital multitrackers (MDM's). The mixer should arrive here at around the same cost and time as the Mackie, against which it most likely to be compared. Interesting times!



SEARCHING FOR A NEW DIMEBAG

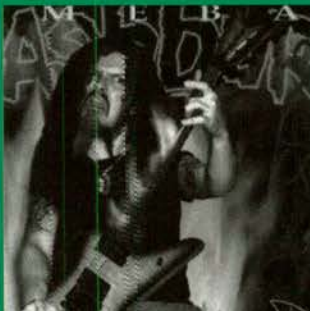
Public drawcard the key at AIMS 97

The Australian International Music Show (AIMS) reappears in October, promising the music equipment trade three days and nights of non stop action.

Last run in 1995, the show is scheduled each second year in Sydney at the Sydney Exhibition Centre. It is the major activity of the Australian Music Association, which recently celebrated its 20th year representing distributors. Retailers are also represented on the AMA, which boasts several hundred members.

AIMS relies on heavy public patronage, with over \$70,000 in door entry revenue earned in 1995. Punters paid to get in and meet celebrities like Dimebag Daryl (below), who attracted hoards of eager fans to the Washburn stand.

• AIMS 1997 will be run October 3, 4 and 5. Call the AMA on (03) 9867-4222.



AIMS Crowd puller: Dimebag Daryl



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Just as our mixers combine high performance, great value and extra features, our new Fast Recovery Series™ M•1400 sets a new benchmark for amplifier value. It can help your speaker cabinets put out tighter bass and enhanced high-end audibility. It can play all day into big, ugly reactive loudspeaker loads. And it can survive sizzling ambient temperatures and brown-out voltage drops that cook other amps. The M•1400 was created by a talented design team, many of whose members have over 20 years of power amplifier circuit experience. And it's made in a state-of-the-art automated manufacturing facility that lets us keep quality up and prices down.

THE FAST RECOVERY DESIGN STORY.

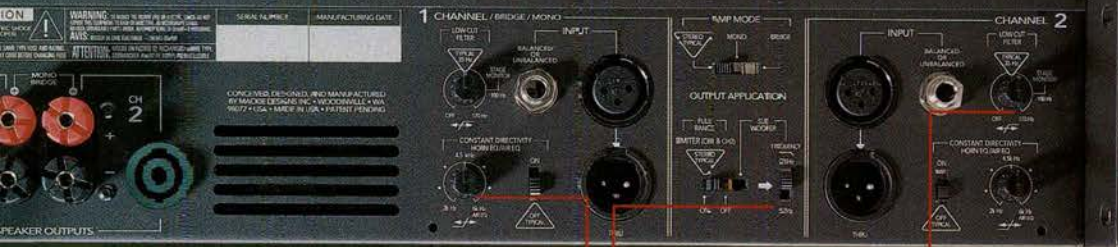
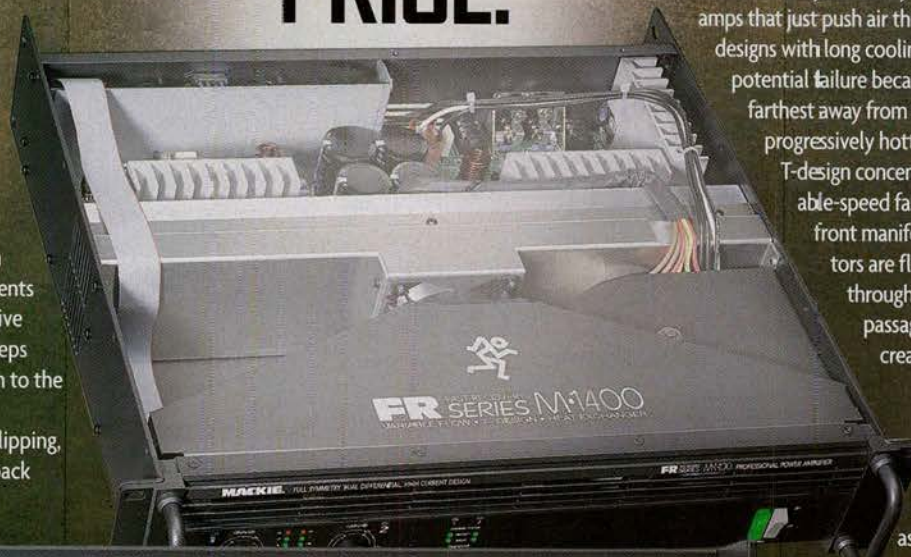
Thanks to exotic technology borrowed from high-speed digital components — and sparing use of negative feedback — the M•1400 keeps sounding good when driven to the max. If most conventional amplifiers are driven into clipping, “corrective” negative feedback

HIGH WATTS. LOW PRICE.

actually causes internal saturation that keeps them “latched” in a prolonged — and audible — state of clipping. The M•1400 uses a high-speed, latch-proof design with extremely low negative feedback that eliminates high-frequency sticking and gives the amp enhanced stability. Until now, this solid, proven circuit principle has only been found on very expensive designs. The M•1400 achieves efficiency just 3.5% under the theoretical maximum possible, with an output stage that delivers in excess of 60 amps of current. It is capable of 4000 watts of power dissipation.

T-DESIGN CONSTANT GRADIENT COOLING

Amplifier output transistors generate intense heat. If it isn't conducted away, reliability drops. Cheaply-built amps that just push air through the chassis or amp designs with long cooling tunnels court potential failure because the transistors farthest away from the fan get bathed in progressively hotter air. The M•1400's T-design concentrates air for the variable-speed fan through an oversize front manifold. All output transistors are flooded with cool air through the short, dual air passages (see crawling below), creating a constant temperature gradient and vastly increased reliability that lets the M•1400 run all day at ambient temperatures as high as 73° F!



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- Subsonic stabilization stops visible, random woofer cone movement that robs amp power and causes intermodulation distortion.

M•1400

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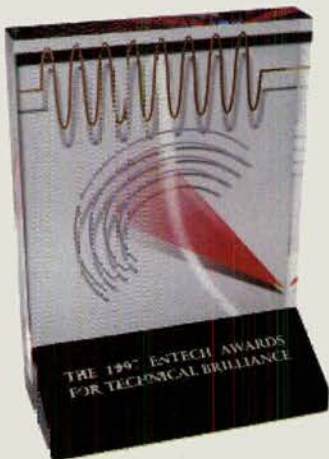
You'll be OK on the night

Sponsors elevate the annual ENTECH Awards, as finalist products announced

April 24 has become the most anticipated night in the annual performance calendar across Australia, thanks to the ENTECH Awards for Technical Brilliance. While performers and those in the public eye are well catered to with various better known 'celebrity' awards, the entertainment technical world hasn't had a recognition process until now.

The third annual ENTECH Awards have come of age, with a mature and entertaining awards dinner at Melbourne's stunningly renovated Plaza ballroom expected to sell out. It's been a rocky road for the Awards, with Connections magazine tipping in \$20,000 last year to cover costs. This year Avid and Digidesign Australia have come to the rescue, heading an impressive list of sponsors. Mclean Audio, Active Lighting and Image Design Technology will supply the production elements, while Qantas, Stage & Screen Travel, Connections and Sound Australasia magazine are all sponsors.

The first Awards in 1994 were criticised as being too simple, while last year some



product manufacturers complained at being left out of the nominations.

This year the awards nominations are split into three groups, with the Most Popular Product awards the subject of reader voting this month on forms inserted in Connections and Sound Australasia magazines. Manufacturers and distributors had six months to nominate products, which were then considered as finalist products according to strict criteria detailed in the nomination kit.

Not surprisingly the need for each nominated product to have three user references

detered some entrants, as it created work chasing up customer references. Nominations also needed a photograph, facts sheet, and were limited to one per brand per category or a fee was charged.

New Products are also nominated, but will be selected by an industry panel because many readers will not have been exposed to them. People and Institution awards honour excellence in various fields, and readers will add their nominations to a healthy list already on hand. An industry panel will vote on these in April, by way of a blind ballot with all voting supervised by the returning officer, accountant Bruce Rowland.

So gather up your mates and book a table at the Plaza. The cost is \$69 per head which includes a three course meal and a welcome drink. MC for the night is John Blackman, music and entertainment is included.

• You should book in advance by fax (02) 9876-5715, or phone 1-800-635-514.

FINALISTS FOR MOST POPULAR PRODUCTS ARE IN THE CENTRE SECTION OF THIS ISSUE.

MINUTIAE

DEGAFFING...

Eucalyptus oil is not just the ultimate remover of old crewing gum from your Berber carpet. It will also DEGAFF your cables! We recommend Double D brand, (500mil bottle, approx. \$6.00) made in Australia. It's also been known to send a Koala wild, and if you need to get intimate with one prime it with DD first. Don't forget the protection though. Send cheques to the Connections retirement fund

STAPLE GUNNING...

I noticed the other day the staple gun I'd left out when doing some work around the office attracted a lot of longing looks. People who in another life Once Rigged Lighting were drawn to the chromed wonder tool, manufactured by the Arrow Fastener Co of Saddlebrook New Jersey. How handy it is when entering a venue, any venue - flash, grunge or five star. Just ignore the thoughtfully placed hooks, rails and tie points. Grab the Arrow and bang - bang - bang the softgoods into place! When done, rip the blacks or backdrop down. Get the loader to fold it, so the random stray bent staples draw their blood, not yours!

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EASY SOLUTIONS

The Job

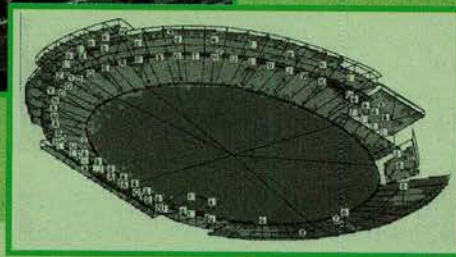
Following the WA launch of the Bose Panaray Long Throw speaker system, introduced and used at Rally Australia in 1995, WAFC officials asked Bose Australia to design a suitable sound system for Subiaco Oval, the largest in WA. The main uses for the system in the stadium is for announcements, sponsor jingles, club songs, and the occasional solo performer. Even coverage of sound and high intelligibility throughout the audience areas were the main priorities.

The Problems

Initial meetings indicated several concerns that needed to be addressed. "The close proximity of residences to the South and North of the ground and the possibility of sound spill from the stadium meant that the preferred point source (end zone) sound system would not be suitable," said Peter James, West Australian Bose distributor.

The Process

To design and evaluate the system, the unique Bose Modeler® Sound System Design Software and Bose Auditorer® Demonstrator were used. These technologies allow architects, consultants, engineers and clients to actually hear how a sound system performs at various locations before it is installed. Bose Modeler and Auditorer Demonstrator can even be used to evaluate the acoustics of a new construction during the design phase when building materials or design can easily be modified. "It was decided to design a quality distributed sound system using Bose 402 loudspeakers," said Mr James. "These were recommended for their performance, low profile and weather resistance. They had been used in many outdoor events in Western Australia with outstanding results. The layout and design of the system, which used 83 model 402 with model 25 loudspeakers for near-fill locations, was demonstrated for representatives of the clubs sharing the football ground and WAFC officials using Auditorer Demonstrator," said Mr James.



The Demo

Using Auditorer technology, "The clients could hear how the system would perform. Everything from crowd noise, to club songs and announcements were fed into the Bose Auditorer Demonstrator. It provided an accurate acoustic representation of what their patrons would actually hear at various locations in the stadium and the WAFC officials were extremely impressed," said Mr James. Competition grew fierce with many quality competitors bidding for the contract.



The Installation

Bose selected Electro Acoustics in WA as the dealers to supply and install the system. This company has valuable experience in similar venue installations and has a thorough knowledge of Bose professional products due to their involvement in Bose design guide training courses. An independent acoustic consultant was called in to compare and evaluate the different systems. After thorough evaluation, recommendations were made based on a variety of acoustic measurement. These proved the Bose 402 design to be the most suitable. This was due to the fact the Bose system was designed using sound engineering principles and verified using state-of-the-art technology. Electro Acoustic was awarded the contract to install the system. "We all worked hard to secure this contract," said Mr James. "Bose engineers worked tirelessly to prove their system was the best for the job and Electro Acoustics stood behind the Bose product all the way. "In the end however, the product sold itself. It is a case where the research and development behind Bose's products once again proved itself. It will be the fans who will appreciate the hard work in the coming seasons."

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~OBITUARY~ JEFF GORDON

Live Audio operator Jeff Gordon passed away at home on Thursday 13th February. He was well known around Sydney and worked in the sound crew at the Opera House. He was working on the Sydney Theatre Company's production of 'Comedy of Errors' at the time of his death.



Before working at the Opera House he worked from Amber Technology, Audio Sound Centre, and as a studio engineer and musician for artists such as Graham Connors, Caligula, Massappeal, The Lab, Smudge and Godstar - to name a few.

Jeff brought a wealth of ex-

perience and skill to the OH crew, was reliable and talented, and popular with clients and peers alike.

The staff of the Sound and AV sections at the SOH say he will be missed dearly, and send condolences to his family and friends.

Footnote to last month's obituary re **Andrew Bentley** - a television current affairs program alleged at press time that Andrew was being pursued by a Federal Government agency for a very large sum in rela-

tion to a paternity issue. The report implied he took his life from desperation, and that his estate is now under claim for in excess of \$30,000 by the said agency. Our very real commiserations to his family.

INDUSTRY NEWS

Compiled by Dan Cole

PEOPLE

• **Avsound** have announced that **David Coleman** has joined the company as a dedicated service technician (dedicated too!) David's most recent assignment was with the Parramatta Riverside Theatre. At Avsound his specialty will be on-site servicing, reducing the likelihood of unscheduled equipment misbehaviour.

• **Intercity Gearhouse** newly appointed staff include: **Tim Levy** and **Stuart Munro** - both as Audio Visual Managers.

• **Georgia Bell** and **Ian Thacker** (President of Klipsh, ex-pat Melburnian) joyfully announced the birth of their son Asa James. Asa weighed in at 8 pounds, 4 ounces; 20.5 inches, at St Michaels, Texarkana, TX.

• **Sound And Visual Innovators**, SAVI, have announced the appointment of **David Cowling** as Customer and Operations Liaison Officer. He has experience in studio work (ex-SAE lecturer), and live PA work. Also, **Harold Mueller** is now Operations Coordinator. (02) 9417 4388

• **NIDA** has announced the appointment of **Kate Davy** as Head of Technical Production. Kate graduated from NIDA in 1983 and is an experienced lighting designer, stage manager and events organiser, most recently for Ric Birch's Spectak Productions as Production Coordinator for the "City of Sydney '96 New Year's Eve party".

• **Theatreworks** (Perth) **Patrick Cahill** and partner

Venue Managers to gather in April

VMA strengthens & expands

In a country with a short history like Australia, trade associations can face an uphill battle. The Venue Management Association Asia & Pacific (VMA) defies that trend, hosting its 8th international convention next month alongside ENTECH in Melbourne.

Perhaps it's the nature of venue managers, but they appear to benefit greatly from associating. The annual VMA convention is a cross pollinating collection of seminars, forums and plenary sessions, held by day with cocktail parties and dinners by night.

400 plus usually attend the event, which is accompanied by a trade show of products and services for venues. This show will be held in a separate area of the Melbourne Exhibition Centre but accessible from the floor of the ENTECH show.

The VMA support program includes sessions on virtually every aspect of running a venue, from ticketing through building technology, emergency management, to running events themselves.

Lynne Cannings got 'spliced' (a nautical term for married) in December to a nautical theme. Congrats!

• From mid-February **Paul Streefkerk** will be leaving Deakin University's Phoenix Theatre at Burwood, to take up a position at the Preston Arts and Entertainment Centre.

MOVES & CHANGES

• **Cadillac Cases** have moved to: 11 Hugh St., Belmore NSW 2192. Ph. 9773 8292

• **Channel 10** (Sydney) - new address is 1 Saunders Pyrmont

VMA expanded at the end of last year by appointing Shane Hewitt as Executive Officer, bringing the association up to professional status. Hewitt was replaced as President by Gareth James. It also elevated the production of its periodical 'VMA News' into a professional glossy publication, carrying advertising.

Staging the VMA convention alongside ENTECH 1997 gives venue management a unique opportunity to evaluate technology, and for senior venue technical staff to involve management in future decisions.

The two events are only planned to run together this once, as the VMA has historically toured its convention, last year it ran in Wellington, next year in Perth.

ENTECH visitors are welcome to browse through the VMA trade show, and can also but single session tickets to most VMA conference topics.

• For a copy of the VMA '97 convention brochure call 1-800-635-514 or fax (02) 9876-5715.

NSW 2009. Ph. 02 9650 1010 Fax. 02 9650 1111

• **Fifalite Theatre Lighting** has been providing lighting services for the past 12 years and has expanded into new premises: Fifalite P/L, Unit 4-7 Charlston Place, Maroochydore QLD 4558 Ph. 07 5479 5474, Fax. (07) 5479 5475

• **Mk1 Productions** have moved to: 1 Ryeland Close, Elderslie NSW 2570. New numbers are: Ph. (046) 58 0325, Fax. (046) 58 0340.

more on page 28>

Technology

WHAT'S NEW, HAPPENING & IMPORTANT FOR THIS MONTH

Namm Time



The trade show season is in full flight! In recent months we've visited the AES in LA, LDI in Orlando and now NAMM in Anaheim. This month the editor goes to Frankfurt, then next month you get to see the very best from all these shows in Melbourne at ENTECH 1997. Meanwhile, Duncan Fry details the lighter side of NAMM while Dan Cole reports on The Products. Connections makes the flights to bring you news!

The lighter side of NAMM

By Duncan Fry

Every year the NAMM show kicks off with a procession through the halls by the

Ferdinand L. Petiot Marching Band, made up of volunteers from the industry playing brass band oompah music to remind everyone what the

show is all about.

This year (1997, the year of the Ox) they marched proudly into the Pro Audio arena, where I was, and struck up a rousing rendition of...well, you've got three guesses. Hail to the Chief? No. The Monty Python Theme? No. Good Old Collingwood Forever? Nope. It was an arrangement of that well-known marching band tune - The Macarena! A bit of light hearted fun, for sure, but I find anyone over the age of 40 getting involved with The Macarena in any shape or form to be rather sad!

It's like being introduced to someone for the very first time at a social function, and without a word being spoken, instantly you know that they know all the dance steps to

Tascam show digital mixer at NAMM

Tascam's new digital mixer was on show at NAMM, minus brochures, press information and the milk of human kindness. Tascam USA are generally unpleasant at NAMM, your editor got thrown off the stand a few years ago for trying to take a photo of something. Because they had no brochures or PR.

This time a photo was taken (left) unchallenged, showing the DA-88/38 friendly device. It'll accept 24 tracks of DA in the digital realm, naturally transport and automation controls are on board too.

The board has 20 'encoder' rotary knobs located directly under the main display which via associated function keys allows control of the console functions.

Inputs include 16 balanced XLR mic inputs, with 3 TDIF format tape return interfaces.


Connections include Sony 9 pin, MMC and GPI, with Tascam's sync I/O.

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Nutbush City Limits, probably better than Tina Turner does. But I'm rambling again. (Get on with it. Ed)

The marching band had every instrument that you could carry around and make a noise with, but it was lacking something in the wind instrument area - there was no didgeridoo! This was a surprising omission, given that didgeridoos were out in force at this year's show, so it looks like 1997 could be the year that they hit the big time in the

(continued over page)



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The lighter side of NAMM

USA.

A company called Hall glass flutes had a display of full size glass didgeridoos printed with an authentic-ish native print. Very attractive, but I don't think I'd play one. The only glass instrument I'm keen on sticking in my mouth contains the recommended essential daily allowance of Vitamin Beer.

Downstairs in Hall E some enthusiastic hippies called Hoot 'n' Toot were selling student didgeridoos. And what's a student didgeridoo, I hear you ask? Well, as far as I could tell it's a piece of plastic drainpipe with a blob of wax as a mouth-piece stuck on the end! Still, what else do you expect for \$12 US (Discount for bulk orders!)

But wait, there's still more. Down the other end of the hall there was yet another booth demonstrating didgeridoos, only this one had a real Koori on the job. Time and a large crowd prevented me from checking it out thoroughly, but the name of the company indicated that they were the real thing - Ridgi Didgi Didgeridoos!

Back in the early days of the show, the Anaheim Convention Centre wasn't big enough for all the people who wanted to have a stand, so they would have a whole stack of smaller exhibitors over at the Marriott Hotel. Well, now that they've enlarged the Convention Centre, there's room for all these people in Hall E.

This is a basement hall, right next to where you register for the show, and if you thought the rest of the show was busy and crowded, then this was absolute non stop bedlam for 8 hours a day. At least 300 exhibitors, all on 10 foot by 10 foot stands, all convinced that they have the greatest musical instrument idea since the wah wah pedal,

and all demonstrating it at the same time!

I've often felt that purple is making a big comeback, and now I know I'm not alone. One enterprising manufacturer had a retro style matching guitar and amp combination, finished in tasteful full gloss metal flake purple. Just the sort of accessory that would look good casually tossed in the backseat of the Dunkmobile!



The speaker box from Hell

I'm a sucker for toilet humour, but unfortunately I couldn't find either of last year's favourites. Charlie Stringer has moved on from advertising in the urinals to more tasteful avenues, and the guitar shaped toilet seats (Jammin' Johns) were nowhere to be found. Perhaps the idea turned out to be a bit of a bummer!

However, while I was busy watering the horses one day, all of a sudden the guy standing next to me started muttering to himself. Or to me - I wasn't sure. But just to be on the safe side I looked away and stared into space, as one does. When I left the toilets, though, I sneaked a glance at him, and I realised he wasn't talking to himself, he was talking on a mobile phone! One hand holding a valuable piece of equipment, and the other holding his phone! I didn't hear it ring, so

it must have had one of those vibrating batteries. Personally I'd have just let it vibrate away for a while!!!

Every speaker manufacturer thinks they, and only they, have designed the perfect speaker

(I know this can't be true, because we've already designed it!). And roaming around the show you could see many differing degrees of perfection, so there were plenty to choose from. But one box we dubbed "The speaker box from Hell" (See Pic, where I've shown Dave Park's head to give some scale.) 8 x 15" speakers mounted in a radial

manner around an extremely ugly fibreglass cabinet, obviously modelled on a 3D version of a Rorschach ink blot. It was advertised as true 360 degree coverage. Well, shoot me down in flames on this, but I can't imagine any occasion when you'd need 360 degree coverage in all directions from the one box! Maybe that sort of coverage might be occasionally useful in the hori-



These are technicolour. Or are you colour blind?

zontal plane, but not in the vertical as well! It came in three versions - the one with 8 x 15", one with 8 x 10", and



Our newest magazine title! (joke)

what looked to be an 8 x 5". So there was The Blob, The Son of Blob, and The Blob goes to It's a Small World.

At various spots throughout the show, the magazine publishers have rows of bins where their magazines are available free of charge. You just have to get there at the times the bins are being filled, before a swarm of happy NAMMers descends upon them like a plague of locusts and then moves on, leaving the bins gutted and empty. Or rather I should qualify that - all the bins with the magazines that anybody wanted were empty; there were however plenty left of the magazines no-one wanted, such as The Karaoke Professional, Squaredancing Weekly, Wedding DJ Digest, The Whining Folksingers Times, and other riveting stuff.

Most of us would be familiar with the magazine Modern Drummer, even if we're not drummers, but what if you're not feeling very modern. Then you need...Not So Modern Drummer! It's true (See pic). Now all we need is one called Old Fart Guitarist, and I'd probably receive eight or ten copies on my birthday!

This is the last NAMM show in Anaheim for a couple of years, because they're pulling down half of the convention centre and rebuilding it twice as big. It's moving to

the LA convention centre, which is also pretty big, but it is also downtown. And most people would tell you that downtown is not the sort of place to walk around after dark wearing a designer t-shirt! So the next two shows will probably find it hard to have that casual after hours holiday ambience that you find in Anaheim.

Add to that the rumour that Disney is calling in all the leases and closing down the motels and hotels whose land it owns around Disneyland, for more expansion, and my guess is that the next time the show comes around in Anaheim it will be a whole lot different again. No more cheap accommodation for \$25 a night, that's for sure. As the Chinese say, 'may you live in interesting times!'

• *Duncan travelled to NAMM under his own steam as an exhibitor, he is a director of ARX - the Australian manufacturer.*

Mackie debut Digital Console

By DAN COLE

NAMM 1997 - Although still preliminary, Mackie have designed and built a digital console called Digital•8 Bus.

The concept has been under development for 2 years so it's not 'vapour ware'; the mixer 'lives' but needs fine tuning before manufacture starts in earnest. I have to report though that on the first day of NAMM this console was not operational, due to shipping Mackie suspect, but after this preliminary hiccup the demo console was functional and impressive it is.

Mackie are aiming at the under A\$20,000 price range with the Digital•8 Bus. It is an all digital 48/8/2 console operating with 8 MB of RAM which aims to combine available digital processing power with an 'analogue' style control surface, with all the bells and whistles that digital users have now come to expect as standard. At its simplest form the Digital•8 Bus has

an 8-bus configuration with 12 line/mic inputs and 24 tape return/line input channels. There are 12 auxiliary sends per channel and equalisation is strong, with 4 band parametrics with switchable high and low shelving and a 5th variable high pass filter. Each channel also has compressor, limiter and gate processing.

A key element of the console is Mackie's proprietary control or data knobs called V-Pots. They are virtual potentiometers with 11 LED segments (yes, they go to 11!) and the Digital•8 Bus console features a strip of 24 of these pots whose functions vary for different parameters from volume, pan/aux, parametric EQ. These V-Pots replace over 280 conventional rotary pots and each control button or knob has a help function if pressed and an explanation appears on the mixer's fluorescent display.

Power is the thing; this con-

sole will do 1000 MIPS with the internal CPU, and it has a 500MB hard drive for storage, plus a floppy drive

Three 8-channel cards can be added for direct audio transfer to recordable media with format standards AES-EBU, S/PDIF, T-DIFF or ADAT.

All functions on the Digital•8 Bus can be completed using conventional SVGA monitor, mouse and keyboard.

Another feature is the on-line help function enabling the console to connect to the internet via a built in 33.6kB modem. This is a novel and neat concept a telephone line connection on the back panel allows an up-link to Mackie headquarters for upgrades, information and help. There is even an anti theft function: if the console is stolen and the on-line function is used with a vagrant password, Mackie will (a) lock out the dialler and (b) trace the call. Here for Xmas!



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NAMM: the audio New Product roundup

*"If You Throw Out Enough Media, Some Of It Will Stick.
Don't You Think?"* By Dan Cole from LA

NAMM is the first major trade show on the new year music trade calendar and although many professional products have been seen at the L.A. AES in November, NAMM still holds some surprises for the pro audio market. NAMM is the opportunity to display musical and professional audio product to a large, diverse and general crowd, from audio specialists to music shop proprietors. Out of the debris of media kits, fast talking company representatives and a crowd of stars what follows is some interesting picks from the bunch.....

Microphones

○ **AKG** debuted at AES and NAMM their Emotion series of mics aimed at the budget, cardioid live stage market. Two models here; the D770 dynamic and the D880 super cardioid, the latter aimed at the live vocal market. AKG are proud of the internal design of these microphones which include AKG's custom Doubleflex shock proof isolation technology, cutting down on the amount of handheld noise. The Emotion series also use neodymium magnet assemblies which according to AKG information provide higher than average output. Expect a March release.

○ **Electro Voice** had their new N/D868 dedicated kick drum mic on display which has been designed with a pre-set frequency response pattern that resembles the characteristics of 'typical' kick drum padding or 'baffling'. The pre-set frequency pattern has a 3 to 4dB cut between the 100-550Hz range with peaks in the

between 50-60Hz and in the upper mid to capture the click.

This is permanent and cannot be switched out. EV also released the RE2000 which is what they call a 'true' condenser microphone which features an EV proprietary design called Constant Environmental System (CES) which aims to provide a constant temperature whether in live or studio applications and is not charged permanently like electret mics. An April release for both products.

○ **Conneaut Audio Devices** (CAD)

steered me towards the CAD 90, a dynamic cardioid mic with a (mostly) flat frequency response. They say the CAD 90 is very robust with custom rubber shock mounts

EV make a kick mic!



isolating the transducer from the barrel combined with a hardened steel screen.

Loudspeakers

○ **Yorkville** have applied the renovation brush to their Pulse range, a collection of trapezoidal cabinets. The range starts at a 2-way 1x10" plus horn to a 3-way and the PS210 PX dual 18" powered subwoofer which includes a 300w satellite amplifier. The entire range is available now in Australia.

○ **EAW** have added to their LA range of trapezoidal enclosures with the new LA212, a 2-way full-range cabinet with

EAW have applied their usual attention to cabinet design — it's asymmetric and can be used for stage monitoring or in an array with built in hanging points.

○ **Community** have also upgraded a previous system with their new XLT Series and have added extra protection monitoring to the cabinets which range from a 2-way to the latest XLT 55 subwoofer. The XLT55 uses two ferro-fluid cooled subwoofers at 38Hz-150Hz.

○ **EV's** redesigned S-Series were also featured which include the S12, S15 and S18.

Nice little mixer from Alesis



a 12" subwoofer and 2-inch exit compression driver. The LA212 is designed for small to medium public address applications and EAW claim long term SPL endurance of 120dB.

Both the S12 and S15 replace the S-122 and S-152 systems and feature a high-Q, 60x40 horn. The EV range looks solid and is pitched at the 'affordable sector' using 'Roadwood' a light ply specifically designed for weight and strength conscious applications. April is the expected delivery.

EAW's new LA212

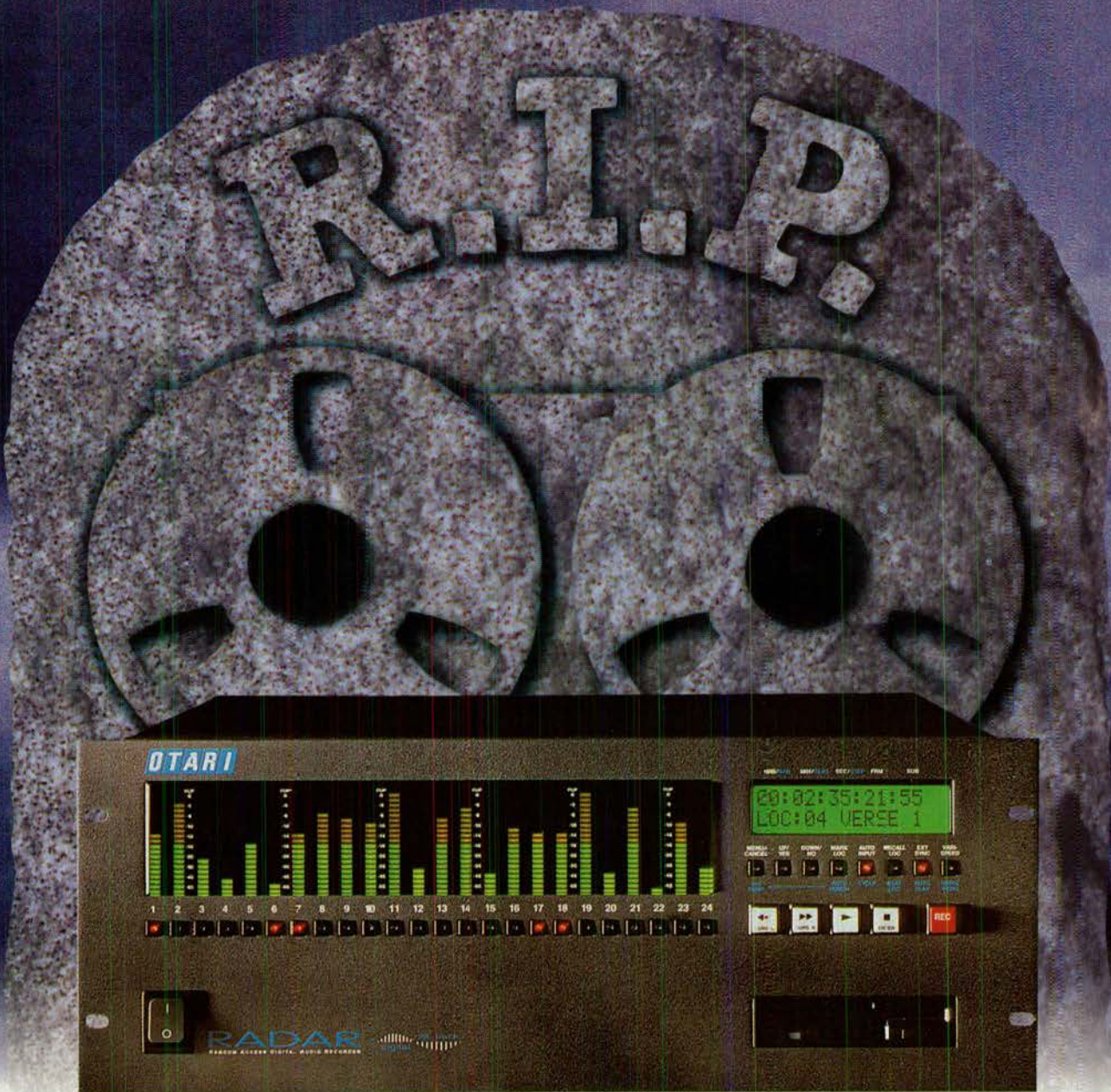


Powered Mixers & PA's

○ **Yamaha** chose NAMM to release the EMX640 powered mixer-box, designed to appeal to low key pro-audio applications (and small music shops in Vermont or Vaucluse). The EMX640 includes a 7-band EQ on monitor and main sections, a Yamaha (simple) reverb and 200w amplifier. Yamaha have incorporated their new HED circuit design in the amplifier

Crown debut the K2 amp range





Now tape is history

When Audio Media Magazine reviewed the Otari Radar, they summed up "Without doubt, RADAR is the most exciting recording product that I have seen in the last 10 years".

It's not hard to see why - RADAR (Random Access Digital Audio Recorder) offers all the speed and power of full random access digital recording with the familiar controls of a tape recorder.

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and no complicated screen layout with endless menus. Radar's learning curve can be measured in minutes - not hours or days.

A complete 24-track Radar system consists of a compact 4U cabinet, remote controller and a data back-up unit - that's it! And you can start with an 8 or 16-track system and easily upgrade as your business grows.

Literally hundreds of Radar systems are in use with leading recording artists and engineers world-wide. Radar's User List includes such names as George Michael, Brian Bennett (Shadows), Simple Minds, Pet Shop Boys, Rick Wright (Pink Floyd) and many more.

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NAMM NEW AUDIO ROUNDUP

(continued from previous page)

stage which apparently can produce more efficient output with half the power consumption normally used.

○ **Yorkville** presented their upgraded Micromix powered box, the MP10DS. It has 6-mono and 2-stereo channels, 2 x 160watts, with a 9-band stereo graphic and 255 preset effect processor. They also released the AP-812, a 12-channel self powered console with an 800w internal fan cooled amp.

○ Also pitched at compact P.A. applications (and the music merchant) is **Fender's** Powerstage mixer/amp/speaker. The Powerstage 100 is a 100w amplifier inside a speaker enclosure with a detachable 3-channel mixer; two microphones and two auxiliaries, line and effects inputs and two notch filters.

and will be available in two rack mount options. Alesis have also released a rack mounted mixer called the Studio 12R (see pic on previous page). This is neat: 8 x XLR and TRS inputs (tip=send, ring=return) with high quality pre-amps and two bands of shelving EQ and two aux sends (pre and post). Each channel has a 60mm fader adjacent to EQ and aux controls and the master section has a single logarithmic fader.

○ **Yamaha** displayed their



Fender's powered wedge

Mixing Consoles

○ **Alesis** created some interest with the Studio 32, debuted at NAMM and designed for the dual ADAT setup. The Studio 32 is a 16-channel, 4-group in-line monitor/recording console that allows the user to monitor 16 channel returns without repatching. Studio 32 has a total of 40 input sources with concise equalisation featuring low and high shelving and parametric mid-band, frequency sweep and Q control

MX12/4 compact mixer with 12-inputs (8 mono), 48v phantom power on all XLRs, 3-band EQ on all channel and a 7-band stereo graphic.

○ Instead of mentioning a table sized mixing console, something tiny, the Mixpad4 from **Samson**. This is a 4-channel mixer powered by three 9v batteries and features 3-band EQ and switchable phantom power on XLR inputs. Dimensions: 160.5mm X 220.8 mm (optional carry-

strap).

Amplifiers

○ **Crown** chose NAMM to release a new range of power amps called K2, (see pic previous page) which according to Crown-information produces high power without producing the normal amount of heat. The technical Crown person claims that the K2 is three times more thermally efficient than comparable amps. Crown have applied for patents on the technology which makes it all possible called Balanced Current Amplifier circuitry and 1250 watts per channel into 2 ohms (and 2U high) it is an impressive piece of engineering.

Crown claim rigorous field tests and are shipping K2s soon.

○ **Crest Audio** have added the CA18 to the CA range. The CA18 has a power specification of 1800W at 4 ohms or 2500W at 2 ohms.

○ From **QSC** two amps. The 2.0HV

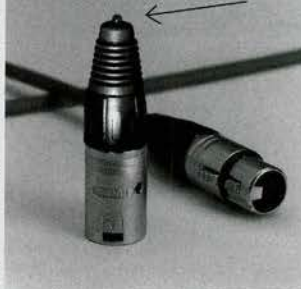


Samsons mighty mini mixer

PowerLight delivers 650w per channel into 8ohms or 1000w into 4ohms with defeatable clip limiters. The PowerLight 8.0 produces 4k at 2 ohms or a total of 8k bridged and a range of mains and circuitry protection features.

○ **EV** were keen talk about their kW Series of amplifiers with 1.0kW, 1.5kW or 2.0kW versions. The range features EV's Dynamic Signal Processing for speaker to amp matching for more efficient performance and the range should be shipping to Australia in April.

Goldline mic input tester-a 1kHz tone generator and phantom power detector built inside a standard Neutrik XLR. See the LED



Recording

○ **Roland** have released the VS-880 V-X p a n d e d which has increased operational functions from the original VS-880. Added functions include; 10 additional effect algorithms ef-

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Alesis wedge processor

ffects, auto mixing functions and quicker edit functions. Roland have also released the software as an upgrade for VS-880 owners called the VS-880-S1 expansion kit.

○ **Fostex** had their new DMT-8VL 8-track hard-disk digital recorder on display competing in the Mini Disk (< track MD recorder) price bracket with more tracks and

version 2.1 software upgrade for the DMT-8 enabling MIDI synchronisation capabilities.

○ Also worth noting is **Vestax's** HDR-V8 which has a faster processor than the previous model. The HDR-V8 is an 8-track, rack-mounted digital recording system with no compression. There is a variety of options onboard such as an in-built mixer with three

16-bit uncompressed audio with 18-bit oversampling. The DMT-8VL has clear control layout including 80mm long throw faders. Fostex have also released ver-

auxiliaries on each channel; 3-band EQ including parametric mids, 1Gb hard drive expandable to 4Gb and... wooden transport controls! Even the jog wheel. Akai released the DD8 hard disk recorder with 2.0Gb drive (or optional optical drive). The DD8 has been designed to easily transfer media recorded on recorders such as the DA-88, converting material to a RAM format using the same configuration and is aimed at post-production houses.

CD, CD-R, DAT & MEDIA

○ **HNB** have entered the MD Data market with the MD140 Data MiniDisc and have also upgraded the specifications on their CDR74, claiming more security and longer archival periods through new dyes and coatings. There was interest on the Marantz stand with

the CDR620 Compact Disc recorder. The CDR620 features an SCSI-II interface allowing connection to most DAWs and is capable of writing onto a number of multimedia/music formats. Some of these formats can be recorded at 2x speed and the CDR620 ignores SCMS.

○ **Denon** presented both a MD Recorder and CD Player aimed at professional studio/broadcast applications. The DN-M1050R MD recorder has editing and writing features and PC keyboard interface whilst the DN-C680 CD player includes pitch control, jog/shuttle wheel and the option of 'inserting' four seconds space between tracks. Shipping in April.

○ **Otari's** DTR-8s builds upon the DTR-8 with the

(continued on page 22)

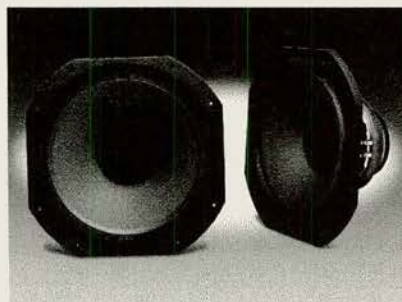
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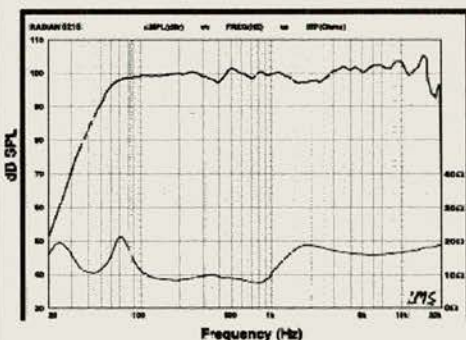
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1975	1.33	392	0.59	3.11	3.15
1980	1.16	251	0.49	2.03	2.52
1985	0.66	165	0.51	2.02	2.10
1990	0.77	98	0.39	1.18	1.45
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- **NAB '97:** April 7 - 10, Las Vegas. Call +1 202-775-4988.
- **NSCA 1997:** April 16 - 20. New Charlotte Conv. Centre, USA.
- **ENTECH '97:** Melbourne Exhibition Centre, April 23 - 25, 1997. The entertainment technology trade show and convention- ENTECH Conference: DVD and Pro Audio - April 22nd. ENTECH Conference: Industry Technical Training- April 22nd ENTECH Conference: Hi-Tech Retail & Issues - April 23rd. THE ENTECH AWARDS: Plaza Ballroom, April 24th. ENTECH is held annually, appearing in Sydney in 1998. Promoted by Connections Magazine, call +61 (0) 2 9876-3530.
- **Venue Management Association Conference.** Melbourne Exhibition Centre, April 23 - 25, 1997. Call (02) 9876-3530 for details.
- **SHOWLIGHT '97,** Ghent, April 28 - 30. Call +44 1 323 642-639.
- **PALM CHINA '96,** 25 - 28 May, Beijing. Call +65 227-0688.
- **REPLitech** Int, 3-5 June, San Jose, USA. Fax +1 914-328-2020
- **INFOCOMM,** June 5 - 7, LA Convention Centre. +1 703 273-7200
- **NIGHTWAVE '97.** June 7 - 10, Rimini, Italy. +39 541 711-249.
- **SMPTE,** Sydney Exhibition Centre. July 1 - 4. Call (02) 9977-0888
- **PALA '97.** July 14-16, Singapore WTC. +65 227-0688
- **PLASA 1997.** Sept 7-10th, London. Call +44 323 410-335
- **AES 103rd.** Sept 26-29, New York. Fax +1 212 682-0477.
- **AIMS '97.** Aust Int Music Show. October 3-5. Ph (03) 9867-4222
- **REPLitech** Asia, new dates: H K, Nov 5-7 Fax +1 914-328-2020
- **Vision & Audio '97,** Nov. 4-6, Earls Court, London.

Cultural Festivals: Australia:

Sydney Gay and Lesbian Mardi Gras 1 Feb-1 Mar. Perth 14 Feb-9 March. Adelaide 27 Feb-15 March. WOMAD 27 Feb- 2 March. Canberra 8-17 March. Australian Festival for Young People 21 Mar- 6 Apr. Darwin 15-31 Aug. Brisbane September 1997.



World Weather trend, MARCH

Where?	Temp °C	Rain mm			
Auckland	22/15	81	Manila	33/22	17
Bangkok	34/24	34	New York	9/1	104
Beijing	12/-1	8	Paris	12/4	35
Chicago	6/-2	70	Perth	27/16	22
Dubai	27/16	10	Rome	15/7	57
Frankfurt	11/2	38	San Francisco	16/7	69
HoChiMinhCity	34/23	13	Seoul	8/-2	56
Hong Kong	21/16	55	Shanghai	13/4	85
Jakarta	30/23	211	Singapore	31/24	200
Kuala Lumpur	33/23	237	Sydney	24/17	127
London	10/3	37	Taipei	21/14	164
Los Angeles	18/9	46	Tokyo	12/2	101
			Toronto	4/-3	66

CASH!

THE HIDDEN COST OF FREQUENT FLYING

By Julius Grafton

Long term planning is essential to getting the most out of your frequent flyer plan. You need to start with a simple choice - Ansett or Qantas.

Ansett just renamed their program 'Global Rewards', because some people viewed it as inferior to the program offered by Qantas. In fact we at Connections find Ansett far more generous than Qantas.

This is because Ansett have ten partner airlines, whereas Qantas have 6. The Ansett partners offer you more choice, eg: you can buy a ticket and accrue points to the UK, Europe or Asia on Malaysia, Singapore Airlines, Thai, ANA, Ansett or Cathay.

The real key factor is the COST of your flights. Qantas simply sell the most EXPENSIVE tickets to anywhere international. It's tried and proven, check it yourself in your Sunday paper! Ansett gives you more choice at less cost.

Another benefit is you can clock up FF points by using the new Westpak Olympic Visa card (1 point per dollar spent) or accrue 1.5 points per dollar spent (on anything at all) on your Diners Club Card.

That settles it for us!



GOING to:

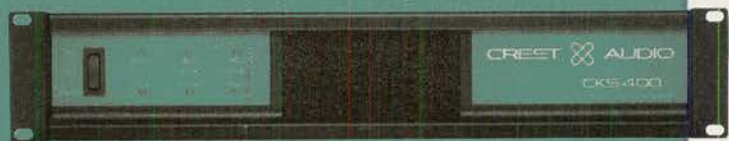
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CREST AUDIO  **CREST CONSOLES**

Write in Reader Service Number: 122

NAMM NEW AUDIO ROUNDUP

(continued from previous page)

capacity of monitoring input signal without a tape in the transport, balanced inputs, wide subcode support, 60 alphanumeric character capacity for detailed ID point description and high speed search using TOC information up to 300 times normal speed.



JL Cooper's work stations

128 user). Four 45mm faders provide realtime control within mixes and it is possible to run two stereo effects concurrently. All in a neat package (9" x 7").

○ **Roland's** anti-feedback AF-70 is worth a mention; it automatically scans and lowers problem frequencies down to -40dB and utilises 22-bit A/D conversion and 18-bit D/A conversion with 20dB of headroom. The AF-70 also includes limiting, enhancing, cut and filter func-

the REV500 which is a low-cost reverb utilising 20-bit converters, independent left and right channels, 100 presets and the same DSP chip as used in more high-end reverbs from Yamaha with 32-bit processing onboard.

MISCELLANEOUS

○ **JL Cooper** released two new control surfaces for desktop audio/multimedia applications. The first, the MCS2 Media Control Station for Macintosh OS includes keyboards for control of software such as Media 100, Adobe Premier Macromedia and other

Mac based video systems. The MCS2 has a large weighted jog/shuttle wheel for scrolling through frames and large transport buttons. JL Cooper also debuted the MCS-3000 Media Control Station - which is the top of their range, and the unit features moving faders and is expandable for up to sixty-four fader channels. The MSC-3000 has been designed to control workstations used in music, video and post production and is apparently compatible with most DAWs and most sequencers too.

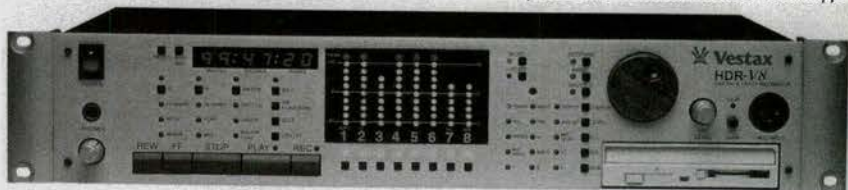
○ In terms of media storage, **Glyph** had a range of impressive SCSI media storage

PROCESSING

○ **Alesis** released their new reverb processor called Wedge which runs 256 reverb and effects programs (128 preset and

tions which are simply switched in/out.

○ **Yamaha** have released



Vestax 8 track digital recorder

The World's BEST HF Driver?

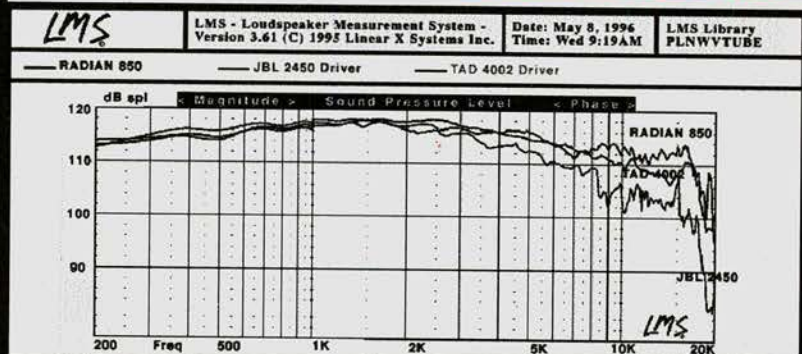
Radian's NEW 850 driver has the best top end response of any HF driver available today. The 850 outperforms other traditional 'industry pacesetters' such as the JBL 2450 and a TAD 4002 (see graph) not only in frequency response but also power handling.

At 100 watts continuous RMS the Radian 850 is streets ahead in power handling with a 33% advantage over the 2450 and a massive 220% on the 4002.

Guess that's why they're used by the world's hottest band Hootie and the Blowfish and at the Atlanta Olympics!



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In fact, you'll find that they are about half the price of the so called industry leaders! So don't compromise - *Get the Power, Get the Savings, Get Radian.*

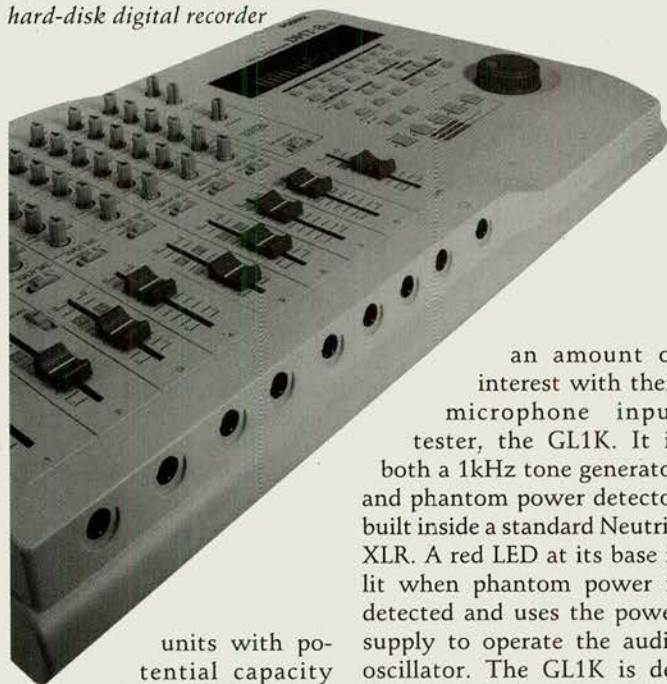
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Write in Reader Service Number: 177

FOSTEX DMT-8VL 8-track
hard-disk digital recorder



units with potential capacity from 1GB to 9GB, and the range is compatible with most DAW and samplers.

○ Although not new but interesting nonetheless was **Marantz's** range of portable presentation systems range from the PAC330 amp and speaker (2 inputs) to the PAC390 with wireless mic receiver.

○ **Neutrik** released their Z-Series, the next generation XLR connectors featuring rapid assembly, gold plated contacts, colour coding and automatic cable strain relief. Neutrik also released their new Patchlink SP and the NYS225, a 1/4" two conductor speaker plug, featuring a large barrel with the capacity for 12 AWG cable. Goldline have attracted

an amount of interest with their microphone input tester, the GL1K. It is both a 1kHz tone generator and phantom power detector built inside a standard Neutrik XLR. A red LED at its base is lit when phantom power is detected and uses the power supply to operate the audio oscillator. The GL1K is designed to check suspect mics, console inputs or signal tracing.

○ Lamp manufacturers **Littlite** released the RLX Raklite which is a single rack unit panel complete with 2 x goosenecks, two XLRs for two more detachable Littlites and 5w bulb and dimmer. Also from Littlelite, the Littlelite Gooseneck Lamp which is complete with a heavy base and dimmer so it can be moved around easily. Supplied with either 2.4w or 5 bulbs. Something for the home perhaps...

○ Although preliminary a Italian company, **Soundlab** displayed an 8in/8out digital mixer called Mixtral. Housed in a small package with claimed features such as full

EQ and parametrics, antipop filter, effects processor, motorised faders and capacity for MIDI or PC control.

○ Finally a case manufacturing company called **Pelican Products** who construct wa-

tertight, high strength equipment protector cases in a range of sizes (and colours!) Made as structural resin and with neoprene O-ring seals with atmosphere purge valve!



Footnote on Namm '97

by Dan Cole

The NAMM Convention has become a fixture of Anaheim for the last 20 years but it's moving! For the next two years NAMM will relocate to the Los Angeles Convention Centre whilst the Anaheim Convention Centre undergoes an upgrade, making it architecturally 'now' and increasing floorspace. You know the deal.

The mood of NAMM 1997 was somewhat sombre perhaps due to this change and understandably; some of the exhibitors aren't too keen on downtown LA but the Anaheim locals don't mind the move. According to one 'local' typical NAMM attendees/exhibitors have their routine: they fly in, attend the conference then at night go to industry functions or go into LA clubbing.

NAMM is the major event on the musician/buyer/dis-

tributor calendar. It is big because you go to NAMM to see the latest in music related equipment from conductor batons, grand pianos, signature electric guitars, percussion to professional audio and lighting.

According to NAMM there were 1100 exhibits and an estimated 60,000 people this year.

It is not just the obscure custom instruments and plethora of equipment that makes NAMM so interesting, it is the diversity of the crowds, from small-town music shop owners from Vancouver, tattooed Los Angeles musician-type-creatures and their amazonian-siliconed girlfriends, to suited manufacturers, distributors, advertising and marketing types sniffing out deals and being so sincere. Oh, and the odd media representative!



NEW AT NAMM

More on next page >

www.arx.com.au

The hottest site on the Net? We think so. Chock full of colour pix and the most intimate details of ARX products, it's ready and waiting for you to come and trample through its pages. **FREE MOUSE MATS!** While they last, for those of you with a rubber fetish. So get in quick - first come, first served.



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Simple Digital from Emagic Ensoniq's PARIS Option

Emagic unveiled their new Digital Audio package at NAMM called Audiowerk8 & VMR, designed as an entry point digital audio workstation package.

The Audiowerk 8 & VMR is combination hardware and software: it consists of both a PCI card and eight channel digital recording software.

Audiowerk8 is Emagic's first PCI card for both MacOS and Windows systems. It provides two analog inputs, 8-individual outputs and stereo digital I/O (S/P-DIF) and Emagic claim that the system is 18-bit equivalent.

The accompanying custom control software is called VMR (Virtual Multitrack Recorder) and features straightforward editing features and basic processing. A virtual control surface allows simultaneous

viewing of all track waveforms and the possibility of replaying all eight tracks while recording two extra tracks. This can be upgraded to 20 tracks within Emagic's Logic Audio application. The Audiowerk8 window or frame architecture is simple and clear with what seems to be straightforward operational functions. The processor card is designed to fit in the PCI slots located in your PC.

Later in the year Emagic plan to release 'daughterboards' for Audiowerk8 optical I/O Extension allowing direct connection of an ADAT and second option, Digital Out Extension, provision for three additional digital outputs for each Audiowerk8 card.

• For more information see Emagic's WWW site at www.emagic.de.

Ensoniq chose NAMM 1997 to unveil their new stand alone digital processing system called PARIS, which stands for Professional Audio Recording Integrated System. Designed to run on either MacOS or Windows systems, in a nutshell, PARIS is "an integrated disk based multi track recording, editing, mixing and MIDI system."

PARIS is simply a card which just drops into a Mac or PC and the system has external hardware such as a custom interface control and expandable rack mount A/D, D/A converters.

The bottom line: PARIS allows 16 real time tracks per EDS-1000 card with up to 128 separate and simultaneous virtual tracks. Current playback lists are not collapsed into bounce formats but are replayed from disk and files can move over into Win-

dows once installed.

The main claim with PARIS is its power capacity. It is a 24-bit system driven by 6 Digital Sound Processors (DSP) engines.

Ensoniq have teamed up with another audio software firm called Intelligent Designs to produce the PARIS system. Intelligent Designs have designed the operational software and the system interface and system designer Stephen St Croix gave one of the most hype-less spiels of the show. It is easy to be taken in by such presentations but Ensoniq seem to be onto something — an open plan and expandable system with enough power to run multi-option, simultaneous digital processing, recording and sequencing. Shipping in May or June.

• Ensoniq have Web site at <http://www.paris.com>

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Write in Reader Service Number: 180

Matrix Mixer For Installations

Allen & Heath have entered the digital processing world with the DR128, a digital audio mix processor designed for contract and system installations to enable complex mix matrixing.

Housed in a 2U high package, the DR128 comprises 12 inputs and 8 outputs as a cross point matrix which allow for most, if not all installation audio functions. These include mixing, gain, levels, gates, compressors, crossover, ducking, parametric and graphic EQs. All processing can be accessed for each input and output.

All mixing functions of the DR128 can be routed and adjusted via an external PC using compatible software WinDR System Manager, a 32-bit Windows 95 application so all functions and parameters will be then screen-based. Internal processing

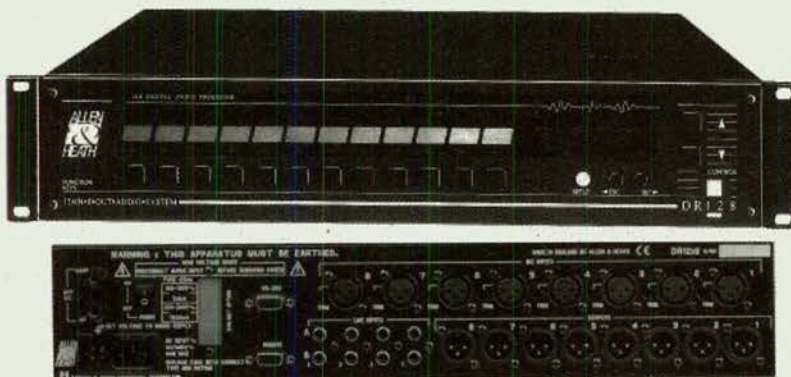
is done through a 24-bit Digital Mix Processor and a specially designed interface between the DSP and input/output circuits called T-MIX ASIC. The DR128 can also be expanded to triple power capacity of the standard unit.

There are two ASIC + DSPs in each DR128 which handle all mixing, level control, and signal processing 'palettes'. The idea is to bring in a laptop to the site, set up, adjust and lock it off and it's done. The fascia of the DR128 is simply laid out but difficult to tamper with (for those not knowing what they're doing) and there is password protection as an added security layer. It is also possible to ar-

chive installation set-ups through external media or configurations and parameters can be saved to the units 16 internal memory patches. Another feature is the DR128s capacity to run from a single 24V battery backup in the event of mains failure due to its combination switch-mode and linear topology power supply. Allen &

Heath say that the DR128 is designed for such applications as theme or karaoke bars, zone paging with background music, module conferencing found in hotels, theme parks, law courts.

• More information on this product may be found on Allen & Heaths new web site at: <http://www.allen-heath.com>





a touch of excellence



M.I. 8	
Frequency Response	50Hz - 20kHz
Power Handling RMS	150W
Enclosure Material	Polypropylene
Sensitivity (1W/1M)	93dB Nominal
Impedance	8Ω SPL
Programme Power	300W

M.I. 8 \$490 rrp
M.I. 12 \$999 rrp
SUB 18 \$1300 rrp



Crossover 150 Hz

Biamp System

M.I. 12	
Frequency Response	45Hz - 20kHz
Power Handling RMS	300W
Programme Power	600W
Sensitivity (1W/1M)	98dB SPL
Nominal Impedance	8Ω
Enclosure Material	Polypropylene

*The Sub 18 combined with the M.I. 12 enclosure makes for an **EXPLOSIVE 800 W (RMS) SYSTEM COMBINATION***

SUB 18	
Frequency response	35Hz - 500Hz
Power Handling RMS	500W
Programme Power	1000W
Sensitivity (1W/1M)	100dB SPL
Nominal Impedance	8Ω



M.I. 8 and M.I. 12
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LETTERS

*#//@%XX -?!

Ethernet corrections

Currently Ethernet transmits at 10 megabits per second, quite fast but not as fast as the 10 megabytes that the article mentioned. 10megabytes/second would equal 80megabits per second.

Just nitpicking, sorry couldn't help myself.

-Greg Weaver, Sydney

Firstly I've been a subscriber since "Channels" and I love the magazine. I'd like to see more reviews/info on smaller gigs and the tricks of the trade.

There is however one thing that bugged me about last months issue (Feb 97), I think either the typo gremlin has struck again or you've got one of the dyslexic keyboards.

Sorry for being picky but you said that ethernet runs at 10 megabytes per second.

I wish mine did!

Ethernet actually runs at 10 megabits per second (roughly 8 times slower). And the new ethernet certainly won't be running at 100mB per second. I think you had dB (decibels) on the mind, mB implies milli bytes or 1 byte every 10 seconds. The correct symbol is 100Mbits/sec.

The third typo is the speed of your internet connection most likely 28.8kbts/sec.

- Grant Simonds, Carlton Vic

CISC not ASIC in MAC

Re Digital Audio article in February - the PC has a CISC (Complete Instruction Set Computer) not an ASIC (Application Specific Integrated Circuit).

-Helmut Schiretz. ACT

Thanks to all readers who take the trouble to write in!

LETTERS: PO Box 439 Epping NSW 2121; fax 02 9876-5715, email: mail@conpub.com.au

Reader Comments

These are all 100% genuine, and we haven't deleted any negatives!

"If you keep working, I'll keep buying"-**Paul Ochsner**, WIN Television, Hobart.

"A great informative magazine. Perhaps some reviews and live testing of loudspeaker systems could be organised in the Future."- **Leon Smith**, Teacher, Goonellabah, NSW.

"Great Mag!!!" **Christopher Snape**, Student, Gunnedah, NSW.

"Great Mag! As a Professional T.V. Cameraman (A.B.C. TV Darwin) and Musician, vocals and guitar, I find this mag invaluable keep up the excellent standards" **G.J.Meyer**, ABC TV, Darwin, N.T.

"I am not interested in an English magazine- keep going. Thanks for a great Magazine." **Richard Freeman**, ATPS, Hornsby, NSW.

"Lights, Lights, Lights, Lights, Lights, Lights, Lights, Lights." **Bobbi McGill**, Optim A/V, South Melbourne, VIC.

"When advertising products, there should be a rough estimate of how much the product is worth. Thank you" **Richard B. May**, Student, Leura, NSW.

"Great Magazine, Keep it up, Reader Service is Tops!" **Mr Peter MacGee**, Student, Leumeah, NSW

"Sensational Mag, Covers all aspects of the Industry beautifully- I buy it mainly for the audio section. Keep it up." **Peter Letts**, Sound Editor, Springvale South, VIC.

"Bigger lighting section- more club reviews (also more WA clubs) -keep up the good work!" **Tristian Chaney**, Audio, Lighting (AVLA) Greenwood, WA.

"Top Magazine" **Tim Matthews**, Assistant Sound Engineer, Bawley Point, NSW.

"First Time I have seen this magazine, very informative" **John Maxwell**, Broadcast Engineering Officer, St Huberts Island, NSW.

"Great Reviews and honesty, it seems overall enjoyable informative reading, Thanks" **Brett Hitchcock**, Singer/Songwriter, Tallebudgera Valley, QLD.

"The recording of Pacific Drive and the Pro Talk on DAT recorders this month were both very relevant to my field of work." **Paul Ocshner**, Audio Operator, Hobart, TAS.

"Keep up the Good Work. As a professional in broadcasting (TV) and a musician I find your mag invaluable." **Gerry Meyer**, Snr Cameraman ABC TV, Darwin, NT.

"Excellent- my Students like the pictures and I, the stories. The Educational/Training feature

was very helpful." **John Daly**, Teacher, Carina, QLD.

"More on Intercom Systems (10-14 persons) Video Editors and Mixers. Video Deck controlled b Multi-VCR Switches with time code interface and Cameras Hi-8 and S-VHS, Video viewing monitors." **Tony Sondergeld**, Highfields, QLD.

"Is Connections thinking about throwing an industry or a subscribers Christmas Party?" **Jamie Powell**, Rozelle, NSW.

-Editor responds: we have an idea re this and hope to advise in the future!

"More Pages, articles like the PA page. Put reader service card on web page (Internet)" **Greg Seedsman**, Interested Reader, Mitcham, VIC

"Its a great mag, keep up the good work, I would like to see info on satellites in your mag" **Darrell Harper**, Lighting/Sound operator, Blaxland, NSW.

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D. Willis, SAE Student, Mitchelton, QLD.

"I suggest a more thorough view on speakers (3 way)" **Mark Tigani**, Image Production Manager, Tigani Designs, Keon Park, VIC.

"Keep up the good work" **Andrew Marsh**, Student & DJ, Melbourne, VIC

"Education Guide was very helpful. PA page is great" **Ben Armstrong**, Hurlstone Agricultural HS, Picton, NSW.

"Keep up the interesting Articles" **Greg Ling**, Burnie City Council, Burnie, TAS.

"Wheres the Comics ☺!!" **Eddy De Young**, Product Manager/Audio, Amplified Voice Co. Springwood, QLD.

"Great Mag" **Damien Wells**, Lighting Designer, Hobart, TAS.

"More info on tours/concerts. Larger PA page" **Matthew Botherway**, Student, Vermont South, VIC.

"More lighting articles, maybe one or two things concerning Stage Managers. Other than that you guys are doing well. Love you, love the Magazine" **Adrienne Waters**, Freelance Lighting Tech, Manly, NSW.

"More Articles like the PA Page" **Greg Seedsman**, Technician, Mitcham, VIC.

"I would like to see some articles about what is legally required regarding to inspection of power cables, equipment, truss, rigging etc." **Scott Hassett**, AV Technician, Video Projection Services, Daw Park, SA.

"Excellent Magazine, it is VERY informative and really helps me understand more about my favorite industry, keep it up." **Johnathon Stimson**, Sound Engineer, Darlinghurst, NSW.

"Loudspeaker buyers guide a little incomplete, not your fault, but distributors missed their chance for a little free publicity. I recently went to your office and purchased a DMX book and an old Connections back issue and found your staff to be ex-

tremely helpful and efficient, thanks." **M. Allen**, Lighting Tech, Burnett Heads, QLD.

"Excellent Magazine- I read it cover to cover every month" **Uwe James Seil**, A/V Operator- Intercity Gearhouse, Eastwood, NSW.

"I find this a good all round magazine (however I'm greedy) I'd love more on Audio & recordings & more equipment reviews. Thanks." **Chris Clarke**, Audio Engineer, Doveton, VIC.

"Excellent Print Quality and Medium used. Well rounded content. Keep it up!" **John Ven**, Managing Director Lektrakad Australia. Strathfield. NSW,

"Great Range of Articles and Product Info" **L. Woodhall**, Tech/Musician, Yeppoon, QLD.

"My better half and Myself love the technical columns and the reviews of OB's and Studios. Also AES by Howard Jones made more sense than ever (no offence to the other journalists). Keep up the good work, Thanks" **Glen Waller**, Crew Installer, The Grange, QLD.

"Best Value read available, bar none! I also believe you. You have not forgotten the little people. A long happy life for "Connections" and all involved in it. Thanks" **Dave Griffiths**, Double Edge Music, Pensioner/Guitarist, Nelson Bay, NSW.

"Just perfect on the Lighting Side" **Pedro Silvestre**, CHT Aust., Dandenong, VIC.

"I have worked across the world and I find that your magazine covers every aspect across the industry, well done! Keep up the good work." **P. Chappell**, Manager, P.S. Communications, Glenelg, SA.

"Keep up the good work" **G. Turner**, Technical Designer, White Lighting, Gladstone, QLD.

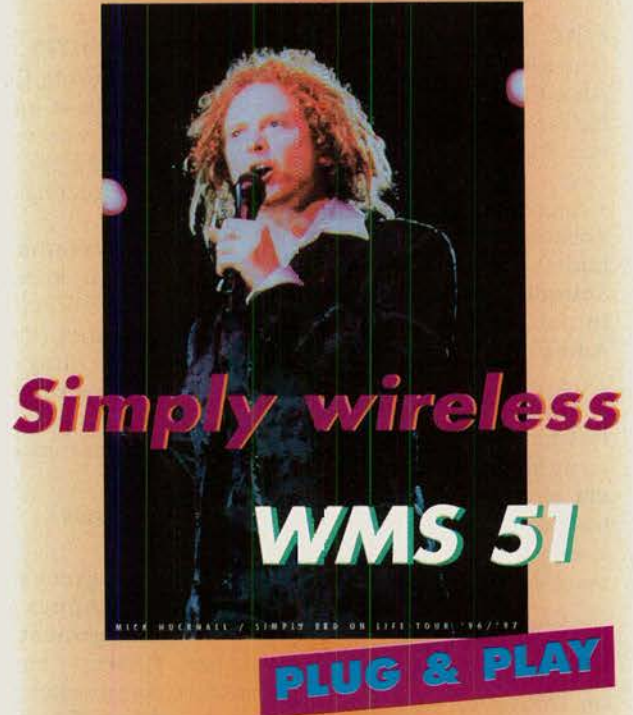
"Continue being informative and current" **A. Yeo**, Putney, NSW.

"Good, Clear, Full of Info, Great Reading" **Michael Smythe**, Sound and Lighting Technician, Smythe Sound and Lighting, Springfield, QLD.

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(continued from page 11)

- **AVLA (Perth)**- the new fax number is (09) 228 1822

CONTRACTS, DEALS & DISTRIBUTION

• **AC Lighting Ltd.** is now represented in Australia by **Alex Cross**. Contact Alex on Ph/Fax 02 93699 2826 or Mobile 0414 461968.

• Appointed dealers of the US Robotics CS1000 Conference Link product include **Soundcorp** and **Corporate Initiatives** in Melbourne and **Adtec** in Sydney.

• **Production Audio Services** has been named the new agent for British manufacturer **xta electronics**, who make a host of audio processing devices. Contact them for the range details.

AWARDS

• **Eastcoast Audio**, Australian Distributor of Aphex signal processing Products received two awards at the recent NAMM show by Aphex USA. One for Distributor of the Year 1996, and one for the Largest Distributor Growth Award.

• **Blacksheep Productions** were part award sponsors for the Big Day Out's *Boiler Room* video contest. The winner was Doug Bayne and part of his prize was a digital editing package c/o Blacksheep Productions.

NET SITES

• **Frontier Touring Co.** has a web site which is an access door to other music related sites around the globe. <http://frontiertouring.com.au>

• **ARX Systems** have launched their home page which features full product details, user manuals, (this is the absolute best thing to put online - Ed) applications notes, product reviews, etc. <http://www.arx.com.au>

NEWS

Behringer Agrees to Pay Damages on Aphex Patent Infringement

Aphex systems have announced the settlement of their claims against Behringer for patent infringement on the Aphex Aural Exciter for approximately \$450,000 (US).

BASF not pulling out

A news item in the Sydney Morning Herald's *Guide*

(Feb.17) 'BASF Stops Taping' stated that BASF has 'quit the tape business' and that Turkish-based manufacturer RAKS Group had taken over the company. We approached BASF about the article and Tim MacLachlan, Business Group Manager sent this response:

"On January 1 1997, a Korean firm Kohap acquired BASF Magnetics GmbH of Germany. BASF Magnetics GmbH has since been re-named EMTEC Magnetics GmbH. Nothing else has changed. It is still the world's largest manufacturer of magnetic recording media and plans to continue as such.

The brand name "BASF" will continue in use for years.

HIRE, SALES & PRODUCTION NEWS

• **System Sound** have been hard at work with the Sidney Myer Music Bowl Summer Concerts, using a Meyer system. System Sound have also designed and are engineering the *Hot Shoe Shuffle* 1997 tour and the Melbourne Theatre Co's production of *A Little Night Music*. (03) 9529 2633

• **AVLA** has won the contract for the new Joondalup Tavern supplying and installing AV equipment. (09) 227 1399

• **Alan Moran** from **Saltbush Productions** inform us that they now have a van sized single 3-way system. Call them on (02) 9918 6668

• Recently **Bytecrafft** were involved in the installation of lights and control system for the Arts Centre Spire in Melbourne for the Australia Day Celebrations. (03) 9587 2555

• Two complete Gentner TS612 Broadcast Multiline Telephone Switchers have been sold by **Radio Support Services** into broadcast facilities in Fiji. Call Richard Flemming on (02) 9457 8800

THEATRE NEWS

• The **NZ Association for Theatre Craft, Design and Technology** is holding its next biennial conference over the weekend of Friday 4 to Sunday 6 April 1997. It will be held at the Rutherford Hotel, Nelson, in conjunction with the Musical Federation of New Zealand.

Contact Ross Foubister for details of speakers, conference program and exhibitors. Ph. (04) 471 4239 or Fax (04) 471 4230.

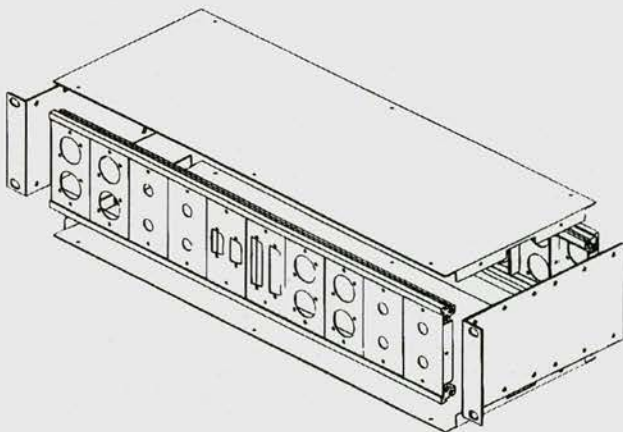
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Harry's Pageant breathes life into old hall

Harry M Miller's latest theatrical venture entitled *Pageant* (or jocks-in-frocks by some people) has opened at the newly refurbished Paddington Town Hall.

Pageant is a send up of American beauty pageants but the difference is that the women are all played by men. The amateur beauties represent six regions of the United States and vie for the crown of Miss Glamouresse, an annual promotion by a fictional beauty company. The smarmy M.C. directs the swimsuit and evening gown parades, as well as a talent contest, in a fun and enjoyable evening's entertainment. The winner is different every night as members of the audience are picked as judges.

The old Paddington Town Hall makes a good venue for this kind of cabaret theatre where the audience can sit at tables and enjoy drinks.

Pageant is directed by Richard Wherrett, designed by Michael Scott-Mitchell and choreographed by Ronne Arnold. Sound was designed by the combined talents of Greg Rosman, Peter Ratcliffe and Dave Sneddon

of Jands with input from the sound operator Gavin Tempany.

Gavin only graduated from the Western Australian Academy of Performing Arts in 1995 but has already secured some impressive work including touring the country as *Renegade Funktrain's* sound engineer, working on Paul McDermott's show *Mosh* in Melbourne with Coda Audio and working on the ill-fated theatrical production of *Peter Pan*. He puts his 'luck' down to several factors - his training at WAAPA and the fact that he gets on with the people he works with.

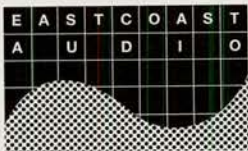
"At the WAAPA course we're very specialised in what we do," said Gavin. "We can sit in a studio seven days a week if we want to. When you walk out into the industry, you're not intimidated by anything. You can walk into any sound situation and know what to do."

On *Pageant* the eight Jands' JBL 4726 boxes with bi-radial horns were used - six flying and two on the floor. Several Control 1's were used for front fill, and Control 8's for

monitoring the band. Microphones are all Shure transmitters with Shure 83 capsules included six lapel mics, one hand held mic, two mics for the keyboards and one for the electronic drums.

"As far as onboard gear is concerned, this room is so live I don't need anything like reverb," said Gavin. "There are a couple of compressors. The sound desk is one of the new Soundcraft K1's. The most difficult part is getting the lapels above the band. We've gone to the extent of having an insert over a group just for individual people talking and there's another group with another insert for the ensemble group just purely for volume reasons. It's been tricky and it's still an evolving process."

Sound wise, the room at Paddington Town Hall is markedly different when people are in it. The first week of rehearsals when there was no furniture or people about was apparently a bit of a nightmare but Gavin pointed out that, with an audience, the sound was settling down and actually sounded good. The roof contains paneling



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which can be moved to let sound through or close it in.

Popular lighting designer Trudy Dagleish hasn't had a day off since last November and has promised herself a holiday after *Pageant's* opening night. Since putting *Beauty & The Beast* into Sydney last Spring she has transferred *The Rocky Horror Show* into Perth and Adelaide (she'll be putting it into Hong Kong in April), designed *Hey Hey It's Cinderella* in Melbourne for Christmas, designed all the Domain shows over Christmas, and designed the Stephen Sondheim musical *Passion* at the Seymour Centre.

"And here I am about to die!" she joked. "Pageant's been an interesting experience for me. On all my shows lately I've been using the Jands Hog, the 600 for *Rocky* and *Cinderella* and the 250 for *Pageant*. On *Pageant* I've finally learned how to operate it instead of getting someone to programme it for me! I really love the Jands Hog desks and I think it's fabulous that they've finally come up with a good desk that'll do conventionals, Vari*lites, col-

our changers, strobes or whatever you want to plug into it. As a lighting designer, it enables me to be a lot more versatile and from a producer's point of view it cuts down cost as you're cutting out an operator and a desk."

When I visited the show Trudy she was busy up the rig because the noise guys had been having trouble getting foldback on stage so they moved all the speakers. Trudy had actually creatively designed around the speakers in the first place so she was a little upset when they were moved particularly as access to the rig is very tricky.

Originally the show was going to be done purely with Par cans and conventional lighting but it was decided that a row of Par

cans would interfere too much with the set.

"I had to cut sixty lamps but Jands were kind enough to replace them with eight VL5's which work really well for this show," Trudy said. "I love using VL5's and VL6's for theatre, they're fabulous lamps - very small, run off DMX and there's no fan noise what so ever."

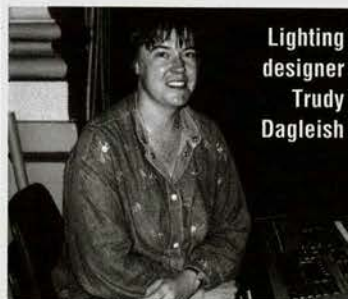
Although all the creative team saw a video of the American production of *Pageant*, the Australian show is totally different. In America it was produced in a ballroom where the roof was only 15ft high, in Paddington Town Hall the truss height is 31ft.

"We also had the constraint of the Town Hall where I could only rig a certain amount of weight in the roof because all of the RSJ's are still the old wooden bearers," explained Trudy. "We have one person only who is allowed up in the truss and that person is nine stone, no one heavier is allowed up there. We had to pick our crew accordingly! All of the front of house positions are on scaffolding so that whenever someone walks past, the whole structure shakes. It's been an interesting experience working in here but it's great to see it used as a venue."

The lighting was totally left to Trudy



Sound operator
Gavin
Tempany



Lighting designer
Trudy
Dagleish

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to design and naturally incorporates a lot of pink and lavender to match the pink set. There is some saturated colour provided by the Vari*lites.

"We're not using many instruments - 36 Par cans, 12 1K Profiles, 10 Fresnels, 8 Vari*lites and a couple of Ministrips," said

Trudy. "The show runs for an hour and a half and we've plotted 220 cues in that time so things are always moving. Not necessarily using moving lights as moving lights, but moving them to a different position during back out. There one followspot operated by Sue Fern who doesn't have one second off

during the entire show but gets to do some creative followspotting - she can play along, iris in and out and generally do tacky things you wouldn't normally do. At the end of a show everyone is really tired as it's very demanding of the crew. The crew is done to an absolute minimum, the Stage Manager operates the lighting desk, there's one Assistant Stage Manager backstage who does all the curtain, lift and prop cues, and one person in wardrobe. There's one followspot operator and one sound operator with no one backstage doing radio mics. But it all seems to be working and we've had no disasters."

Trudy also had to light the foyers, auditorium and the outside of the building with a collection of neon and mirrorballs - the tackier, the better.

"The idea from Harry was that you were to walk into the building as if you were coming to an awards show so there's red carpet out the front, festooning round the archways and pink washes in all the foyers," said Trudy. "All of the auditorium is lit with little birdies shooting up the columns in different colours. We were going to do a roof wash in lavender but I priced that at \$650 for gel which was too much. But it still looks really pretty." **-By Cat Forcer**



Wanted: Human Counterweights

Circus Oz's latest show is called Aqua Profunda, staged in Moore Park, Sydney. Madeleine Murray went inside a huge red and yellow tent to check out the technical staging of the production.

Working for a circus is vastly different from staging Ibsen in a proscenium theatre. "Pissing in a harness is the hardest part," according to rigger, Derek Ives. Read on to know what he's talking about.

The show, Aqua Profunda, is staged in a huge red and yellow tent, set near the Easter Showground in Sydney. The atmosphere outside the tent has that same rundown, seedy feeling that circuses always do. A generator throbs, wardrobe and makeup are set up outside in ship containers. Wind blows hessian strips off the fences. A group of caravans are bunched together in the dry grass near the exit.

Inside the tent, performers are stretching on the central mat getting ready for the show. Overhead, the riggers are scrambling around fixing ropes, pulleys, and flippers for the show. The band are running through some jazzy tunes. A 10m blue pole is being carried in.

The sound

Darren Steffen is the sound designer, and engineer. Circus Oz have a multiple send system, with delay zones. Most of the speakers are up in the truss, because the show is set up in the round, like your traditional circus, only with one ring. "I wanted to spread the sound out," Steffen said. "It's just not enough having the sound coming from one general direction, because people sitting closer to the band get it quite loud, and the people sitting further away don't get it at all. I've flown most of the speakers, so that we get

the sound right above the audience's head, coming down."

The tent also causes problems, it's not a good natural space for sound. The material is a rubber-plastic, so it is bouncy. "It's like a cave with shining solid walls," Steffen says. "You get a lot of reflection, so it's good to have the sound pointed down at people's heads."

The band is a core of three, but the circus performers join in during the show. Circus Oz has a policy of multi skilling. The finale has the entire company playing instruments onstage. Sometimes Steffen is getting 3 signals, and sometimes 20, so he has to be able to accommodate a wide range.

The mixing desk is right up at the top of the rows of wooden benches. "I would probably have liked it to be a bit more central, but you're always battling seating," Steffen says.

Steffen's got 23 lines of sound coming off the stage. He uses mini disc for sound effects. "That's something that I've brought to the circus. Before, they just relied on the stage music for sound, but I've given it extra depth by providing special effects."

The show is set underwater, and Steffen uses lots of water

sounds, bubbles, splashing, gurgling. He recorded most of the sounds himself, and took some from stock. In Melbourne, he has a sound studio and library, called Medianex Music. "The effects are an ongoing process. The beauty of it, is that it can change with the show. I try to generate as many of the sounds myself, because then I find them totally appropriate to the show."

Up in the mixing area, Steffen has a Soundcraft Spirit. "It's the first time I've used this one. It's not too bad, it's quiet, and compact. I really like it, it's easy to get around."

A few weeks later, Bill Vickers, from Aardvark Audio is filling in for Steffen during the troupe's extended run. "We use Deltamax speaker system, because it's the entry level of your processed system," Vickers said. "It's a step up from your Cobra box. It's value for money, and a good professional performing system for people on a budget. The amps, Australian Monitors, are good. We're running a three way system, lows, mids and highs. The AM200 is designed for that, and it's excellent."

They use Shure 58 mics on the vocals, and Shure 57s Sennheiser 421s on everything else. "They're good, because everyone knows what they sound like," vickers said. "For me, it means that I know what characteristics the sound will have when I walk into a new situation, like now. I've been using Shure 58 for fifteen years, so I know what they're going to sound like."

Lighting

The lighting designer is Ben Cobham. The operator, Gina Gascoigne, started out in the late 70's, in rock and roll lighting, at Jands.

The rig is a basic rectangle, above the centre ring. "It's mainly Parcans, with about 12x2.5K fresnels, a rock and roll rig," Gascoigne says. "We had a couple of scanners before, but we couldn't afford them this time. I've never worked with scanners, because I normally work in theatre and dance. I'm a bit of a Luddite. We're also using three follow spots, a lot of little halogen dichroics, and Selecon Acclaim Profiles. They're 650w,

(continued on page 37)



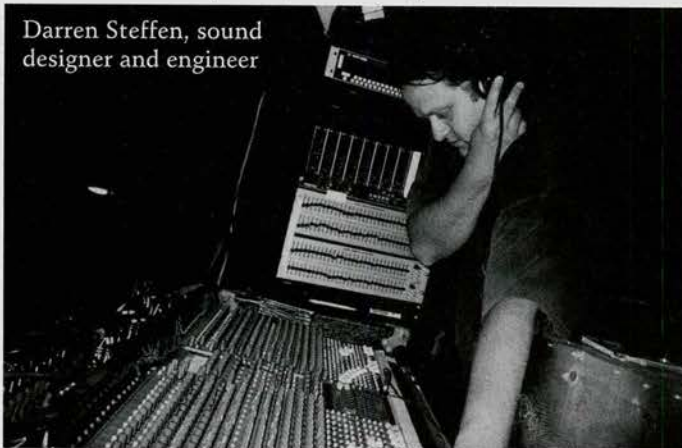
Derek Ives, rigger.



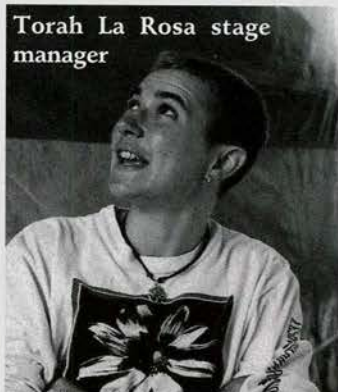
Clytie Smith, asst rigger



Gina Gascoigne, LX op.



Darren Steffen, sound designer and engineer



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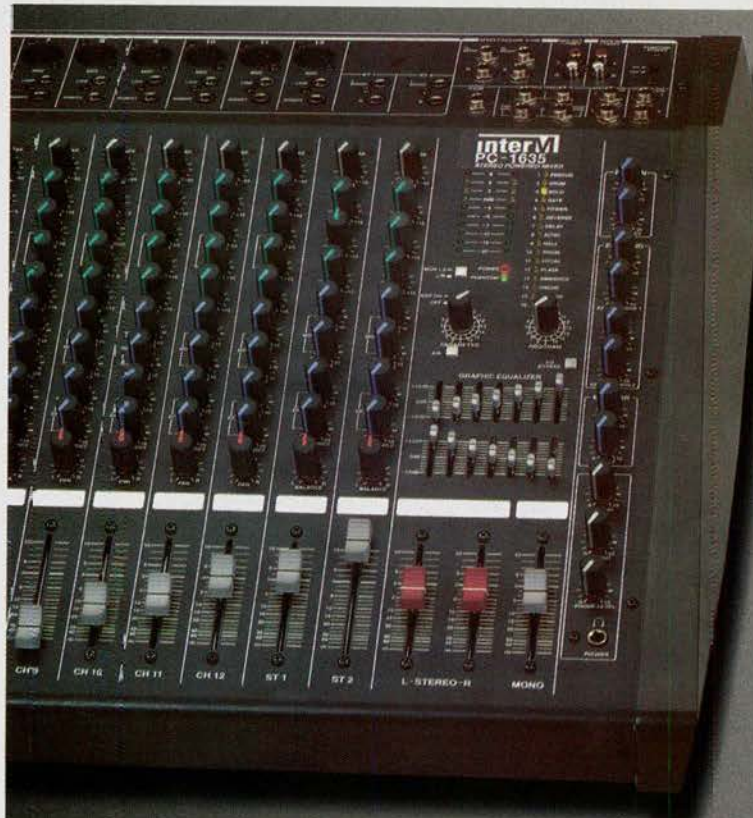
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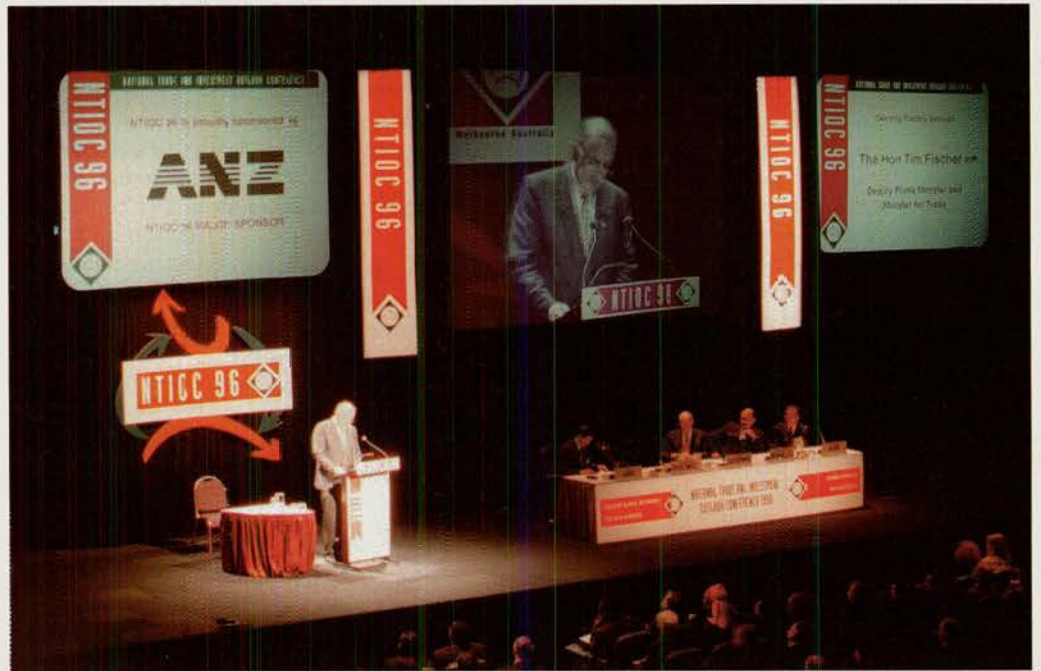
The National Trade and Investment Outlook Conference (NTIOC) is the largest domestic trade forum organised by the Australian government. Staged at the World Congress Centre Melbourne recently it presented a challenge for Multivision Australia to demonstrate their expertise in staging large-scale conferences.

Multivision were appointed, for the fourth consecutive year by Conference Australia, a leading conference organiser, to supply Technical Direction as well as all audio visual equipment and operation.

Multivision's Technical Director, Craig Williams said: "The primary concern in this type of conference is to adequately cater for the many varied requirements of the delegations. The specification calls for a structured approach to the equipment to maintain the continuity of the event, yet there must be the flexibility to tackle any program or room changes as they happen."

"These types of changes are inherent in a major international business conference for reasons such as airline flight changes, sickness and even loss of luggage. The satellite link on day three was added 6 days before the conference when the keynote speaker was required to stay in the USA for a critical meeting. Crew scheduling takes a careful approach to keep the operators fresh yet still complete room changeovers and alterations."

The NTIOC schedule was a tight one. The conference opened easily enough with a cocktail party in the 'Business Connections Lounge' for 800 guests on the Monday night (day one) that



required only source and lighting support. Audio coverage of the area was achieved with a flown Meyer UPA / UPM system and Soundcraft Delta console, 12 channel media feed and lighting to suit camera crews.

Day two, however, was considerably busier and began with an opening session in the 1500 seat John Batman theatre. Three screens on stage surrounded by conference branding was the main focus for the audience. The screens showed individual feeds combining Betacam replay four computer sources, a multi-media program and two live cameras. The sound system comprised a flown Meyer UPA/UPM system, and Soundcraft Venue 2 console.

Immediately after the opening session concluded, delegates split up to attend smaller conference sessions. Each smaller conference room had to be able to cater for guest speakers from all over the world and so, in addition to sound, stage and screen requirements, there was PAL and NTSC video replay available as well as all video formats -

Betacam, SVHS, U-Matic and computer interfacing.

To maintain sponsor profiles, an operator controlled computer (feeding to a ScanDo scan converter) was used to intersperse speaker support and video presentations with a rolling display of sponsor logos and speaker introductory slides. The flexibility of the ScanDo allowed constant images on-screen whilst enabling smooth switching to RGB for the speaker support segments whilst also permitting last minute graphics changes. No conference would be complete without the obligatory slide projector and the old faithful OHP - one in each room - and yes, pec-

ple still use them! A total of 10 rooms were in operation for audiences of up to 200, all with this capability.

Sound for the smaller rooms was combinations of Bose speakers and Yamaha or Soundcraft consoles. Video projection was Sony 1272. Microphone specification calls for condensers for headtables, '58s for Q&A and goosereck style lectern mics as well as radio lapels in each room.

The total requirement was 40 x SM-58, 76 x AKG/Sony/Shure/Shoep condensers, 12 x Scny/Shure radio lapel and 50 x Isomax 4/ Shure SM99 lectern mics.

The morning sessions of day two were followed by a lunch-



eon for 1,000 in Bellarine rooms 6 and 7. Two video screens (Sony 1292) helped bring the action closer for the back rows using a 2 camera shoot during the address by Premier Jeff Kennett. Sound utilised a delayed/flown Meyer UPA system for coverage and Soundcraft Spirit console. Always a draw card for the press, Mr. Kennett's words were recorded clearly via 12 way media splits located at four specific camera risers around the room. Lighting catered for the media crews reducing the need for distracting 'sun-guns'. Lunch was followed by a further 10 simultaneous conference sessions.

The tight schedule of day two was maintained with a cocktail party hard on the heels of the afternoon sessions. Whilst delegates continued the important role of networking, Multivision departed to the 12 restaurants allocated for the evening's festivities, all of which required au-

dio visual support. After returning from an evening's hard toil, the crew assembled to re-set rooms for breakfast presentations the following day.

Following the breakfast presentations of day three, delegates split up to attend separate sessions; again all the sessions required an operator and comprehensive audio visual support. During this time, other Multivision crew relaxed by establishing a two-way satellite link with the United States that would be the high-point for the 1,000 lunch guests. Despite a warning from Multivision's Events Manager, Richard Watson to: '...never work with satellites or children' everything ran smoothly.

The afternoon of day three required operation of a further 10

sessions to groups of up to 200 whilst, simultaneously, technical checks in the 1,500 seat theatre were undertaken in preparation for the closing session. In addition there was a press conference room for use at short notice by visiting delegations, an off-site business forum for 50 delegates using DIS conference microphone system and the odd client briefing session.

Despite a warning from Multivision's Events Manager, Richard Watson to: '...never work with satellites or children' everything ran smoothly.

A crew of 24 managed the de-rig the 20 tonnes of equipment in just over 6 hours. Every conference session and press conference was recorded on audio cassette, yielding a total of nearly 100 tapes that were labelled and despatched to the client with the greatest of haste. Multivision's Operations Manager, Craig Williams, bore the brunt of en-

suring the event's success and his meticulous planning over a nine month period was essential to delivering a smooth running show. The secret of his success? 'An inbuilt dislike of sleep.'

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Tent Show (continued from page 32)

but they're really punchy, so they look like a 1K.

"It takes about three days before opening night to fine tune everything. It's tricky rigging here with lighting. It's not like you can just go in and put it all on a truss. You've got to keep out of the way of the rigging gear. It's difficult sometimes, with arguments going on. 'I want to put a light here!' 'No you can't, there's a cable going there!'"

Each truss has three 2.5Ks on it, for a basic wash. "It's more difficult to put lights on the trusses going across, because of the rigging," Gascoigne says. "So the side trusses tend to be loaded up a bit more. And the centre trusses, where you always want to put lights, are full of cables and ropes. So you usually have to outrig a lot."

The lights have to be readjusted before every show, because no matter how tightly they are locked off, they tend to move. Trapeze acts take a toll. Gascoigne checks them before the show, and at interval for focus.

Gascoigne designed the last Circus Oz show. "It's quite a challenge. You don't get a total blackout, because it's in a tent. It's in the round, so lights have to work from all angles, but not look too bland."

The hired equipment is from Roger Hind, and Gascoigne is very pleased with it. "His equipment is great, always in good condition."

Stage Manager

Well, Torah La Rosa, what's it like stage managing a circus?

"It's a bit manic, a bit mad, oh you know, not really, it's more like safety issues..."

La Rosa arrives four hours before the show, sweeps and mops the floor, sets and vacuums the tumbling carpets. "Then I bring in the 10m Chinese pole, and do something that's called shitting it. I'm not allowed to tell you anything more than that," she says, cryptically. She sets the knockabout table, making sure that it's slippery by cleaning it with metho, then sprinkling it with baby powder.

During the show, La Rosa pulls up the jalopy, gets in a harness as a counterweight, spins a web rope, and wraps a stuffed cat in bloody bandages. When Tim balances on a tower of eight chairs, La Rosa holds the other end of his safety rope offstage, in case he falls. "If he falls, I make his landing softer. He hasn't fallen, but you have to really concentrate."

When the jalopy comes off one end of the stage, La Rosa runs around and sets it somewhere else. She does a bit of grinding for some effects, "runs across the stage being stupid," and plays bass in the pole act.

After intermission, she strikes the pole, sets the tightwire, and the Russian rings, plays a shaker, sets tumbling carpets again,

and plays the bongos in the finale.

After touring five and a half years, La Rosa's aspirations are "a holiday, and a higher wage!"

The rigger

Derek Ives is a colourful looking character, with large round holes through his ears, 'HOLD' tattooed on one inner wrist, and 'FAST' on the other. For this show, Ives and his funky looking assistant Clytie Smith, have flown seventeen pieces of concert box truss. Off that, they've hung a static double trapeze, a swinging solo trapeze, and a cloud swing, which is a 7m piece of rope with the two points 3.5m apart. There's also a centre pull up, that's got a 10mm stainless steel wire run that goes to a purchase system, with a triple and double block pulley, so they can haul up the jalopy with passenger.

The aerial truss rig has a series of catwalks where the riggers can crawl around, hand out and stow away ropes, trapezes, and props, like flippers, and juggling clubs.

At interval they change the centre pull up, and attach the 'Russian rings,' two steel rings about 2m diameter welded together, with a ladder running around the edges. This is paged it out to the king pole at the side. Two performers climb up the king pole, and get into the rings. The riggers release it from the king pole so it swings across the circus ring. The performers swing on it, then stop it dead centre, spin it, and do a series of trick in it, up in the air. "It's a fairly hefty piece of apparatus," Ives says.

High in the air is the 7.5m long roof walk, a separate truss bolted to the box truss on the underside. This is a bit of apparatus that someone clips into, and walks upside down. There's a counterweight system where someone clips on two lines with a parachute, and is flown up to the roof walk. The effect is they are parachuting upside down, and land on the roof walk.

In this stunt, Ives himself is the counterweight. The lines run up and along the roof walk, and over to the king pole, where Ives is clipped onto the end. He climbs down the kingpole in harness, and flies the performer up. "It's kind of pleasant to do," he says.

Pissing in a harness

"You always have to go at interval, and there's no time to take your harness off, so it's essential for a rigger at Circus Oz to know how to piss in a harness," Ives confides.



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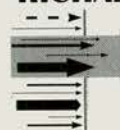
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Write in Reader Service Number: 120

O3D



Yamaha's new digital mixer

By Robert Alexander

The O3D, as it has been named (Yamaha do like their numbers don't they?), is a smaller console than the O2R, but somewhat larger than the ProMix 01 console released in 1994.

It has been designed, feature-wise, to fit somewhere between the two, though it has to be said that many of the features found within the new desk are those that were originally found in the O2R, rather than in the ProMix 01. In fact Yamaha have managed to find a way of including within the O3D many of the 'wish-list' features that original O2R owners had requested so, in many respects, this newer, smaller counterpart is actually in advance of its significantly more expensive stable mate.

Physically, the desk is very pleasing to the eye, having been designed to sit within an environment that you could quite easily imagine to be a post-production facility or the like. This console is, in fact, so attractively-priced (at A\$5995) that it will, undoubtedly, entice people who might otherwise have never considered any digital mixing products, to reconsider.

Yamaha should receive great praise for this effort, as with their new REV500 reverberator, somebody at the company has been giving a great deal of thought lately to

the user interface, and interaction with it.

Configuration

With a total of 26 inputs (eight of which are digital inputs) and four bus outputs, six auxiliary sends and eight digital outputs via the Yamaha General Digital Audio Interface (YGDAI), the O3D should have enough routing capability to satisfy the requirements of even the most flexible of users. Each of the channel inputs has a four-band parametric EQ and a separate dynamics processor, both of which are based on the current flagship processor, FroR3.

On input channels 1-8 there are balanced XLR and jack connectors which can be individually switched for +48v phantom power. While only channels 1 and 2 have insert points on the, any feature within the O3D can be expanded by cascading two consoles together, sharing the bus, auxiliary, stereo and cue/solo busses. This is a very important consideration for those project studios or post facilities who want to take their mixing capabilities just that bit further than a four bus console would normally allow but who have a limited budget with which to do so.

As you look at the O3D, it strikes you as

being very similar in layout to the O2R; the same sectionalised controls are to be found with dedicated areas on the front panel for setup, channel control, fader mode and scene memory. One very helpful addition to this layout is the mixing layer control, which allows you to swap fader control between channels 1-16, and then 17-24. This is indicated with a green or red LED. In this way, no confusion will arise as to which series of faders is in use, which is a common problem with many digital consoles that have more virtual channels than physical ones.

Each of the 16 main faders, the single stereo input, effect return and stereo output (master) faders are the same 60mm, fully motorised faders as found on the O2R. They feel very positive and Yamaha have listened to several user groups since the launch of the ProMix 01 and O2R to improve their feel and accuracy.

By assigning the four busses and the four auxiliary sends to the YGDAI slot's eight outputs, the O3D can be used for simultaneous 8-track recording, thereby conforming with the current crop of digital multitrack recorders on the market. The YGDAI cards are the same as those found on the O2R, and provide a direct modular connection to Alesis ADAT, Tascam DA88 or DA38 as well as AES/EBU digital stereo/coaxial connections. Also, bearing in mind that space is often a premium in a small studio, the O3D can join your recorder in the rack if you so desire, as it too can be equipped with wings making it 19 inches wide.

Each of the channels has a small rotary pot at the top for gain. On channels 1-8 an additional -20dB pad button is included. To the right of the LCD screen, a large alpha dial allows for continual control of a selected parameter. This backed up with four cursor buttons and an 'enter' key, above which are the scene memory and user definition sections.

Scene Memories and Automation

As with the two previous Yamaha digital consoles, a set of user memory locations has been provided to allow for storage of scenes or 'snapshots' of the console settings for easy recall. Up to 50 of these scenes can be stored and recalled instantly by manual means, by Automix or via MIDI. These settings can be used to store channel settings, EQ, effects and dynamics information, as well as fader positions etc. There are, in fact, 51 scene memory locations, one of which is a preset, as well as 51 channel memory locations, two of which are presets. Likewise, the EQ, dynamics and on-board effects proc-



essor setting also have memory locations; 80 for the EQ (40 preset and 40 user), 80 for the dynamics (40 preset and 40 user), and 96 for the effects (64 preset and 32 user).

The automation system is referenced to MIDI time code and is provided within the 03D's 'Automix' system. Automixing consists of static scene changes, with cross-fade and dynamic control of approximately 2000 parameters. The Automix system can also be synchronised to SMPTE but you will need to purchase an additional MTC/SMPTE converter for your studio.

The Digital Bits

On-board processing for the 03D is done by two new effects processors developed originally for the ProR3 and 02R. Improvements have been made within the 03D that, as yet, are only available to existing 02R users as a software update so, in some respects, the 03D is actually better than the 02R at on-board processing power. Certainly in the review example, the effects that I heard, and the ease with which they were edited and applied to the console, confirmed that the 03D is definitely a user-friendly product, designed for quick application of effects. Again, Yamaha should be congratulated for this, as anybody who has spent time with any digital device will tell you, speed is often a determining factor when purchasing a product.

The converters for the 03D are the 20-bit, 64 times oversampling D/A's. Overall processing power is supplied by two 32-bit RISC chips, with the two processor chips also working at 32 bits.

The Back Panel

At the back of the 03D are all the standard connectors that one would expect to find on such a console as this; channels 1-8 have the balanced XLR input connectors, and channels 1-16 all have jack input connectors. Outputs are via four jack bus outs, four jack auxiliary outputs, two stereo monitor outputs, two phono record outputs (two track out) and the two balanced stereo XLR outputs. Below these is a series of communication ports which includes XLR and phono digital (AES/EBU), digital in/out and coaxial digital in/out, MIDI in, out and thru and SMPTE wordclock in/out.

Working with a mouse

Perhaps one of the most appealing features of the 03D is the ability to work with a mouse for quick editing of all the on-screen functions, should the edit parameter buttons and the alpha dial not be your thing.

Personally I find this method of working very much to my liking, though Yamaha make light of its possibilities, hardly mentioning it in their press releases or in the main 03D user manual. To me, this logical

use of a familiar tool is an obvious and much appreciated addition to any audio/musical device with a large screen and multitude of parameters to work your way around. The mouse can be connected to the 03D at the back panel and you use it just as you would on any computer, aiming the arrow at a parameter and clicking to enter or edit it. All very quick and simple to use - again, full marks to the new user interface.

Conclusion

Yamaha have a winner in the 03D, of that I am certain, and the price of the product will probably assure that. I would, however, point out that price alone should not dictate your choice where digital consoles are concerned, as many users who rushed out to buy the original ProMix 01 will surely testify.

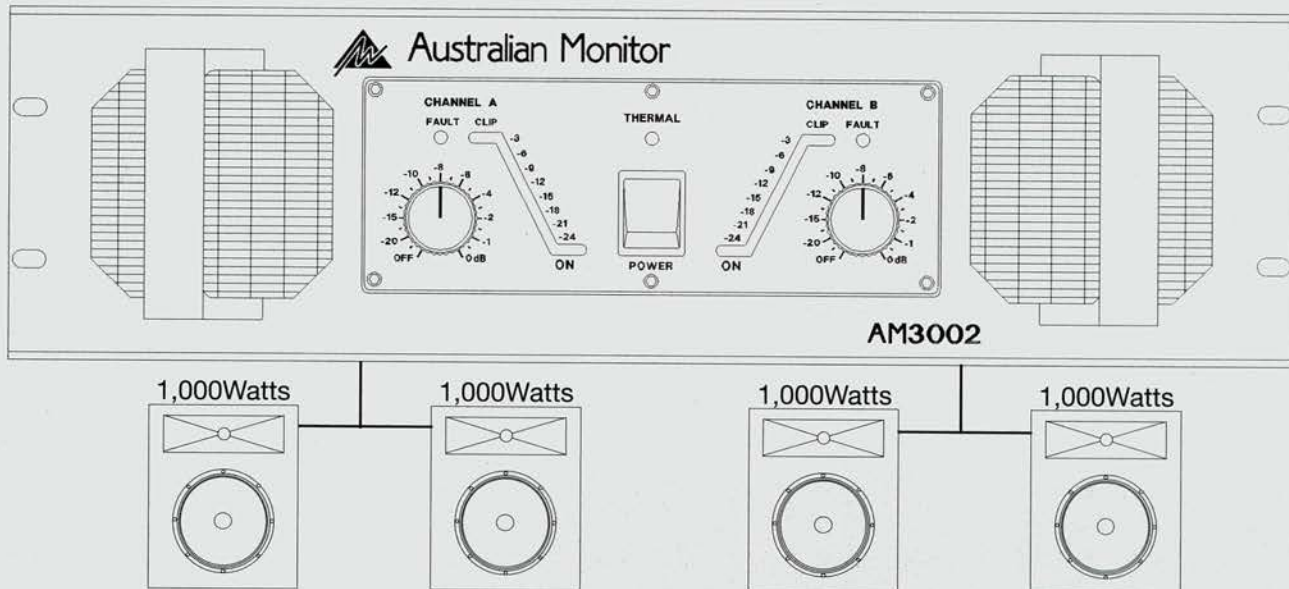
That said, the Yamaha 03D does offer many project studios and post facilities a console that will be very tempting, bringing the features of the 02R, not to mention several other, significantly more expensive products, into their reach. I was especially impressed with the attention to detail with regard to the user interface, and the idea of mouse control will certainly appeal to many. All in all, Yamaha have seem to have done it again - that's three times in a row.

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Write in Reader Service Number: 127

Twelve types of surfaces

FX'pert and Foley artist Gerry Long

profiled by Madeleine Murray

Gerry Long is famous in the film industry for his footsteps.

Figs rustling straw, sheep cavorting in grass, satin swooshing, Romeo running, Juliet eating, crashing planes, creaking doors... Long does them all, assisted by sound engineer Steve Burgess, a childhood friend.

Long is working on a film called *Joey*, in the Melbourne Soundfirm Foley studio. He does several passes through a film, first footsteps, then rustle, then effects, which is anything from a glass clink to a car crash. "I'll do his boots, then I'll do his leather jacket, and then to just build him up a bit more, I'll do a spur run. I'll use big western spurs, and put the spur jingle down, on top of the boot footsteps. So each aspect can be controlled independently. A lot of this stuff is methodical, but with room to be creative."

A Foley room has pits dug into the slab, with 2m long tracks. At Soundfirm, there is sand, dirt, grass, gravel, polished floor boards, creaky floor boards, concrete, parquet, lino, marble, metal gantry, and a metal slab. Long does most of his footsteps almost on the spot.

He sits at a table with cutlery, glasses, and crockery, and follows people eating. He has an array of big junk which he brings in to do things like car crashes. He has a big alloy hatch off a DC-3 plane, which he might hit with an axe for a major impact, or get some excruciating squealy sounds from

scraping the shovel head across the jagged metal. He does it to the picture, to give the sound perspective.

The mics are mainly they're on a stand. They use a Sennheiser 416, a super cardioid mic similar to location mics. It has a very narrow pattern, so it doesn't pick up the room ambience. He also uses a Neumann TLM170, for glass clinks, and rattles that are sharp.

Foley was named after a Hollywood soundman called Jack Foley. Before that, it was called post sync effects, recreating sound in the studio while the picture's rolling. Footsteps, clothes rustle, cutlery are all recorded separately after the film is shot. Clear dialogue is the aim of location sound, and the business is added later, either for realism, or to heighten reality. Sound tracks have become so

much more vivid and sophisticated in the last five years, with a new area called psycho acoustics.

The Foley room

At Soundfirm, Melbourne, where Long does most of his work, the Foley room is well equipped. Besides the Sennheiser 416, MKH40, and MKH60, and the Neumann TLM170 and U89, there is a Scheeps CMTS 501U, a Sony C48 in the ceiling to record room sound, and an Electrovoice 663.

The C-Ducer is a contact mic, a 6" strip that is taped onto an object, such as glass, or metal, and picks up the vibrations, or resonance. Sometimes they put it inside pipes to get weird or different sounds.

The Rycote boom pole is for mic panning, to get perspective, or a quasi Doppler effect. "One of the hardest things with Foley, is to try to make it sound like it's not Foley," Paul Pircla of Soundfirm explained. "We have to be sure it doesn't sound like someone walking up and down on the spot."

Soundfirm uses a Harrison MR4, 28 channel console. "It's good quality, reliable, quiet," Pirola said. "The noise for Foley has to be extremely low, because you're recording such quiet sound sometimes."

"We use the Eventide H3000 Ultraharmoniser heavily, for changing the pitch of sounds, making the sounds heavier. We mainly

PRO TALK!

PREAMPS

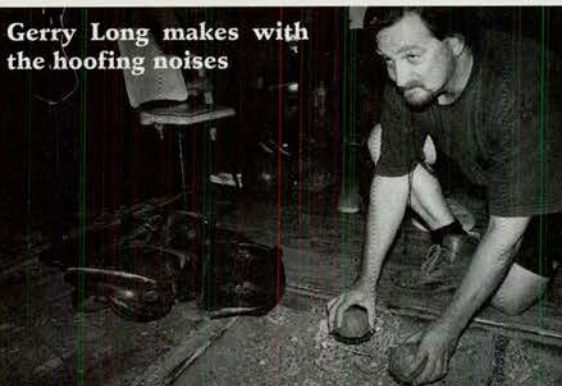
ProTalk! resumes in Connection's recording section providing an opportunity for studio professionals to discuss techniques and issues for all to read and ponder. The responses are always diverse and informative and this month's ProTalk! revolves around the application of pre-amplifiers; should they be dedicated or console; preferred pre-amp's and why; vintage or new; what to watch out for? Some responses:

According to **Jamie Durrant** of the Boathouse Studio, Benalla VIC, his favourite pre-amps are the Neve 1066/1073 24 volt vintage console modules and the Aphex Tubescence. Of the Neve, he says, 'The sound is an explosion of rich warm tones and the EQ section is smooth sounding and basic enough so you don't over EQ or do stupid things late at night when your ears and head have gone to sleep! Neves' have heaps of headroom, look cool and are quiet.' Mr Durant continues, 'The Aphex is a guitar box from hell when run at full distortion with a RAT and or BIG MUFF. Remember to PAD down the output.'

Greg Dixon of Aphex Studio is also keen on the Aphex unit (because of the name! -Ed) mainly for its low cost but adds, 'Any piece of equipment is going to process sound in some way; if used with a cheap desk, pre-amps can improve the sound enormously by going straight to tape and using the desk just to monitor'.

Marshall Cullen from Damien Gerards Sound Studios (NSW) selection of pre-amps include the Neve 1072, 1081, 33115 because 'they are fully Class A but still solid state and really, really musical with balanced transformers etc.' He

Gerry Long makes with the hoofing noises



...while Steve Burgess does foley pre-mixing



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Write in Reader Service Number: 117

Pro Talk

continues, 'The Telefunken V72 series is an all tube, Class A unit, and is really transparent but with the warmth of tubes without seeming to roll-off the ultra-highs as cheaper tube pre's can, and finally, the Drawmer 1960.

It's great for low frequency sounds, really warm and fat but a bit too grungy for vocals.'

Jamie Durant points to the plethora of pre-amp's on the market, 'Everyone seems to be making them to improve the sound of low cost digital. It seems strange that digital is so cheap but 'doesn't sound right' so people spend more than the cost of a decent analogue machines to get the analogue sound back!'

This is a point which **Barrie Clissold** from Wombat Rd Studio (VIC) picks up on, saying that with the declining cost of mixing consoles there is increasing discontent in sound quality. 'Perhaps this is due to the standard of mic head-amps and circuitry used in these budget consoles. Our console has been fitted with low-noise, transformer-coupled pre-amps which, although not the quietest around, have a warm and smooth character.'

Wombat Studios use the Symetrix 528 voice processor/pre-amp for most vocal tracking work (it also has de-essing and compression/eq capacity). 'Used with a RODE NT-2 mic (also direct coupled) the Symetrix gives a very bright and clear sound.

'For a warmer sound we may use a Neumann U-87 which is also transformer coupled, or go direct into the desk. If there are still uneven harmonics or it's too 'peaky' we'll run it through one of the valve line-amps at the mixdown stage to smooth out the waveform.'

As to the advantages of having a separate pre-amp **Marshall Cullen** says, 'High-end producers and engineers have always tracked using separate mic pre's so the secret is out and people think it's a good idea due to marketing'. Yet what is "the secret"? Mr Cullen continues, 'Even the best recording consoles must have all their pre's in "one box" sharing cable, power supply

etc and, although it may be immeasurable, each pre-amp has some degree of commonality with its "neighbour". By running separate pre-amp's this is avoided and you can really hear the separation.'

Norman McCourt from C'est Ca A/V Services (VIC) adds, 'Considering the average cost of a mic pre-amp in most popular desks is about \$6-\$16 per channel, it's not hard to hear some improvement in a pair of pre's that cost \$1000. However, be wary! Some people who record purely in digital (and especially classical music) find the audible distortion from valve pre-amp's off-putting preferring expensive 'state of the art' pre-amp's.' Using modern or vintage?

Marshall Cullen suggests, 'Vintage or totally new depends on the sound you want, ie, *Lenny Kravitz* needs vintage but *Tina Arena* probably wouldn't sound right if her vocals were processed through vintage gear. I prefer vintage because, if its functioning correctly, it usually sounds better. Modern gear has normally tries to emulate that sound rather than being original, with exceptions such as *Avalon* or *Focusrite*.' Some cautionary advice to conclude.

Jamie Durant: 'It all comes down to taste and it's important to stress that recording product is an art and there's no right or wrong but what sounds good.'

And from **Barrie Clissold**, 'Any electronic circuitry - no matter how good, will introduce noise and distortion into the system. The use of a dedicated pre-amp plugged into your multitrack should reduce these problems, but let your ears be the judge, and make sure the pre-amp you are using does in fact sound better than your desk.' From **Marshall Cullen**, 'Watch out for vintage gear going cheap as it probably no longer works properly and is a rare item so you can't get parts for it, especially in Australia.'

* *Barrie Clissold also informs us that he designs and manufactures a number of different valve pre-amps and line conditioner amps for studio use.*

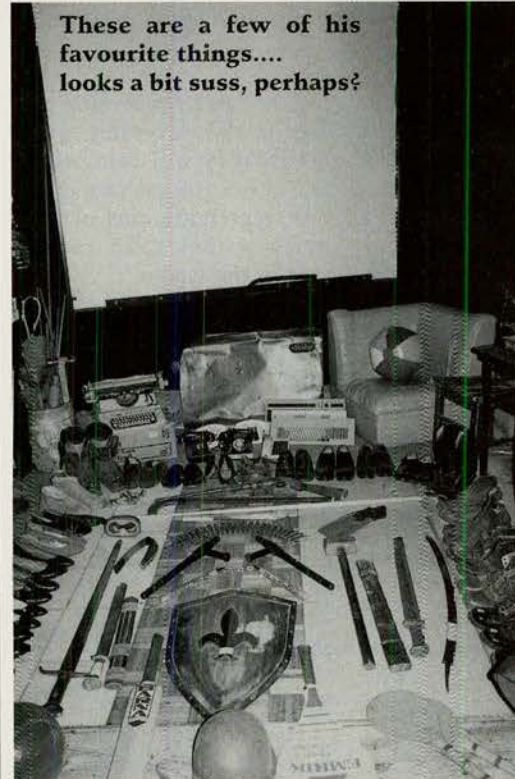
Masters of Foley

harmonise down, sometimes as much as an octave. Or just a little bit, to make the sound fit the picture a bit more." They might change the sound of a door creak, to make it sound like a much heavier door. And they use

with a punch, or a car crash, can make the sound a little bit fatter."

They use the Tascam DA88s to pre-mix, and the Sony PCM703C DAT to slip sync. "If we miss sync, we transfer it to the DAT, and then either just move it on the spot, or give it to an editor to fit.

"We have a cinema setup with JBL4430 speakers, left, centre, right. It's important to record the sound in an environment where you can hear it properly. Gerry might spend ages whacking the hell out of the car bonnet, saying, 'It sounds big.' But I'm in the other room, and saying, 'Well, it doesn't sound



These are a few of his favourite things... looks a bit suss, perhaps?

the harmoniser on water frequently.

They use a Lexicon, or a Quantec reverb unit to monitor, or check the sound in a large hall. They only use it to monitor, not to record. Sometimes they use the reverb unit to make an effect sound bigger. In Lührmann's *Romeo and Juliet*, they recorded a big whoosh, put some reverb, turned it backwards, and put long reverb on it. This was used brilliantly during some of the camera pans, and other shots.

The room has an Otari MTR90 24 track tape machine. "We use analogue with Dolby SR," Pirola said. "The dynamic range of Foley is enormous, from a car crash to clothes rustle. The tape compression actually rounds off loud sounds. It'll slightly distort the sound, and we often use that to our favour. We'll overload a sound technically, and it can sweeten the sound. The distortion that the tape machine produces naturally,

good in here."

An Editron 500A, computerised synchroniser controls all the video, picture, and sound machines, and when the tape machine drops into record. It triggers a series of five flashing cue lights for Gerry.

Romeo and Juliet

Long spent weeks doing all the heightened sounds for the Baz Lührmann film. The gunplay in the opening scene was a challenge. Guns are never mentioned in the film, the talk is of swords and cadders. So Long had to create gunplay which wasn't in your face brutal. It had to be stylised, and in tune with the era. They got an armourer in, handguns, and swords, and put down base tracks with those. "But generally they make guns so well that they hardly make a noise," Long said. "I used actual swords going in and out of scabbards, or sword against sword for the ins and outs of the gun."

(continued over)

SOUND AROUND GETS AROUND: makin' with the mobile

Melbourne company Sound Around represents a highly flexible and unique sector of the recording industry: travel anywhere, record anything, any configuration with a master tape delivered when the dust settles. Trevor Cronin runs the business and described to Dan Cole some of the elements involved in transportable audio productions.

"The studio is put together with multi-pins and flight cases which can be wheeled into various spaces; sometimes I set up in the back of a truck in the case of an outdoor festival or something. The system takes one hour to set up but every job is different. I patch the system together the day before so it is stress free the next day."

"The business has been going for 2 years and is build-

ing. It's about recording people in the environment in which they feel comfortable and often this is one of the best representations of their music - they can't capture that in the studio."

Equipment

"We use DA-88s but sometimes people request 2" or whatever. The DA-88 records for 2-hours and at \$75 for 2-hours (at 24 tracks) that's

good value. I have three Midas consoles and the 12-channel connects to the 32-console. I like them, compared to a Japanese console they give a more organic sound.

Background

"I have been a live sound engineer for 15 years, 8 of those internationally. I was based in New York and have worked with such artists as *Maxi Priest*, *Neville Brothers*, *Big Audio Dynamite*. I worked on the radio mix for the BBC with *Jesus Jones* which got me interested in engineering for broadcast. In Australia I mix *Died Pretty* and I have just done a tour with *Radio Birdman*.

"Doing live sound is great but with recording you've got a product that's animate rather than an experience that has past.

Process

"When we get to the gig I speak with the FOH guy and see what is being used. If it's a bit light-on I'll put some microphones on the toms or what ever but I don't replace vocal microphones. It's always a team effort. I'm aware of feedback because once its committed to tape you can't take it off, so I ask the foldback person to be aware of that

"Normally we set up wherever there is space. If it's a multi-track recording, monitoring is not as critical as a DAT recording so I can set up near the stage. I also use baffles of clear perspex around the drummer.

"I have somebody on stage watching the microphones to watch their position because with indie bands stage diving is common. For instance with the *Screaming Jets* people were

hanging from the front truss.

Signal Paths

"I tend to keep it [signal] flat and uncompressed when recording to tape. If I'm not quite sure what will happen on the night I'll have a compressor just in case. So far we haven't lost a second of recording time.

"Although the multicore is a key component every part of the signal chain has to be spot on. We take a split from the stagebox using an ARX Active Splitter system. It splits up to four ways and bumps up signal to line level. So, from microphone lead to splitter box we break out into the PA multicore which then splits to monitors and another split that goes into my system. Additional room microphones go into my system.

"For this purpose I use the AKG 451 which is a directional, clean condenser microphone with great frequency response. It has a screw in PAD which takes it down for loud acts.

Recently

"I did *Ausmusic Day* for the MMM network at the Prince of Wales [NSW]. There was two stages, 46 inputs, two splitter/multicore systems. It was live to DAT so I used full processing. After the band completed the set my assistant Jeremy Smith took the DAT into the listening room and the band went through it and picked the song they wanted broadcast. Mr Cronin has also just completed a tour with *Radio Birdman* as FOH person and also *Sound Around* was engaged for the recent *St Kilda Festival*, working with well known Australian producer *Michael Letho*. Seven bands were on the line up and

Masters of Foley

Strictly Ballroom

The satin and sequin gowns worn by *Gia Carides* and *Paul Mercurio* were sent down to Long in Melbourne. He used them to record passes, rustles, swishes, swirls, and all the sounds of ballroom dancing. "I'd accentuate the sharp moves with the swish of the silky fabric, or the shing of the sequins. That would just be a starting point. I would put in some hose whooshes, and use some bigger objects, so that when it's mixed and played back, it has an unusual sound."

Fearless


In this film about a plane crash, they wanted a heightened sense of reality. "While the plane was in turbulence, and the fuselage of the plane was bending and groaning, we created the engines, and tweaked them up and down at the same moment, so that everything was moving in unison," Long said.

For jet engines, Long used things like vacuum cleaners with hoses going into 44 gallon drums, hair dryers, and pressure pack cans spraying close to the mic. "I'll make a reasonable start with a raw sound, and the engineer will be patching that through outboard gear, harmonisers,

gates. This was all heavily processed."

Babe

The soundtrack for *Babe* was built from scratch, because the trainers' voices dominated the location sound. Long had to do pigs' feet, and sheep feet. "It was pretty challenging. A lot of close ups meant that I had to come up with fur rustle, or pigskin rustle, and it all had to fit in with the feet, and the straw moves. Often more intimate films are harder, because there's not as much sound. In *Lorenzo's Oil*, *George Miller* wanted to put the audience into the mind of the actors. I went to great lengths to get every hand rub on the forehead, every lip smack, every clothing rustle, to bring you closer."

A few years ago, Long tried to do his Foley live. He had a brief career as an oddball cabaret star. He brought in a lot of props, axes, tap shoes, and made the sounds for a *Buster Keaton* film. "I had a couple of goes at that," he said, "but it was all a bit too nerve wracking for me. You only get one chance at it, live. I feel a little bit more relaxed in the solitude of the studio, as opposed to being under lights in front of an audience." 

Edit Points compiled by Dan Cole

Damien Gerard Sound Studios are offering a recording package for the new year which includes pre-production, rehearsal, recording and mixing sessions, mastering and the manufacture of CDs. The package can be tailored to individual band/artist requirements and is the ideal way for an act to get their foot in the door with a first release. Small runs of CDs can be catered for. Call them for a deal to suit your project. (02) 9692 9915 New additions to the Studio Website now include Studio Quiz and Interactive Guestbook. You can enter the quiz to win free tape when recording at DGs and leave your calling card via the new guestbook at <http://www.ether.com.au/dgss>

The Boathouse Studio in Benalla Victoria have purchased a vintage Neve A224 16-ch, 20-input 4 bus console with 1066 modules and 80-way patchbay with extra 1272 modules for FX sends and line returns. (The 1066 is very close to the popular 1073). The console is to be serviced but is already in use for demoing Melbourne band 'Spudgun'. Also new to the Boathouse are three vintage '60s Neumann valve condenser mics; 2xKM56 and 1xKM54 as well, 1xMicrotech Geffell PM860 ceramic diaphragm condenser and Urei LA4 compressor. T 0419 006 391

Neil Finn has purchased a Euphonix CS2000 Digitally Controlled mixing Console for his New Zealand facility c/o the distributor, Studio Connections.

Extreme Act

Award winning sound engineers/producers Craig Conway and Eddie Postma have teamed together to work with a new post production sound recording studio called Extreme Sound Design. It is a 24 track hard disk audio post production suite designed to produce audio for television, radio and advertising agencies.

The studio operates out of the ex-Platinum Music Studios and the space has been

completely renovated and acoustically redesigned and the services offered include release dubs, VHS and U-matic post session dubs, general dubbing — DAT, 14" and cassette, SP and 1" restriping, foley recording, voice-over casting. The studio has the latest in digital audio recording and editing technology including a Fairlight MFX 3 24-track hard disk recorder (8Gbyte storage), an AMS Audio File+ Hard disk recorder, and a Sony timecode DAT. Monitoring in the studio includes the latest in soft dome main speaker design: Quested HQ210 main monitoring and ATC SCM 20 near field monitoring, powered by 2,200 watts of Amcron Macro Reference amplifiers.

Extreme Sound Design also has a range of 'warm' valve microphones in Neumann U67s, 47 and U48; the classic MR3 34 channel Harrison console, a large array of outboard equipment including API 550b EQ modules and mic pre-amps plus a comprehensive music and sound FX library.

• Contact: 643 Chapel St, South Yarra, Melbourne 3141 T 03 9827 1500, F 03 9827 7711 or more details see their site: <http://www.extreme.net.au/sound.html>



THIS is Gethin Creagh, sound mixer, as profiled in the last issue. The editor of Connections got it all wrong and ran a photo of someone else on page 40. Our extreme apologies to Gethin and our readers.

a CD will be released after further post-production.

Why do an outside recording?

"I think there is a real trend to get out of the studio to record. I put together packages for artists as well to record elsewhere, say, in a house in the country. Recently *Weddings Parties Anything* used a console, baffles and various items from my system when they did their album in Tasmania. In that kind of set-up there's less pressure for the artist and in the

right location bands feel comfortable; for two weeks they own the equipment.

"I can do the full package: I will come and record the show, mix it and master it and organise the manufacturing. Not only for bands but for festivals, plays, schools, radio — I can record complex shows very cheaply. Some past projects have included; *The Screaming Jets, Shane Howard, T.I.S.M., Automatic, Died Pretty*"

• Sound Around, Telephone/fax: 03 9531 3891, Mobile 019 439721



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Connections

ELECTRONICS 1, Ego 0

There's no doubt that electronic fault-finding work is character building. Slaving over some wretched piece of gear which doesn't work and the circuit design of which you're having trouble understanding can have you wondering whether you shouldn't have chosen a different career.

Those of us who do this sort of thing for a living develop over time a suite of techniques which we bring to bear on our repair work. These techniques might be learnt from other more experienced people with whom we've worked.

Sometimes, they are strategies which we have added to our repertoire after successfully using them for the first time on some particularly difficult job.

Or, they may be tips which we've picked up from reading or study. However they are acquired, these techniques mostly constitute a common language which all engineers share. The

way in which they are applied, however, is distinctly personal, sometimes quite idiosyncratic.

Occasionally you'll strike a job where you apply all your usual strategies only to find that you're still having trouble with the repair. Or, you're dead sure that you've located the faulty part, only to find that the unit still doesn't work when you install a replacement part. Clearly, if the application of your usual range of killer methods doesn't work, you've got to rethink your approach.

This can be quite challenging in a very personal way - after all, you've had years of experience and practice go into the formation of your technique and now it's let you down.

One of the repair situations which can really sort you out is when you identify and replace a faulty part in a unit only to find that it is still not working. You go back over everything you've done. You trace through all your



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HOWARD JONES: WORKBENCH

previous fault-finding, you consider the symptoms and possible causes and finally you conclude that the same part must be causing the fault.

At this point, the eyes narrow and the brows furrow. Could it be that the new part was a dud? But that never happens, does it? Are you so completely sure of yourself that you're happy to order another (often very expensive) part just to prove yourself correct?

Well, yes, it does happen. In fact, here at the workbench, it's happened a number of times lately. Let me describe one such occurrence.

We had a very high end, synchronisable DAT recorder come in for a rebuild. This unit had done in excess of 1800 hours on its original drum assembly and tape path components and was well overdue for a major service. This involves replacing mechanical parts such as the drum assembly, tape guides, pinch roller etc and then setting up all the various operating parameters of the machine. This covers things like tape torques, tape path alignment, drum phase, ATF pilot levels and so on. One of the important parts of the machine alignment is to ensure precise adjustment of the record currents for both the ATF and PCM portions of the tape scan,

for both the leading and trailing heads.

Anyway, I had a great deal of trouble getting this last adjustment correct and if not performed correctly, the machine will give tracking problems and high error rates even on what should be perfectly good recordings. After quite a bit of time spent grappling with this adjustment, I got the machine running satisfactorily.

The owners were in the middle of post-production for a film project, so the job had been turned around quickly to enable them to get on with it. They rang me the next day, however, and said that the DAT wasn't quite working properly. It ran tapes just fine, recorded, played back etc etc all as per normal. However, when the Shotlister edit controller sent the DAT back to a given location and dropped the machine into play, the audio was badly distorted for the first few seconds.

With the machine back on the workbench, the reason for this soon became apparent. Whenever the DAT went into play from a reverse search - such as a reverse AMS - the tape path was quite unstable. Because of this, the tracking circuits couldn't reproduce the data well enough to avoid heavy interpolation errors. This shows up as the usual comb filter, zit-zit-zit type noise you get

whenever a DAT is faulty.

Meanwhile, I was kicking myself for not having detected this problem originally. I went back over the alignment procedure and found that there was no specific check which might have drawn my attention to this point. When the machine was put into play from stop mode, the audio was okay and none of the other tape path checks had revealed any problems.

So much for the diagnosis - what was the cause? Well, when you see a fault like this, you're starting to think that either the tape guides or tape tensions are faulty in some way. Sometimes, when the machine goes from rewind to play, the tension can fluctuate wildly for a moment or two before settling down - that could cause a fault like this. Anyway, I'll cut a long story short by telling you that the brand new head drum was faulty. Now, these drum assemblies don't leave much change from \$ 1,000, so deciding that a new one is faulty is not a conclusion which you reach lightly. In fact, the odds are against a brand new part being a dud, so you tend to thrash around looking for other likely causes. However, fitting another new head drum and completely realigning the machine (again) fixed the problem.

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BASF National Tracking Guide

ARTIST	PRODUCER	ENGINEER	PROJECT
New South Wales			
#Sharp Jeff Cripps (02) 9534 4440. 24 Track 1*			
Jay Justin	Jay Justin	Jeff Cripps	CD
Margaret Bradford	Jeff Cripps	Jeff Cripps	Cassette
Rory Thomas Big Band	Jeff Cripps	Jeff Cripps	Demo
Aphex Studio Greg Dixon (02) 9876 8170. 16 Tracks to 1* analogue			
Cyan Brass	Greg Dixon	Greg Dixon	Demos
Dave Challinor	Dave Challinor/Greg Dixon	Greg Dixon	Demo
Steve & Morri	Steven Tonge	Greg Dixon	Demo
Robyn Martin		Greg Dixon	Demo
Conspiracy Theory	Greg Dixon	Greg Dixon	Album
Ceasefire	Greg Dixon/Band	Greg Dixon	EP
Bush Traks Ruth Miller (066) 891 290. 24 Track Recording & Multimedia Studio			
Spillmasters	T. Tonkin/A. Major/D. Highet	Dave Highet	CD plus album mixdown
Crystal Clear Studios Dave Tozer (02) 9684 1152. 24 Tk. Dig. Adats, 32 Ch. (6input) Console			
Tony Putrino	Peter Blyton	Peter Blyton/Dave Tozer	Album Tracking
Scattered	Dave Tozer	Dave Tozer	Demos
Sandlebut	Dave Tozer	Dave Tozer	Demos
Killing The Ritual	Dave Tozer/Band	Dave Tozer	EP Mixdown
Back Issue			Demos
Abstract Fiction			Tracking
Damien Gerard Studios Contact Marshall (02) 9660-8776. 2* 24 Trk., 1/2* 16, 32 Trk.			
Peabody	Bruno	Russel	EP
Stonehouse	Fred	Russel	Album
Penny Dreadful	Edwin	Jordan/Russel	EP
Phil Rigger	Phil Rigger	Keith Cooper	Remix
Asteroid B612	Russel/John	Russel	Tour EP
Rivers 2 Road	Band	Marshall	EP
Darling Harbour Studios Ike (02) 9211 1474. 24 Track MCI 40 Channel			
Midnight Oil	Band	Big Jim	Demos
Stranely Brown	Band	Sucka Fish	Demos
Fore Play	Band	Sucka Fish	Demos
David Hinds Recording Studios David Hinds (065) 811 235. 8 Track Analogue mixing to DAT			
Balance	David & Lyn Hinds	David & Lyn Hinds	Album Tracks
David & Lyn Hinds	David & Lyn Hinds	David & Lyn Hinds	"Snax Food Bar" Jingle
David & Lyn Hinds	David & Lyn Hinds	David & Lyn Hinds	Radio Spot
David Hinds	David & Lyn Hinds	David & Lyn Hinds	"Tilepower" Jingle
David & Lyn Hinds	David & Lyn Hinds	David & Lyn Hinds	Promotion
Festival Studios Catherine Knapman (02) 9395 8070. MCI or Studer Analogue or Mitsubishi Dig. Multi-Tk.			
Pollyanna	Paul McKercher	Paul McKercher	Album
Jimmy Barnes	Julian Mendelsohn	Charles Fisher	Tracking
Made To Measure/Ch. 9	Bob Davies/Rick Chadwick	Spencer Lee	Orchestral Station
Arrona Productions	Peter Kaldor	David Hemming	McDonald's ad
Main St Studio Robert Specogna (042) 834 515			
Razorback	Robert Specogna/Band	Robert Specogna	CD Album
Finn Castle Mill	R. Specogna/Rob McGregor	Robert Specogna/B. Robertson	CD Album
Don't Say Don't	Band	Robert Specogna	Demo
Megaphon & Airmotion Studios	Guy Dickerson (02) 9550 6576. 24 Track Analogue, Lock To Picture		
Wendy Matthews	Glenn Skinner	Tony Espie	Album
Slava	Austin Pritchard-Levy	Jason Blackwell	Tracking
Sidewinder		Paul McKercher	Album
Brassov	Tony Gorman	Guy Dickerson	Album
KDM Productions	Rob Kitney	Guy Dickerson	"Term Of His Natural Life"
Swirl		Jeremy Allom	Tracking
Paradise Studios Jason Lea (02) 9357 1599. Custom Mixer, 24 Track Studer A800, Valve Outboard			
Transistor Music	Andrew Wilson	Mike Stavrou	Film Score
The New Christs	Rob Younger/Wayne Connolly	Wayne Connolly	Mixing
Tanya Bowra	Tanya Bowra/Daniel Denholme	Daniel Denholme	Album
Birdseed	Cameron McCauley/Band	Cameron McCauley	Mixing
Bettina Litchfield	Bettina Litchfield	Glen Phimister	Tracking
Blaine Whittaker	Blaine Whittaker	Mike Stavrou	Jazz Album
Paul Bryant Mastering Paul Bryant (02) 9748 0222. Mastering Suite			
Finn Castle Mill	Rob Specogna	Paul Bryant	CD Album
Public Schools Concert	Mal Hewitt	Paul Bryant	CD Album
United Band	Ralph Esther	Paul Bryant	CD Album
Grant Petersen	Grant Petersen	Paul Bryant	CD Album
Nicole Brophy	Stuart French	Paul Bryant	Album Master
Swing Team	Mark Jackson	Paul Bryant	Live Album
Powerhouse Studios Doug Henderson (02) 9318 1220. 32 Input Neve Console 24 Trk. Studer A800			
John Rowles	L. Berger/Doug Henderson	Doug Henderson	CD Album
Fresia	L. Berger/Doug Henderson	Doug Henderson	CD Single
Candlewood	Doug Henderson/Band	Doug Henderson	CD Album
Mescaline	John Hresc/Band	John Hresc	EP CD
Shade Tree	Russell Pilling/Band	Russell Pilling	CD
Panadolls	Russell Pilling/Band	Russell Pilling	CD
Q Recording Studios Gordon (02) 9212 4851			
Shimmer	David Jones/Peter Northcote	Richard Muecre	EP
Sidewinder	Paul McKercher	Paul McKercher	Album Tracking
Red Neck Mothers	David Price	David Price	Mixing
Tim Finn	Tim Finn	Richard Muecre	Demos
Sydney Welsh Choir	Margret Hughes	Richard Muecre	Album
Edward The Fifth	Band/Warwick Buzzacot	Warwick Buzzacot	
Sony Music Studios Ross Ahern (02) 9332 0320. 24 Track/Pro Tools			
Mighty Reapers	Ross Ahern	Dave Brewer	Album Mix
Shauna Jensen	Simon Tonx	Simon Tonx	Album
Jim Latta Band	Jim Latta	Louise Taylor	Album
Lodestar	Tim Whitten	Tim Whitten	Recorded Tracks
Human Nature	Paul Vegaud	Simon Tonx	Single
Soundwarp Meredith Brooks (02) 9905 7144. Mastering			
Ego	Michael Stavrou/Adam	Meredith Brooks	CD Single
Pat Alexander	Pat Alexander	Meredith Brooks	Compilation
Snake Oil	Ian Baines	Meredith Brooks	CD EP
Fingertoe	Fingertoe	Meredith Brooks	CD Single
Casey Greene	Casey Greene	Meredith Brooks	CD Album
Shape Shifter	Josh	Meredith Brooks	CD Single

ARTIST	PRODUCER	ENGINEER	PROJECT
Studios 301 Fiona Simpson (02) 9211 7301. X880, Studer A800, SSL 64 Ch, G-Series			
Pollyanna	Paul McKercher	Paul McKercher	Album Mixes
Wendy Matthews	Glen Skinner	Tony Espie	Overdub/Mix
Sidewinder	Nick Launay	Nick Launay	Remix
Trackdown Digital Marcus Leadley (02) 9550 6890. 3x16 Track Protocols - 24 Track ADAT			
Robyne Dunn	Herself	Katrina Schiller	Album
Big Bang Theory	Don/Hewie	Simon Leadley	Commercials (TV)
Juniper Films		Tim Ryan	TV Documentary
Yoram Gross Films	Yoram Gross	Katrina Schiller	Skippy Series
Chris Bailey (Saints)			Record Launch
ABC	Max Lambert	Torei Lister/Simon Leadley	Album
Troy Horse Studios Colin Wright (02) 9319 1799. 24 Track Fully Automated			
Int'l Language Schools	Colin Wright	Colin Wright	Language Course
Goulash	Alan Andjic	Dan Griffin	Album
Crimzon Crowbarz	Colin Wright	Colin Wright	Album
Blatherskite	Dan Griffin	Dan Griffin	Album
Kinderschmerzen	Colin Wright	Colin Wright	Single
Woolly Mammoth Mark Paisley (02) 9557 2721. 16/24 Track Digital, Quality Affordable Recordings			
Barry Meston	Mark Paisley	Mark Paisley	EP
Mockingbird	& i Music	Nik Sanning	Album
Mahogany	Ant Perkins	Mark Paisley	EP
Charlie McMahon	Charlie McMahon	Nik Sanning	Album
Phil Taylor	Phil Taylor	Nik Sanning	Album
Midas	Woolly Mammoth	Nik Sanning	EP
Wirra Willa Studios Will Rout (02) 9605 1203. 24 Tk. Analogue, 8 Tk. Digital			
Mark Baker	Mark Baker	Ian Cooper	CD Album Mastering
Tony Martin	Tony Martin	Will Rout	"Plane Stupid" Campaign Song
Campbelltown City Church	Karen Shirliff	Dion Wilton	Mission Statement Video
Liverpool C.L.C.	Simon Rafaelo	Will Rout	Youth Album
Amber Tile & Slate	Anton Strauss	Will Rout/Ian Cooper	Radio Jingle
Drama Workshop	Dion Wilton	Dion Wilton	Video

Queensland

OPM Studios Daniel Seymour (07) 3374 1668. 8, 16, 24 Tk. Digital Recording			
Lynngren	Daniel Seymour/Band	Daniel Seymour	Pre-Production
Miami	David McCormack	Joe Malone	EP
Purple Avengers	Daniel Seymour/Band	Daniel Seymour	Album
Nutmeg	Tony Child	Tony Child/Daniel Seymour	Demo
Scrumfeeder	Band	Daniel Seymour	Mixing
Prodigious Audio Richard or Mark (07) 5571 1400. Digital Tape & H.D. Analogue & Digital Mixers			
Baby Jay	Mark Munro & Jay	Mark Munro	Album
Untouchables	Mark Munro & Band	Mark Munro	Album
DJ Donny One	Mark Munro/DJ Donny One	Mark Munro	Album Tracks
BP	TWM	Mark Munro	Corporate Video
DJ D-Marc	Mark Munro/DJ D-Marc	Mark Munro	Italian Dance Release
Taramalin Sound Allan Lahey (07) 3208 9736.			
Lopsided Dog	Allan McGrath	Allan Lahey	EP
Chris Foenander	Robert Cheslen	Allan Lahey	Album
Pug Butterfly	Band	Allan Lahey	Demo
Jessie Bateman	Jessie Bateman	Allan Lahey	Demo
Fiona Honeyman	Fiona Honeyman	Allan Lahey	Demo
Vandersound Studios Eric Vandersande (07) 5546 8100. 24 Trk. ADAT/XT, HDR, 02R, CD-R			
Grain	Eric Vandersande/Grain	Eric Vandersande	Album
Bay FM	Eric Vandersande	Eric Vandersande	Radio Special
Not The Messiah	Eric Vandersande	Eric Vandersande	Remix & Mastering
Bruised Fruit	Eric Vandersande	Eric Vandersande	Album Tracking
CC's	Eric Vandersande	Eric Vandersande	Album Tracking
Ye Gods	Eric Vandersande	Eric Vandersande	Mastering & CDR

South Australia

Mixmasters Productions Mick Wordley (08) 8278 8506. 24 Track Analogue (Tube Crazy)			
TANTRA	Geoff Stapleton	Mick Wordley	Album Mix
Borderers	Jim Patterson	Mick Wordley	Tracking
Where's The Pope	Band	Evan James	EP
Kranktus	Dave Bunney/Mick Wordley	Mick Wordley	Album
Greg Baker Blues Band	Greg	Steve Fieldhouse	Album
Blue Jay	Mick Wordley/Blue Jay	Mick Wordley	EP
"the fridge" Nigel Sweeting (08) 8231 3588. 16 Track Digital, full Automation			
Ganga Girl	Ganga Girl/Beak	Nigel Sweeting	CD
Paul Jewell	Paul Jewell	Nigel Sweeting	CD
Don Morrisson	Don Morrisson	Nigel Sweeting	CD
Akhtar	Akhtar/Beak	Nigel Sweeting	CD Remix

Victoria

Big Beat/Equinox Studios John "Shadow" Toth (03) 9898 5815. 16 Tk. Analog, 8 Digital 32 Channel Auto			
Amanda	John Toth/Amanda	Dave Borgeest	CD
M.D.C.	John Toth	Ben Williams	Demos
Abominator	John Toth/Abominator	Ben Williams/Dave Borgeest	Demos
C.O.D.	John Toth/C.O.D.	Ben Williams	CD Mastering
Sinker	Sinker	Ben Williams/Dave Borgeest	Demos
Overman	Overman	Ben Williams/Dave Borgeest	Demos
Boat House Studio Jamie Durrant 0419 006 391. 16ch. Neve 1066 console/12 Tk. Rec. Valve Mics/Pre-Amps			
Michale Meeking/Lost Souls	Jamie Durrant/Band	Jamie Durrant/Julien Chick	Album Mixing
Fetishes	Jamie Durrant	Jamie Durrant	Album Tracks, Record
Sprint	Jamie Durrant	Jamie Durrant	Demos
C'est Ca AV Services Norman James (03) 9419 1506. 24 Track Digital			
Cosmic Party	Norman James	Genn Coath	Dance Album
GILLIAN	Norman James	Genn Coath	Dance Album
Fizzle Heads	Fizzle Heads	Genn Coath	Album
Shenanigans	G. King	Norman James	S. E. Asia Album
Edensound Productions Martin Pullan (03) 9429 6199, 0418 545 948. Mastering, Digital Editing			
Black Sorrows	Joe Camilleri/James Black	Martin Pullan	New Craze Single
Carole Fraser	Oysters Kilpatrick	Martin Pullan	Koori Woman Single
Magic Dirt	Band	Martin Pullan	Sparrow EP

BASF YOUR MUSIC IS SAFE WITH US

Voting Form

THE ENTECH AWARDS FOR TECHNICAL BRILLIANCE

EnTech

i **About the awards-** there are THREE sections to the awards. This voting form will decide the **MOST POPULAR PRODUCT** in each category. **NEW PRODUCTS** are a separate set of nominations, and are decided by an industry body comprising magazine editors and independent users. **PEOPLE & INSTITUTION** awards are decided by an industry body comprising magazine editors and independent users.

• *ALL the awards are handed down at an industry dinner to be held on Thursday April 24th at the PLAZA BALLROOM, Collins street, Melbourne. Dinner tickets \$69, bookings: 1-800-635-514.*



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Peter Cupples



John Blackman

Each year the industry nominates and votes for its leading products, people and institutions at The ENTECH Awards.

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Music: **Peter Cupples & Band; and surprise act!**

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Your Menu:

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Main course: Supreme of Grain Fed Chicken/Chargrilled Porter House steak. May change subject to availability of freshest produce!

Desert: Millefenille of Caramelized Apples / Tulip with Passionfruit Sherbet. Fresh brewed coffee with Petit Fours

Cost: Just **\$69**, but book quickly - only 400 seats available!



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1 People & Institutions

i YOU can nominate one or more worthy people or institutions for any of these Award Categories. To do so, just write your Nomination below on this form. Any further details you can give us would help! You could win a free QANTAS return air ticket to ENTECH 1997 for doing this*.

* If you live in Melbourne and win, we'll give you a ticket to Sydney.

Live Sound Engineer _____
 Sound Production Company _____
 Outstanding Theatre Sound Design _____
 Best Recording Studio _____
 Best Recording Engineer _____
 Best Recording Producer _____
 Best Mastering Facility _____
 Best Duplication House _____
 Best Location Recordist _____
 Best Post House _____
 Lighting Designer of the year (TV) _____

Lighting Designer of the year (Stage) _____
 Lighting Production Company _____
 Best Lighting & Theming Design _____
 Best Club/Venue Installation _____
 Corporate Theatre Production Award _____
 Export Achievement Award _____
 Best Live Production Manager _____
 Best Venue for Tech. Crew Support _____
 Outstanding Music Technologist _____
 Best Staging/Production Support Firm _____
 Road Warrior of the Year _____

OTHER nomination/s: _____

2 Most Popular Products

i YOU vote for these by **ticking ONE product from each of the following 14 categories.** This section will determine Most Popular Products in each of these categories. We will **also** award NEW PRODUCTS at the ENTECH AWARDS, winners to be chosen by an industry panel.

VOTING RULES

1. You **MUST** tear out and use **THIS FORM**. You **CAN NOT** copy this form. You cannot FAX this form. **This form MUST be MAILED to us by April 10th 1997.**

2. You cannot vote if you are employed by, or are a distributor of, any product herein.

3. The returning officer is Sydney accountant Bruce Rowland, of Partlett Chave & Roland.

4. The result will be determined by the greatest number of eligible votes lodged for each product in each category. The Returning Officer may audit your vote.

5. The results are final and no correspondence will be entered into. The organiser is Connections Publishing Pty Ltd.

MAIL THIS FORM TO:
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 Freepost 9, PO Box 439,
 Epping NSW 2121 to arrive
 by April 10th 1997.
DO NOT FAX!

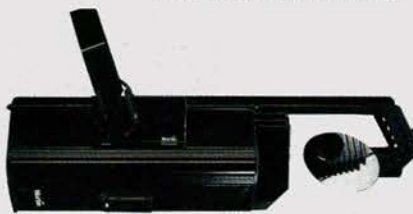
MOVING LIGHT; ENHANCED



Cyberlight
 By: High End Systems
 Distributor: GUVT



Golden Scan "HPE"
 By: Clay Paky
 Distributor: Show Technology



Martin PAL
 By: Martin
 Distributor: Show Technology

MIXING CONSOLE



GL 3000
 by: Allen & Heath
 distributor: A.R. Audio Engineering



CR 1604VL-2
 by: Mackie
 distributor: Australian Audio Supplies



XL3
 by: Midas
 distributor: MarkIV

MICROPHONE



CAD 95 by: Conneaut
 Audio Devices distributor:
 Australian Audio Supplies



SM58
 by: Shure Brothers
 distributor: Jands



N/D 408
Instrument
Microphone
 by: Electro Voice
 distributor: Mark IV

Most Popular Products

i HOW THESE PRODUCTS WERE NOMINATED

In August 1996 we wrote to 378 distributors around Australia, detailing the 1997 Awards procedure. We followed up through the year. They were advised that we offer three groups of awards this year - New Products, Most Popular Products, and People / Institution awards. The category Most Popular Products is decided by this Reader Voting process. To have a product nominated, a distributor needed to provide three end user references. These references were used to determine finalist products in each category. When many products which were seemingly equal competed for nomination in a category, consideration is given to date the nomination is lodged (early is better) and market position of the product. As is normal, each year some distributors become stressed because they feel their product has been overlooked. We apologise in advance for any disappointments. NEW PRODUCTS are to be decided by an industry panel, because we believe many readers cannot be familiar with newly released products. PEOPLE and INSTITUTIONS will also be determined by an industry panel, from nominations received up to the closing of voting, April 10th.

MOVING LIGHT; COMPACT



Vary Scan 3 Special Plus
by: JB Lighting
distributor: Universal Lighting & Audio



Trackspot
by: High End Systems
distributor: GUVT



Roboscan 812
by: Martin
distributor: Show Technology Aust.

BAN THE DONKEY VOTE!
Vote **ONLY** for products which you are familiar. LEAVE any category which you do not know!

AMPLIFIER



AM1600
by: Australian Monitor
distributor: Australian Monitor

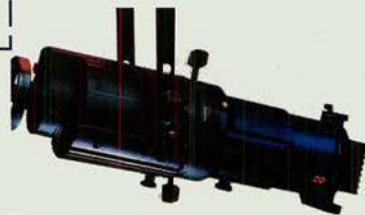


P3000
by: Electro Voice
distributor: Mark IV



Powerlight 1.8
by: QSC
distributor: A.R. Audio Engineering

LUMINAIRE



Shakespeare Ellipsoidoidal
by: Altman
distributor: Chameleon Professional Lighting Sales



ZS 1200 Zoom Profile
by: Selecon
distributor: Selecon



Performer MSR 1200 Followspot
by: Selecon
distributor: Selecon

STUDIO MONITOR



F80
by: Hayes
distributor: Australian Audio Supplies



SCM 100A >>
by: ATC
distributor: A.R. Audio Engineering



Sentry 100
by: Electro Voice
distributor: Mark IV

tick one in each category of 3 ONLY

RECORDING PRODUCT

Prisma Workstation
by: Spectral
distributor: Australian Audio Supplies



Pro Tools III
by: Digi Design/AVID
distributor: DigiDesign/AVID



Sonic Studio
by: Sonic Solutions
distributor: Syncrotech Systems Design

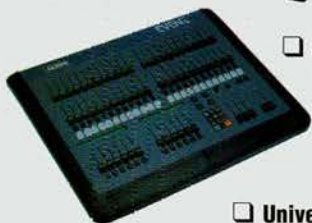


Most Popular Products

LIGHTING CONTROL PRODUCT



ATOM (series)
by: LSC. distributor: LSC



EVENT (range)
by: Jands
distributor: Jands



Universal controller
by: High End Systems
distributor: GUVT

AUDIO PRODUCT



S2000 sampler by: AKAI
distributor: Australis



EQ60 by: ARX. distributor: ARX



Concertcom (range) by: Creative Audio.
distributor: Creative Audio

LOUDSPEAKER (or system)

KF 650 >>
by: EAW
distributor: Production
Audio Services



<< **SX 200** by: EV.
distributor: Mark IV



112/118 split system >
by: ARX. distributor: ARX

LIGHTING EFFECT



Twister 3
by: Abstract
distributor: Universal Lighting
& Audio



Galactica
by: F.A.L.
distributor: ELSTA



Dataflash
by: High End
Systems
distributor: GUVT

LIGHTING PRODUCT



300mm Alloy Truss
by: CLS. distributor: CLS



HP12 dimmer
by: Jands. distributor: Jands



Mini Fog
by: Le Maitre.
distributor: Universal Lighting & Audio

DJ PRODUCT

CD 7020 dual CD player
by: Numark. distributor: Universal Lighting & Audio



MC-303 'Groove Box'
by: Roland. distributor: Roland Australia



PMC 15 mixer
by: Vestax. distributor: ELSTA



Your details:

*Closes April 10. Qantas flight drawn April 11.

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Your name: _____
Who do you work for? _____
Address _____
Postcode _____

Your Phone _____
* I am not employed by, or related to the distributor of any of
these products.

Signed: _____

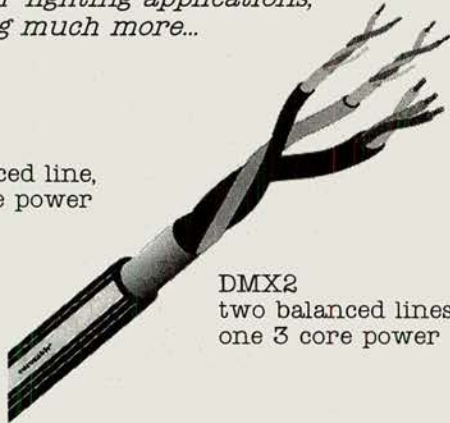
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BASF National Tracking Guide

ARTIST	PRODUCER	ENGINEER	PROJECT	ARTIST	PRODUCER	ENGINEER	PROJECT
Shane Howard	Shane Howard	Martin Pullan	Commercial	17th Doll	John Villani/Band	John Villani	Album Mix
Syurga	Adam Quaife	Martin Pullan	The Journey Begins Album	Cosima	Dave Ward	Les Williams	Single Mix
Things of Stone & Wood	James Black/Band	Martin Pullan	Single	Caramel	Nunzio Mondio	John Villani	Album Tracking
Exodus Recording - Mildura	Greg Evans (03) 5023 8388.	ADAT 16 Tk., Pro Tools, Logic Audio, O2R, CDR		Craig Hardie	G.H. & L.W.	Les Williams	Album Tracking
Little Desert	Greg Evans	Greg Evans/Mark Williams	CD Album	Poons Head Rob/Sam/Bush	(09) 339 4791. 48 Track Recording		
Loaded Dice	David Routledge	Greg Evans/Mark Williams	CD Album	Flashing Tablet	Rob Grant/Band	Rob Grant	Album
Dingo Graphic Design	Helen Healy/Alen Koljanin	Greg Evans/Mark Williams	Jingles	Love Bites	Rob Grant/Phil Bennett	Rob Grant	Album
Fortissimo Andy/Sarah (03) 9699 5811. 24 Track 2" Analogue Automation				Iron Youth	Rob Grant/Band	Rob Grant	EP
Bruno Lucia	Trevor Courtney	Trevor Courtney	Comedy Album	Cinema Prague	Steve Ob/Band	Rob Grant	EP
Ariella	Trevor Courtney	Trevor Courtney	Demos	Ditchwitch	Rob Grant/Band	Rob Grant	EP
Penelope Swales	Penelope Swales	Siri Metsar	Album	Annoying Beth	Rob Grant/Sam P.	Rob Grant	Album
Kiss Music Recording Studios Paul Kosky (03) 9827 1500. SSL Console, 48 Trk. Digital				Troppo Sound Mick Connolly (091) 922 394. 24 Track Dolby S			
Dave Graney	Dave Graney	Andy Baldwin	Single	Frankie Shoveller Band	Band	James Edwards	Album
Chess	Paul Kosky	Paul Kosky/Andy Baldwin	Single	Pigram Bros	Band	Brett Lyons	Debut Album
Craig Harneth	Craig Harneth	Ross Cookie	Score	Mark Bin Bakar	Ben Raja	James Edwards	Jack Davis Project
Geoff Wright	Geoff Wright	Andy Baldwin	Single	Witzend Recording Studio Alan Dawson (09) 331 1818. 16 Track Automated			
Cezary Skub	Cezary	Andy Baldwin	Score	Woodcave	Alan Dawson/Band	Alan Dawson	Album
Chong Limb	Chong Limb	Doug Brady	Score	Two Minute Noodles	Alan Dawson/Band	Alan Dawson	Single
S.A.E. Technology College Michael Pollard (03) 9534 4403. 24 Trk 2" Pro Tools, Digital Editing				Heads We're Dancing	Alan Dawson	Alan Dawson	Album
Steven Hogg	Dave	Bruce McDonald	Album Tracking	Northern Territory			
Big Charlie	Michael Pollard	Michael Pollard	Live Studio Demos	Kakadu Studios Ken Hutton (089) 411 344. O2R Digital Mixer, 24 Tk. Digital DA88s B1 Tascam			
Studio 52 Paul Higgins (03) 9417 7707. Studio A - 32 Tk. Studio B Adat 16 Tk				Ursula Yovitch	Ken Hutton	Ken Hutton	Album
David Gould	Peter Cupples	Rowan Jarl/Trevor Carter	Album	Joe Eumbula	Ken Hutton	Ken Hutton	Album
Anestone	Band	Rowan Jarl	Demos	Tiwi Wailers	Ken Hutton	Ken Hutton	Album
Tailor Made	Band	Rowan Jarl	Demos	Masters Studio & Production Lindsay Masters (08) 8932 1754. 8 Track Mackie & Promix, Sync. to Cubase			
Supremacy	Band	Trevor Carter	Album	Atma Chakti	Lindsay Masters	Lindsay Masters	CD
Lil Fi & Delta Rhythm Kings	Barry Hills	Trevor Carter	Album	Russell Blacker	Lindsay Masters	Lindsay Masters	CD
John Paul Pincheira	John Paul Pincheira	Trevor Carter	Album	DCMA Compilation	Lindsay Masters	Lindsay Masters	CD
True Form Music Services Neil Gray 0500 509 509. 12 Tk. Analogue, 16 Trk. Digital							
Aztec Reign	Band	Neil Gray	EP				
Nexus	Neil Gray/Band	Neil Gray	Demo				
Zombonol	Neil Gray	Neil Gray	Mix EP				
Symetry	Neil Gray/Band	Neil Gray	Demos				
Klingner	Paul Backara	Neil Gray	Mix EP				
Wombat Road Studio Barrie Clissold (03) 5145 4204. 16 Tk. Digital, 16 Tk. Analogue							
Wayne Perry	Wayne Perry	Barrie Clissold	Album Mixing & CD Mastering				
Andrew Robinson	Andrew Robinson	Barrie Clissold	Album Tracking				
Brian Baker	Brian Baker	Barrie Clissold	Jingle Mastering				
Various	Barrie Clissold	Barrie Clissold	Compilation CD Tracking				
Tim Borella	Tim Borella	Barrie Clissold	Mixing				
Western Australia							
Planet Studios John Villani (09) 382 2211. 48 & 32 Tk. Digital, 24 Tk. Analogue							
Greenroom	Jeremy	Les Williams	Album Mix				
Second Born	John Villani	John Villani	Single				

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BUYERS GUIDE *wireless microphones*

Price includes sales tax. All prices as advised by Distributors, in Australian Dollars, and current at 01 March 1997. All care taken, no responsibility for any error. Each distributor was allowed to nominate four representatives models, they often have more models to choose from.

VHF MICS & SYSTEMS

SHURE BROTHERS INC

Jands Electronics Pty Ltd 02 9582 0909

Shure T Series provides professional performance at an entry level price. Diversity and single antenna versions available. 2 Handheld options - SM58 or BG3.0, 3 x Beltpack transmitter options - Lapel (WL93); Headworn (WH10) or Guitar. 4 frequencies available from stock. From \$595 thru \$1195.

Shure LX Series 4 Handheld options - SM58, Beta58, SM87, Beta87. 7 x Beltpack transmitter options - Lapel (WL93, MX183, MX184, MX185); Headworn (WH10 or WCM16) or Guitar transmitter options. Over 30 frequencies available. Half rack width receiver. Battery Fuel Gauge. From \$1395 thru \$2095.

Shure SC Series Same transmitter options as LX Series, but frequency agile, and tone key squelch. From \$1695 thru \$2495.

GEMINI

Disco World (03) 9735 0588

VH180M hand held mic system; range up to 150ft; volume control; available in 8 channels; adjustable sensitivity control; unidirectional dynamic mic. \$565.

VH190M true diversity mic hand held system; dual antennas; total accuracy up to 300ft; volume control; available 8 channels. \$794.

VH220M dual hand held mic system; total accuracy up to 150ft; volume control; RF signal; exclusive no distortion cut when mic is out of range. \$996.

SAMSON

Electric Factory (03) 9480 5988

C53-58 Samson concert series hand held microphone and receiver. Shure SM58 capsule + DBX Noise Reduction provide clear and reliable performance true diversity. \$1499.

SR33-58 SR-33 Series microphone + receiver with a Shure SM58 capsule. Available in a wide range of frequencies. DBX included. True diversity. \$1199.

VLXTD-58 VLX-TD series microphone + receiver with Shure SM58 capsule. Samson noise reduction for quiet and clean performance. \$999.

VLX-M VLX series microphone + receiver with Samson capsule. Wide range of frequencies and 18 hour battery life. \$649



ECEN receiver

ECEN

ELSTA (02) 9568 2100

SR31A very compact receiver; frequency range 160 - 250 MHz; quartz controlled; 20 PPM frequency stability; audio level control; 50m range in adverse conditions; over 100dB dynamic audio range; hand held or lapel available. \$349.

DR718 true diversity single channel system; IRU receiver; hand held or lapel available; 160 - 250 MHz frequency range; audio level adjust.; up to 100m range. \$599.

DR728 true diversity dual channel system; IRU receiver; hand held or lapel available; 160 - 250 MHz frequency range; audio level adjust for each microphone channel. \$799.

SR758 dual channel wireless microphone system; IRU receiver; hand held or lapel available; 160 - 250 MHz frequency range; audio level adjust for each microphone channel. \$725.

ELECTRO VOICE

Mark IV Audio (02) 9648 3455

'R' Series diversity system with rack mount available. Transmitters include Guitar Pack, Lapel, Headset and Hand Held with N/D 157B capsule. Non diversity available on request. Up to eight channels will work together. \$839.

MS 2500 rack mount diversity receiver with RF and Audio metering, balanced output. Transmitters include Beltpack and Hand Held. Various Lapel and Headset capsule available for Beltpack. Hand Held transmitter with N/D 757 capsule. Up to 18 channels will work together. Antenna Multicouplers also available. \$1429.

VEGA

Mark IV Audio (02) 9648 3455

AX 20 rack mount diversity receiver with RF and Audio metering, balanced output. Transmitters include Beltpack and Hand Held. Various Lapel and Headset capsule available for Beltpack. Hand Held transmitter with either N/D 757, BK-1, K4 capsules. Up to 40 channels will work together. Antenna Multicouplers also available. \$3359.

VX 20 camera mount receiver with balanced output. Compatible with AX 20 transmitters. \$3199.

NUMARK

Universal Lighting & Audio (07) 5532 9922

WS-9V dual receiver, range up to 50m, RF signal lamps, volume controls and antenna on each channel, fixed frequency receiver range of 160 - 250 MHz. Complete with 2 unidirectional mics, 2 antennas. \$759.

WS-8V true diversity receiver, range up to 100m, response of 40Hz - 20 KHz, audio dynamic range of over 118dB with limiting, fixed frequency, quartz receiving complete with one unidirectional mic, 2 antennas. \$486.

WS-6V single receiver range up to 50m, anti-interference receiver has volume control, external power supply and built in telescoping antenna. Fixed frequency quartz system complete with one unidirectional mic, 1 antenna. \$385.

AZDEN

CMC Music (02) 9905 2511

A31XT plug-in module converts any dynamic mic to wireless. 1 RU receiver, balanced: 10 frequencies. \$799.

A31HT hand held microphone transmitter. Receiver as above. \$799.

A31LT beltpack/Lavalier microphone transmitter. Receiver as above. \$699.

A31IT beltpack/instrument transmitter for guitar etc. Receiver as above. \$699.

COMTEK

Audio Sound Centre (02) 9901 4455

Camera Companion Kit cost effective and compact VHF camera radio link. Options include linear or compounded, mic or line level. \$2684.

LECTROSONICS

Audio Sound Centre (02) 9901 4455

CR187/M187 ultra compact VHF system in machined aluminium housing. Available with beltpack or plug on transmitters. H-plug transmitters instantly make your favourite dynamic microphone wireless. \$3159.

AUDIO LTD

Audio Sound Centre (02) 9901 4455

MX2000/TX2000 high performance VHF system from Audio Ltd. Miniature transmitter with unparalleled sonic quality. Battery operated. \$5148.

DX2000/TX2000 true diversity VHF performance in a portable unit. Good in distance, reliability and audio

quality. \$5148.

MIPRO

Altronic Distributors (09) 328 2199

C 8300 1u rack mount VHF receiver (removable rack ears). True diversity with tone squelch. Unbalanced aux level (6.35mm jack) or balanced mic level (XLR) outputs. Front panel mounted volume control. Received RF and Audio Output LED level indicators. Removable BNC telescopic antennae. Includes 240VAC plugpack. Seven frequencies: 202.4, 202.9, 203.3, 204.25, 203.8, 216.25 & 220.6MHz. \$625.

C 8500 1u rack mount dual channel VHF receiver (removable rack ears). Discrete receiver modules for each frequency. True diversity with tone squelch. Unbalanced aux level (6.35mm jack) or balanced mic level (XLR) outputs. Front mounted volume controls. RF and Audio LED level indicators for each channel. Removable BNC telescopic antennae. Includes 240VAC plugpack. Two frequency pairs available 202.4 & 216.25MHz, also 202.9 & 204.25MHz. \$1150.



Mipro

C 8302 Hand held microphone transmitter. Japanese RET super cardioid insert with rubber web suspension and mesh capsule support. Very low handling noise. Super high strength mic ball grille. Anti-roll polygonal grille ring. "Reverse polarity-proof" battery holder. Powered by 9V battery. Seven frequencies as per C 8300. Weight 205g with battery. \$325.

C 8304 Lavalier microphone transmitter. Japanese RET super cardioid mic capsule with 1m lead, tie clip and windsock. Thumbwheel volume control with preset gain 'lock' switch. Low battery indicator LED, detachable belt clip. Powered by 9V battery. Seven frequencies as per C 8300. Weight 125g with battery. \$400.

CHIAYO

Audio Telex Communications (02) 9647 1411

DR505A/Q309 half rack width true diversity receiver incorporating GaAs FET and PILOTONE circuitry. Hand held mic available with Audio Technica or N dyme insert. Lapel and guitar packs available. \$948.

DR318A/Q303 full rack width true diversity receiver with internal power supply. Metal chassis, balanced/unbalanced outputs. Hand held mic available with range of inserts. Lapel and guitar packs available. \$993.

TELEX

Audio Telex Communications (02) 9647 1411

FMR70/HT200 true diversity receiver, half rack width, metal chassis. Mic/Line selectable output. Hand held mic available with variety of inserts. Range of lapel mics available. \$1660.

FMR150/HT150 frequency agile true diversity receiver, half rack width, metal chassis. Mic/Line selectable output. Hand held/Beltpack both user selectable frequencies. \$2394.

AKG ACOUSTICS

AWA Distribution (02) 9898 7666

WMS51HT complete with handheld transmitter mic and half rack diversity receiver, mic is dynamic with AKG D3700 capsule. Five frequencies available, optional rackmount kit for two receivers. \$795.

WMS51PT with bodypack transmitter and half rack re-



ceiver, mic not included. Mic options include lapel, headset, clip on for wind instrument, acoustic jack, plus guitar lead. Five frequencies available, optional rackmount kit for two receivers. \$695.

UHF MIC & SYSTEMS

SHURE BROTHERS INC

Jands Electronics Pty Ltd 02 9582 6909

Shure U Series High Quality yet affordable UHF system with switchable frequency (188 frequencies 730 thru 810MHz); remote monitoring of battery level; Single or dual channel receiver, Programmable functions, Remote computer access port. From \$4295 thru \$5755.

SONY

Sony Australia (02) 5887 6636

WRR820 PAC1 800 MHz UHF wireless mic package including: WRR820A 1RU diversity receiver; WRT810A dynamic handheld mic; 2 off AN820A active antenna units. Frequency agile, LCD readout, 8 hour transmitter operation (2AA cells) \$5246

WRR820 PAC2 800 MHz UHF wireless mic package including: WRR820A 1RU diversity receiver; WRT820A body pack transmitter; ECM44 Lavalier mic; 2 off AN820A active antenna units. Frequency agile, LCD readout, 8 hour transmitter operation (2AA cells) \$5338.

WRR840 PAC3 800 MHz UHF wireless mic package including: WRR840A 1RU dual diversity receiver; WRT810A dynamic hand held mic; WRT820A body pack transmitter; ECM44 Lavalier mic; 2 off AN820A active antenna units. Frequency agile, LCD readout, 8

hour transmitter operation (2AA cells) \$8540.

WRR840 PAC5 800 MHz UHF wireless mic package including: WRR840A 1RU dual diversity receiver; WRT867A dynamic hand held mic; WRT820A body pack transmitter; ECM44 Lavalier mic; 2 off AN820A active antenna units. Frequency agile, LCD readout, 8 hour transmitter operation (2AA cells) \$9760.

SENNHEISER

Syntec International (02) 9417 4700

Set 1081 radio microphone system consisting of a hand held transmitter, receiver and all necessary accessories for immediate use. Up to 16 switchable UHF frequencies make it ideal for mobile application. \$2299.

Set 1083 radio microphone system consisting of a pocket transmitter, clip on mic, receiver and all necessary accessories for immediate use. Up to 16 switchable UHF frequencies make it ideal for mobile application. \$2399.

AZDEN

CMC Music (02) 9905 2511

411 UDR 1 RU receiver crystal-controlled, PLL synthesised. 63 channels (user selectable) 794 - 806 MHz band balanced/unbalanced outputs. 9 systems may be used simultaneously. \$795.

41 HT hand held microphone transmitter. Super cardioid uni-directional element. 63 user selectable channels. Uses 2 AA alkaline or Azden Ni-Cad batteries. \$495.

41 BT bodypack transmitter 63 user selectable channels. Input level control, standby switch, locking mini-plug connector, metal belt clip. Complete with Lavalier mic. Can be used with headset microphones or as instrument transmitter. \$395.

LLECTROSONICS

Audio Sound Centre (02) 9901 4455

UCR195/UM195 high power UHF wireless microphone. Ultra compact size for camera mounting. Mic or line input. Belt pack or plug on transmitter available. \$5900.

UCR196D/UM195 diversity UHF system. In a package the same size as a non-diversity, truly portable system. \$6860.

AUDIO LTD

Audio Sound Centre (02) 9901 4455

MX2000U/TX2000U high performance compact UHF system from Audic Ltd. Switchable, dual channel operation. Battery operated. Mic or line level input. \$5148.

DX2000U/TX2000U true diversity UHF performance in a portable unit. Good in distance, reliability and audio quality. Selectable dual channel operation. \$5148.

VEGA

Mark IV Audio (02) 9648 3455

U 2020 frequency agile system with 100 frequency options on board. Receiver is half rack unit with RF and Audio metering and balanced output. 4 channel antenna multicoupler with power distribution also available. Beltpack transmitter will accept full range of EV lapel and Headset capsules. Hand Held transmitters are available with either 557 or 757 capsules. \$2299.

R672 frequency agile system will operate anywhere from 500-900 meg. frequency selection is via computer interface with 16 frequencies loaded on board the transmitter and receiver. Full monitoring available on computer via Veganet software. Miniature beltpack transmitter available for theatre use. Hand held transmitters with N/D 757, N/D 857 available as well as 58 and 87 capsules on request. 8 hours battery life on 9v alkaline. \$12,995.

CHIAYO

Audio Telex Communications (02) 9647 1411

SR303/SQ168 frequency agile true diversity PLL synthesised receiver with tone squelch. 16 user selectable frequencies, full rack width, metal chassis. 800/900 MHz. Hand held available with range of inserts. \$2099.

TELEX

Audio Telex Communications (02) 9647 1411

FMR450/WT450 true diversity, half rack width, metal chassis, 524-746 MHz. Up to 50 systems in one location. Lightweight beltpack in metal case. Hand held available with range of inserts. \$3204.

ENG500/UT500 camera mountable receiver, true diversity, frequency agile, metal casing, 524-746 MHz. Variety of mounting accessories. Balanced line/mic output. Transmitter accepts most plug in microphones, phantom power available. \$7920.

AKG ACOUSTICS

AWA Distribution (02) 9898 7666

WMS300HT fully professional handheld set with 3 capsule options, 16 switchable frequencies, half rack diversity receiver. Other options: 8 way antenna splitter, antenna boosters, two receiver rack mount, all cables. \$1929.

WMS300PT fully professional bodypack set with 5 mic options plus guitar lead, 16 switchable frequencies, half rack diversity receiver. Other options: 8 way antenna splitter, antenna boosters, two receiver rack mount, all cables. \$2295.

IN-EAR WIRELESS & MISC

SHURE BROTHERS INC

Jands Electronics Pty Ltd 02 9582 0909

Shure PSM600 Series Personal Stereo Monitors

(continued on next page)

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The Pro R3 Digital Reverbator features 20-bit AD/DA converters and 32-bit processing for superior resolution and dynamics. The high quality analog input and output circuitry also contributes to providing a 110dB dynamic range. A complete reverb system consisting of pre EQ (3-band semi-parametric with knobs), the reverb section (11 reverb/modulation effect types) with dynamic filter (low, high or band-pass) and a full-function compressor, post EQ (fully parametric) and a programmable noise gate. Balanced XLR ins/outs, 90 Presets and 90 User memories and MIDI control.



The REV500 features the same converters and DSP as the ProR3, and features true stereo processing, 100 Preset and 100 User programs categorised for ease of selection, large custom LCD and dedicated rotary controls for critical parameters, balanced XLR and jack ins/outs with switchable levels and real-time parameter control via MIDI.

The ProR3 and REV500 are ideal for music, sound design or speech.

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BUYERS GUIDE

video projectors

Price includes sales tax. All prices as advised by Distributors, in Australian Dollars, and current at 01 March 1997. All care taken, no responsibility for any error. Each distributor was allowed to nominate four representative models, they often have more models to choose from.

CRT PROJECTORS

BARCO

Trace Pacific (03) 9646 5833

BV 701S HDTV and Line Doubler Compatible, 7" CRT, 1100 lumens light output. \$14,558.

BV 701S HQ HDTV and Line Doubler Compatible, 7" CRT, 1100 lumens light output, fitted with high definition lenses. \$16,640.

BV 701S HQ LD HDTV Compatible, complete with inbuilt Line Doubler, 7" CRT, 1100 lumens light output. \$19,580.

ELECTROHOME

Amber Technology (03) 9699 1955

ECP 2500 53 x 42 x 33 x 36 cm WHWD; 48kg; 120 ANSI lumens; 1024 x 768 pixels res; SVHS; 2 x RGB inputs; optional Acon auto convergence; 50 kHz horizontal scan rate. \$20,953.

ECP 4500 Plus 53 x 42 x 33 x 36 cm WHWD; 48kg; 150 ANSI lumens; 1280 x 1024 pixels res (will address 1600 x 1280); SVHS; 2 x RGB inputs; optional Acon auto convergence; 90 kHz horizontal scan rate. \$28,000.

Marquee 8110 58 x 43 x 68 x 71 cm WHWD; 66kg; 210 ANSI lumens; 1350 x 1100 ANSI pixels; SVHS; 8" CRT; RGB inputs; audio outs; Acon auto convergence; 110 kHz horizontal scan rate; optional HDTV ins; contrast modulation + image shift. \$44,100.

Marquee 9500LC 58 x 43 x 68 x 71 cm WHWD; 104kg; 260 ANSI lumens; 1500 x 1200 ANSI pixels; SVHS; 9" CRT; RGB inputs; audio outs; Acon auto convergence; 130 kHz horizontal scan rate; optional



Showstar Plus LCD Projector from Electrohome

HDTV ins; contrast modulation + image shift. \$66,000. Other CRT models are available.

SELECO

Videoceel Australia 1 800 620 434

SVP400HT home theatre projector with line doubler as standard. 900 Lumens 1000 TV lines with Video Signal 4 x 3 Widescreen. \$19,995.

SVT150 entry level CRT with 380 Lumens PAL-NTSC 650 lines with Video Signal. \$8995.

SVT195 home theatre/commercial projector, video only. 900 Lumens, 1000 lines RGB resolution with video signal. \$12,495.

SGD990 multimedia datagraphic, 1200 Lumens, multi-standard RGB input, 1600 x 1280 pixels. More than 800 TV lines with video signal. Optional Line Doubler will deliver more than 1200 lines. \$45,785.

SONY

Sony (02) 9887 6666

VPHG70QM graphics projector 15-110kHz scan rate, 240 ANSI (1200 peak) lumen light output offering resolution of 1700 x 1200 with E² electromagnetic crt's optionally coupled for improved contrast. 120MHz bandwidth ensures crisp clear images at all scan rates. \$32,940.

VPHD50QM data projector 15-64kHz scan rate, 165 ANSI (800 peak) lumen light output offering resolution of 1280 x 1024 with 7" electro-magnetic crt's with universal couplings. 75MHz bandwidth ensures crisp clear images at all scan rates. \$17,324.

VPH1001QM video projector 700 tv lines resolution, and a light output of 700 lumens peak. Composite and S-video inputs with I/R remote control. Designed for home theatre and video only requirements such as pubs and clubs. \$10,560.

RVP411DM 40" rear projection cube for video wall applications. 1.8mm screen surround with a 1mm air gap ensures minimal viewing disruption. Chassis design provides for 3 piece construction by removing electronics and screen from frame. \$17,690.

LCD/DLP/DMD

ELECTROHOME

Amber Technology (03) 9699 1955

Showstar Plus LCD, 640 x 480 res; 1200 ANSI Lumens; 575w metal halide; composite + RGB inputs; 150:1 contrast ratio; 3 x interchangeable lenses; line doubler; 36 x 36 x 63 x 36cm; 37kHz scan; 40kg. \$45,159.

Vista Pro DLP/DMC, 22 x 12 x 27 cm; 1100 ANSI Lumens; 848 x 600 res - resizes up + down; 500w xenon cermax lamp; SVHS; component + RGB ins; range of fixed + zoom lenses; 32kg. \$74,000 + lens.

EPS 800 LCD, 18 x 34 x 54 cm; 20 ANSI Lumens; 800 x 600 SVGA (full); 250w metal halide; SVHS; data; ins; audio + video outs; power zoom lens; power focus; power lens shift. \$13,500

SHARPVISION

Sharp (02) 9831 9226

XV-370P 381cm Compact LCD Projector: Single Panel; 100, 386 Pixels (Delta); Remote Control; 500 Lux; 350 line horizontal resolution for video; Table/Ceiling Mount; 3w built in speaker; fixed zoom; PAL; SECAM; NTSC. \$3999.

XV-380H 508cm LCD Projector: 309, 120 Pixels; 500 line horizontal resolution for video; Remote Control; 250 ANSI lumen; Table/Ceiling Mount; built in amplifier and speaker; power zoom and focus; PAL, SECAM, NTSC. \$5999.

XV-3410S 1270cm LCD Projector: 309, 120 Pixels; 500 line horizontal resolution for video; 350w metal halide lamp; Remote Control; 600 ANSI lumen; Table/Ceiling Mount; selectable 8-language on-screen display; built in amplifier and speaker; power zoom and focus; PAL, SECAM, NTSC. \$9999.

YG-3700E 391cm full colour compact video/computer projector: stripe pixel arrangement; project large 150" 16.7 million full-colour; 500 line horizontal resolution for video; 350w intensified metal halide lamp; Remote Control; 270 ANSI lumen; Table Mount; selectable 8-language on-screen display; built in amplifier and speaker; power zoom and focus; PAL, SECAM, NTSC. \$6999.

SONY

Sony (02) 9887 6666

VPLV500QM 500 ANSI lumen portable LCD projector accepts signals from 15-40kHz, 3000 hour lamp life, with ease of use through I/R remote control. \$10,614.

VPLV400QM 16:9 or 4:3 aspect ratio video projector, 400 ANSI lumen output with composite S-video and HDTV inputs available, 3000 hour lamp life, and I/R remote control. \$9108.

VPLV800QM mini canon 800 ANSI lumen light output with 15-65kHz input scan rate. Lens shift provides varied screen position capabilities can be twin stacked for 1600 ANSI lumen projection. \$22,000.

LIGHT VALVE

BARCO

Trace Pacific (03) 9646 5833

BD 2100 1024 x 768 pixels resolution, 3500 lumens light output, portable. \$24,238.

BD 3000 VGA 640 x 480 pixels resolution, 3500 lumens light output, portable. \$38,090.

BD 5000 VGA & MAC 756 x 556 pixels resolution, 5200 lumens light output. \$52,861.

BD 8000 VGA & MAC 756 x 556 pixels resolution, 8500 lumens light output. \$68,450.

HUGHES JVC

Hagemeyer (02) 750 3777

M315E horizontal freq. 15-90kHz. Vert. freq. 45-120Hz. Res. (HxV) 1600 x 1200 pixels. Video res. 900 TV lines. Light Source 1500w Xenon lamp. Lumens 2000. Size (HxWxL) 52.5cm x 70cm x 135.5cm. Weight 162.8kg. \$110,000.

M315G horizontal freq. 15-90kHz. Vert. freq. 45-120Hz. Res. (HxV) 1600 x 1200 pixels. Video res. 1000 TV lines. Light Source 1500w Xenon lamp. Lumens 2300. Size (HxWxL) 52.5cm x 70cm x 135.5cm. Weight 162.8kg. \$162,500.

M335G horizontal freq. 15-90kHz. Vert. freq. 45-120Hz. Res. (HxV) 1600 x 1200 pixels. Video res. 1000 TV lines. Light Source 2500w Xenon lamp. Lumens 3500. Size (HxWxL) 52.5cm x 70cm x 135.5cm. Weight 170kg. \$209,000.

SONY

Sony (02) 9887 6666

VPD-S1800QM DMD light canon with 1800 ANSI lumen output. Input Scan rate of 15-65kHz. Optional lenses provide wide range of throw distances and screen sizes up to 600". Available May 1997. \$85,400.

Buyers Guide from previous page

P6TRE1 Wireless Personal Stereo Monitors. 1/2 RU UHF transmitter with metering and choice of 2 frequencies per unit. Receiver beltpack features inbuilt defeatable limiters and a unique feature called mix mode, allowing the unit to work with a stereo mix or 2 mono mixes, panable from the beltpack. System comes with Shure E1 universal earpieces as standard and all necessary accessories. \$4995

P6HWE1 Wired Personal Stereo Monitors. Beltpack features inbuilt defeatable limiters, a 15dB pad, and a unique feature called mix mode, allowing the unit to work with a stereo mix or 2 mono mixes, panable from the beltpack. System comes with Shure E1 universal earpieces as standard and all necessary accessories. \$1995

PA760 Active Antenna Combiner allows the connection of up to four P6T transmitters to the one antenna system.

VEGA

Mark IV Audio (02) 9648 3455

Q600 full Duplex radio talkback system with base station and up to six beltpacks. Compatible with Clearcom/Jands/Creative Audio/RTS etc. cabled systems. Available either VHF or UHF. Compatible with standard headsets on A4F connectors. \$43,679.

SENNHEISER

Syntec International (02) 9417 4700

Blackfire 1051 is an advanced wireless system at an affordable price. A tough diversity receiver with 2 switchable frequencies and hand held mic to match in a practical carry case. \$1099.

Blackfire 1053 wireless case containing a mini pocket transmitter and a sub miniature microphone (6mm). A rack mountable receiver containing 2 switchable frequencies jack plug cable and battery. \$1299.

EnTech

THE MYTH:

"It's
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an
audio show!"



THE MYTH:

"It's
ONLY a
lighting
show!"

THE LX REALITY:

Around 30% of our exhibitors (in qty & floor space) wholly represent **lighting products**. These include BYTECRAFT, CHAMELEON TOURING SYSTEMS, CLEARLIGHT SHOWS, COEMAR DESISTI, C.L.S., INFONICS, INLITE, LASER THEATRE LIGHTING, LIGHTMOVES, LSC ELECTRONICS, MEDIAVISION, MILLER PROFESSIONAL, ORACLE LASER PRODUCTIONS, OSRAM AUSTRALIA, PHILIPS LIGHTING, PREMIER LIGHTING, QUANTUM EFEX, SHOW TECHNOLOGY, SHOWCRAFT, SYLVANIA LIGHTING, THREE ARTS, TOMCAT, and TOTAL FABRICATIONS.



AUDIO REALITY:

Around 40% of our exhibitors (in qty & floor space) wholly represent **pro audio products**.

These include ABBEY SOUND, ACOUSTISEARCH, ALCATEL, ALTRONIC DISTRIBUTORS, AMBER, AMPS UNLIMITED, APOGEE SOUND INC, AR AUDIO, ARX, AUDIO TELEX, AUST.AUDIO SUPPLIES, AWA, BOSE, CMC, CMI, DIGIDESIGN/AVID, EAST COAST AUDIO, HORWOOD AUSTRALIA, MAGNA SYSTEMS, MAJOR MUSIC, MARK IV AUDIO, MEYER SOUND, MOORE MUSIC, MUSITRONICS, P. AUDIO, PRODUCTION AUDIO SERVICES, ROLAND, SYNCROTECH, THE PA PEOPLE, RESOURCE CORP. and YAMAHA.

MORE REALITY!

There are many exhibitors who make up the remaining 30%. These include: A&A AIBA, CC's LIGHT & SOUND, CREW ROOM/GIG POWER, DISCO WORLD, DISCO AND DANCING MAGAZINE, ELSTA AUSTRALIA, IMPORTED THEATRE FABRICS, GEMINI/LYTEQUEST AUSTRALIA, GILBERT LODGE AUSTRALIA, GLANTRE ENGINEERING, GUVT, IMAGE DESIGN TECHNOLOGY, JANDS ELECTRONICS, NIGHTLIFE MUSIC VIDEO, PENN FABRICATIONS, SBA MUSIC, SOUTHERN CROSS PRODUCTIONS, SOUNDWORX MAG, STAGE WHISPERS MAGAZINE, UNIVERSAL LIGHTING AND AUDIO. **Some of these firms exhibit lighting and pro audio products together, or they exhibit vision, staging, engineering, industry services- and more.**

This trade show occupies 7,500m² of exhibition space. Comparisons: AES '96: 2,021m² Australian International Music Show AIMS 1997: 5,000m². PLUS this year we feature an additional 3,000m², occupied by the Venue Management Association Trade Show, for a total of 10,500m²

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You can run but you can't hide! DVD is coming to change your world!

DVD: the authoring process

BY HOWARD JONES

The process of mastering audio and video material for release on DVD is known as authoring. To date Sonic Solutions is the company presenting the most complete demonstration of authoring, with a full suite of DVD mastering tools ready to go.*

These tools can be purchased as a DVD package or the relevant DVD elements can be added to an existing Sonics CD mastering system.

The DVD Creator, as Sonics call their system, is a pre-mastering workgroup based around a RAID array of hard disk drives. It is an interesting set-up in that there is no one master processor: it requires a group of Macs running together over an FDDI MediaNet network. MediaNet is a digital media workgroup system developed by Sonic Solutions to allow real-time

playback and recording of video and audio data from remote servers.

One Mac is assigned to audio encoding, another to video encoding and yet another runs the third party Scenarist software required for preparation of the on-screen graphics, menu selections etc. which DVD will typically incorporate into the video.

Scenarist uses a Silicon Graphics Indy workstation for graphics manipulation. The output from Scenarist is directed to DLT (Digital Linear Tape) as is that from the audio & video encoding Macs.

A final Mac is used as an emulation terminal for decoding the processed audio and video. This allows a QC pass of the data to be made before the tape is shipped out for disc replication. Video compression is achieved with MPEG-2 variable bit rate encoding with

integrated audio support for Dolby AC-3 (in PAL countries this will be MPEG-2) and linear PCM audio.

The thinking behind DVD-Video, and the great power of DVD as a format, is that a level of interactivity or choice can be introduced into the viewing of a programme. Thus, when a disc is played, the viewer might be presented with menu selections which alter the play sequence of the disc.

Alternatively, pages of graphics and video stills might be used to present extra information about the film on the disc. Another possibility is the addition of sub-titles.

In any event, authoring for DVD-Video will require the streaming together of video, audio and graphics data.

Authoring for DVD-Audio is likely to be a little more straightforward. Obviously, if

an audio disc is intended to be released in linear encoded stereo format, then the process should closely resemble pre-mastering as we know it now - in fact, be identical up to the point where transfer to the DLT master tape occurs. If the disc is to be released in compressed/ multichannel format then several extra steps need to occur and these will be described shortly in further detail.

Video material coming to the authoring suite is likely to take the form of Digital Betacam master tapes of the film or video to be encoded. This information is copied onto the RAID array drives. Similarly, the audio will come in as, say, a DAT master. This, too, will be loaded onto disc. The video, audio and graphics streams only need to be multiplexed together during

(continued on page 56)



Paul Bryant

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21 YEARS OF PROFESSIONAL AUDIO ENGINEERING FROM AC DC TO ZAPPA.



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Corduroy Records

Vinyl lives! thanks to the solitary vinyl manufacturer in Australia called Corduroy Records. Established two years ago, you could say that they have 'cornered' the market and are now pressing a wide range of audio product. Dan Cole spoke to manager Nick Phillips.

I understand that you are the only vinyl manufacturer within Australia?

In New Zealand too: there are no vinyl manufacturers in New Zealand because we get a lot of work from there. I have been told there is a factory in Japan but they only do quantities of 10,000 and upwards. They were involved in the re-releasing of the Beatles Anthology.

Where did your pressing equipment come from?

Most of it came from a place in Sydney called All Music who got all their stuff from other places that were closing too for instance the electroplating baths from EMI, the granulator is from Capital Records and so on.

The best of everything perhaps?

I have been lucky; the electroplate bath came from EMI which at some stage was expensive equipment. When I came along it was a case of 'taking it off their hands'. The equipment was bought at the lowest point of the market. I wouldn't be able to afford it otherwise.

Did you get someone to install and renovate the gear for you?

I hired a man called Harry Williamson who used to work at the Record Factory in Melbourne who set everything up for me and ran it for six months while I took notes. He was fantastic. In some ways pressing vinyl is a mysterious art and some of the processes has to be shown not read...

... a dying art?

There are funny tricks, for instance silvering of the acetate; Harry told me, 'don't ever do it on a stormy night when there's electrical activity'. I tried it one time out

the silver took to the acetate in a crazy way making the records crackly and horrible!

Who is ordering vinyl now?

There are three areas: often big record companies like Sony, Mushroom, Shock, EMI come to us. Mushroom had a couple of jobs per week and Sony had 4-5 in the last month, but it's different for each project. Sony wanted 12" dance re-mixes for DJs to play, then we pressed a number of silverchair 7"s. Vinyl has become cool with the younger kids who are into those types of bands, which is good for me... When I first set up two years ago I thought I'd only get fuddy duddy record collectors.

I suppose the 7" singles become collectors items?

Yes I think they sell half to the kids and half to collectors who stash them away and bring them out in five years later at record fairs. The 12" dance market is the second market for us and it is usually small quantities. 200 is an average and runs of 500 is common. Bigger companies will get 200 and give them to DJs for PR if a new CD is out. The third market is small local bands who do 7" singles. This works out quite cheaply for them.

And still good quality?

Yes, it is broadcast quality of course which they can sell at shows and play on radio. This is an alternative to spending money on cassettes or CDs. A couple of hundred copies would cost around \$700 which includes labels, covers and mastering but you would have to do your own artwork. A guy in Preston does that. Two hundred 12" would cost around \$1000.

Do people bring a DAT master in or...?

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Other problems are simply MIC-EZE. Mic-Eze are clever spring loaded mic clips with butterfly screws for security. Two together are P.C-E-BAK at \$49.00. Two connected by a Rubber Neck are called Flex-Eze in 3' or 5" at \$49.00 ea. Max-Eze and Min-Eze are \$49.00 each. There are also male and female threaded base units for mounting mics to stands, drum kits or whatever - all these are only \$24.95 each.

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DVD authoring

the final stage of authoring. Of course, the audio and video will be worked on together in order to make sure that the audio is correctly conformed to the video. The graphics, however, can be prepared off-line at any time before, during or after the authoring process proper. When required, the graphics data can then be multiplexed together with the audio and video streams during the final dump to DLT.

DVD authoring is kicked off when the master tapes arrive from post-production. No matter whether the particular authoring session is for video and audio, or audio only, it will be necessary to ensure the quality and integrity of the audio/video masters. Because the content of the bit stream of the coded material cannot be altered (no drop-ins here), any mistakes detected in the final assembled DVD master will necessitate the re-encoding of all material.

When authoring for DVD-Audio, the master tape(s) must first be evaluated to determine the encoding parameters which will be required. The engineer determines the bit rate to be used, based on the available bit pool and other elements. A pseudo-encode pass is then performed to ensure full down-mix compatibility.

Once he or she is satisfied that the selected bit-rate is correct, the next step is to edit the Bit Stream Information. BSI data is information which is transmitted with the audio bit stream and carries data about the audio, e.g. the data rate, Bit Stream Mode, Audio Coding Main, LF effects channel on/off etc etc.

The next stage is to perform the encode pass on all the audio and non-audio data. (If the authoring session is preparing audio for video, the audio bitstream will be passed to a multiplexer which integrates the audio and video data prior to encoding.) The encoding process sends the data to the hard disk drive array and the information stays resident there for the time being.

Authoring for video is essentially similar to the process just described for audio. Several factors have to be checked very carefully when encoding video data and applying a suitable level of compression to video will be a combination of machine and human skills. The encoder uses an automatic process to calculate the bit rate reduction to be used from frame to frame.

Being a mechanical function, it is necessary for the authoring engineer to check the outcome for blockiness or any other visible artefacts which would indicate that the encoder had not used a suffi-

cient bit rate at a given moment. When such points are detected, the engineer can intervene to force a higher bit rate for the I-frame. This why the pseudo-encode process already described must be employed before the true encoding takes place. The other vital step in video authoring will be to ensure that the post-production master to be worked on is as totally noise free as possible, since nothing destroys the bit rate reduction technique like the presence of noise.

QC checking is a vital part of DVD authoring. As previously pointed out, any errors in the encoded data can only be repaired by re-encoding all information, so there is a strong incentive to ensure that all is well before the final tape leaves the authoring suite. In addition, the encoded material should be checked for any artefacts attributable to the bit rate reduction process, although the first, pseudo-encoding, pass is intended to catch any problems in this area.

QC checking begins by replaying the encoded data back off hard drive. The QC software prepares a list of QC "hits" and compares them to the source master. If this step is completed successfully, the authoring engineer then checks for file integrity and audio/video quality. If he or she is happy with all the steps up to this point, then the encoded data can be downloaded from hard drive to DLT. It is the DLT which is shipped to the factory for DVD replication.

The art in the authoring process - for art it will no doubt prove to be - will be to compress the audio and video in such a way as to give the minimum possible bit rate without corrupting the sound or images. The challenge for existing mastering engineers will be to grow with this new technology and learn the arts involved. It will be interesting to see how they respond to that challenge.

* *Nimbus also have a complete DVD authoring package, although they did not exhibit at AES.*

DVD CONFERENCE NEXT MONTH AT ENTECH

DVD - the Technology - conference will be held on Tuesday April 22nd, the day prior to ENTECH exhibits at the Melbourne Exhibition Centre. A final conference program is now available, call Connections on 1-800-635-514 or fax (02) 9876-5715 for your copy.
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Corduroy

Yes or 1/4" tape or CDs. Then it goes to Gill Matthews at Siren Entertainment and he does the cutting on his lathe. He plays the DAT and it cuts an acetate version at the same time. I've got the only record press and he's got the only cutting lathe.

He then gives you the acetate record master...

It is soft plastic which is playable but not resilient like vinyl. We transfer from plastic to vinyl by first spraying the acetate with a silver nitrate solution which means it will conduct electricity (but not on a stormy night...) This is then placed in the electroplating bath and sits there overnight spinning around with current going through it. In the morning you have a nice nickel negative of the record stamper and its ready to go.

Do you inspect the stamping mas-

ter at this point?

You can use microscopes and all that but the best way is to just press one and give the test pressing to the customer.

Average runs?

The smallest run we do is one hundred but anything like 500 or 1000 is common. For 12" the average is about 200 and with 7" anything from a few hundred to a few thousand.

Do you think vinyl is a static or expanding market?

The DJ market seems to be expanding; we did two more jobs for Sony this morning and more people are getting to know us so its busy. I think vinyl sounds better than CD if you have the right equipment and there is no doubt that some music lends itself more to vinyl.

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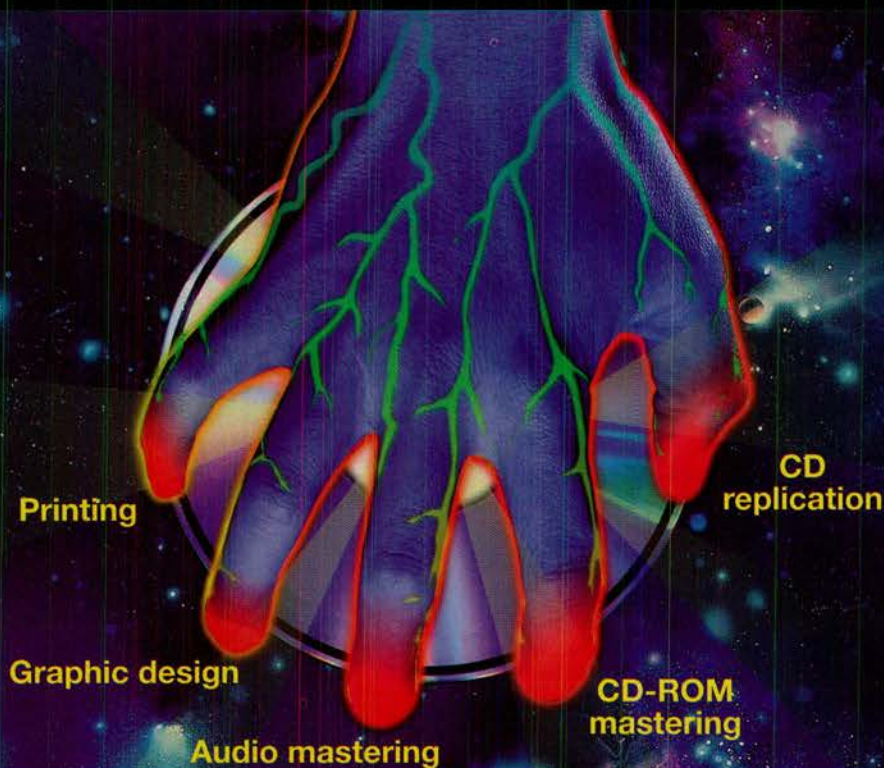
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KISS

With dollar signs in their eyes, a band of dressed up, middle-aged men take to the stage

Would someone like to explain to me what is so great about KISS? The lights were great, as was the sound (albeit heard through ear plugs) but where is the attraction in a bunch of egotistical, middle-age men dressed up like idiots desperately thrusting their groins at you whilst playing bland music? I actually felt physically sick. And talk about wanky solo spots. ... still a job's a job.

KISS were the highest grossing band in the music industry last year, totalling US\$100 million in ticket sales and merchandising, which proves there must be a lot of sad people out there. In fact they are in the top twenty of the highest grossing people ever. Double tragic. Their merchandising accounted for about 38% of the total income last year. But when they charge \$22 for a program, you can see why.

Believe it or not, between KISS tours lighting designer Bryan Hartley returns to Nashville to work with country artist Tricia Gearwood. Bit of a radical change.

Bryan controls the KISS 'Alive/Worldwide '96-97 Tour' show through an Icon console. The only input he got from the band was that they wanted the show to look 'big' - you can't help but get the impression that the band aren't particularly forthcoming and helpful.

"We did an initial design but once we started on tour they cut a bunch of stuff due to things like time," explained Bryan.

"After the first leg, about one month, the manager let me go in and redesign the show adding the stuff that got cut back. With the redesign, I got more lights to make it look even bigger. I added another 200 Pars which is rare in this business. I'm happy with it now."

The rig comprises of a 56ft down-stage front truss with two fingers extending upstage. Inside of those two fingers are six more fingers - two of which consist of three hexapods together. At the back of the stage there are two 'amp walls' which raise up at an angle after the start of the show.

"Same thing with the lighting," said Bryan. "There are trusses and speakers put together, with Icons, Molemags etc. on them, which also move. The fingers move too."

The lighting has a massive 420 Pars, 24 Colormags, 20 Molemags, 24 Washlights, 40 Icons, 40 Dataflash AF100C, 2 F-100 and 2 DF50 smoke machines. Added to that are six FOH followspots.

"The band's not all that crazy about smoke because we have so much pyro," said Bryan. "There's not as much pyro as there used to be but I think it's a good amount. We do this one gag where Ace shoots a rocket from his guitar up into the truss resulting in a Par can falling down and hanging there. He wanted it to be a

truss falling down but I said it wasn't a good idea. It always catches the spot guys out!"

In the middle of the stage is a large video wall plus a screen on the front of the truss and two either side. Gimmicks include a couple of cherry-pickers either side of the stage which pick band members up and take them over the audience. A lit-



Photos: Bob King

tle mole told me that during the second Sydney concert, the pickers failed to work properly leaving an irritated Gene and Ace stuck in mid air. At one point the drum riser moves up 17ft. Gene Simmons does the whole blood thing before 'flying' through the air up to the front truss. He then sings an entire song whilst standing upon the lighting front truss.

As well as the Icon board, there is an emergency board in case the Icon crashes.

"I've got some emergency looks with the Par cans set up on it," Bryan said. "There are some things run through it like the beacons."

The lighting equipment was hired from Jands and Bytcraft apart from the Washlights which came from Europe.

"I like running the Washlights on 240v, it just seems that the lights have more punch," Bryan told me. "In Europe, where it's 240v and everybody smokes a lot, they looked really punchy. Then I went back to the States and they just didn't feel the same. I prefer Icons because of the Icon desk, it can run everything and Vari*lites don't have colour fading. The light is about the same really. Anybody who has run an Icon console and a Vari*lite console would be lying if they said the Artisan can do what the Icon console can."

The tour has been continuous since last June, after a month of rehearsals, and is due to finish at the end of July. Along the way, there have been a few minor incidents.

"When Gene flies, an 'I' beam is used to lift him up on cables then pull him downstage before setting him on a pod," Bryan began explaining. "One night a pyro caused

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When Irish eyes are smiling.....



Felix continues with the Australian Doors tour, this time to Eire

If ever you make it over to Britain, just a hop, skip and ferry ride to the left is a wonderful little country that's like a Gaelic Tasmania. You know, the same but different. Ireland. When Irish eyes are smiling.....it means an Australian Prime Minister is feeling up the Queen. Ireland and sweet Ireland - it's everything you could imagine. Quaint stone villages nestled amongst emerald rolling hills. Tiny pubs selling the best Guinness you'll ever drink, and lots of gorgeous young lassies with eyes that really do smile. Whay hey!

Dublin the capital of Ireland (or Eire if you prefer) a wonderful, vibrant city full of music, street buskers, market stalls, more pretty girls and cheeky young kids who ask you for a fag and when you reply "no, you're too young", kick you in the arse and run off laughing. On the main drag, nestled amongst cafes, pubs and cobbled lanes, lies the Olympia Theatre a classic old room with a real 'in your face' feel due to the close, steeply raked balconies. The top one is real nose bleed stuff. It ran a rather unique programme of events, with a play usually on during the day followed by comedy or a musical in the evening then a band after midnight.

As you can imagine it kept the crew pretty busy. Both monitors and FOF had two separate consoles (40 ch TAC Scorpion) which they would swap between acts. On the last tour they had just put in a Langley 501 desk and control with virtual dynamics. Compressors, gates, expanders etc. were on computer linked to the desk. So to place a compressor on the kick for example, you would type in the

channel number, select a particular type of compressor, then a picture of it would appear on screen. So by using the mouse you could adjust ratio, attack etc. Just like a video game. They had programmable Klark Teknik graphics as well so at the end of the night you could store a lot of the performance for the next night or next year. Mind you, it takes a bit of getting used to reaching for a mouse instead of a knob on a dbx.

It also took a bit of getting used to the stage manager John Brogan who, to make his job easier, would make ours harder. John would say no before we even finished asking something.

"John can we focus these..."

"No!"

"Well, can we at least put..."

"No!"

"What about..."

"No!"

It actually became quite a giggle so we followed him around asking anything until he'd finally turn around and say "Why doncha just fook orf". No! ha ha. We'd still try to bring some projectors and strobes in to spice up a generally dull collection of theatre lamps but as lighting operator Pat Hogan says "You can't polish a turd".

We'd usually play a Friday, Saturday, Sunday night run, which was a real break from the usual fleeting glimpse one night gigs in Britain. It also meant time to wander around charming Dublin, visit shops, play soccer, wash clothes, have a real dinner and of course visit the odd pub for the odd Guinness. By midnight everyone would be nicely toasted along with the crowd, the crew and the followspot operators who

would take to some of the most interesting spot operating I've ever seen. Pat and I would laugh till we stopped.

One of the most memorable gigs I've ever done would be our very first midnight at the Olympia. Obviously expecting a stiff and no idea of the sort of crowd we get, the theatre seriously under booked. A sell-out crowd of drunk Irish leapt out of their seats on the first chord of the first song to the horror of John Brogan and the now over run security. Chairs were trampled, people were happily dancing on stage, someone fell off the balcony. Beautiful chaos.

John tried to stop the show by grabbing the mic and yelling "Dats it, dats it, no more". Lez, the singer, just grabbed it back and continued singing. Back in the dressing room we met the chap who took the fall. He sported a very nasty head wound but shrugged it off saying "I didn't feel a ting". Strange days indeed.

After being thrown out of the dressing room we'd stagger down the road, usually with a bevy of pretty young things, to the bar at our hotel. As usual, guarding the door would be a chap we rick-named the 'Church Police'. A pretty torrid argument would follow.

"You can't bring them in here."

"Why not?"

"It's against the law."

"Who's law?"

"My law"

"You're just racist against Australians."

"Piss orf."

"Look, you're obviously not getting enough so why don't you come upstairs, hide in the cupboard and watch while you have....."

By then it would turn pretty ugly. Still, we'd usually get our way, but every night he'd be there, waiting.



Pat Hogan meets his Irish match



Felix in the remains of the Olympia Theatre after the gig

KISS *continued from page 62*

the burlap on the 'I' beam to catch fire and the spanset burned off. Consequently the 'I' beam fell and the show had to stop whilst the fire was put out. It was pretty intense but we still did a couple of songs after that.

"On the very first show we did a load of pyro ignited when it shouldn't have and rockets started going off into the crowd!"

Whilst casually flipping through Julius' copy of *New Weekly* I noticed a snippet about Gene Simmons who reputedly claimed that this tour has a sound system so big "it has enough power to drop five pounds off any fat girl within a thousands yards of the stage". I positioned myself in front of the speakers hopefully but all I lost was my hearing. The man in charge of the power was Sound Engineer Toby Francis who has been in the business for about twenty years and admitted he was getting a little tired of rock'n'roll.

Apart from the FOH speakers and amps, all the sound gear was brought with the tour. The sound was mixed from a Langley Recall 56 channel desk with 10 stereo inputs making 66 channels, all of which are used. Effects are fairly basic - a TC Electronics 2290, M5000, Lexicon 480L, two

SPX90's for the support act.

"The console has total recall features so the support act can use whatever they want on it," said Toby. "All the dynamics are internal except for 6 channels of tube limiters. We've got 24 tracks of ADAT as all the shows are recorded on DAT, cassette and ADAT for some reason. The PA system, provided by Jands, has 72 S4 cabinets, (24 'P' series which have the longer throw and the rest are all standard 'F's).

"With these types of buildings you have to use a combination of long throw and short throw to cover it," explained Toby. "Because of the production needs the PA is as high as it'll go - this tour we've had to work around the carpentry, lighting and pyro departments. There's a lot of stuff in a confined area."

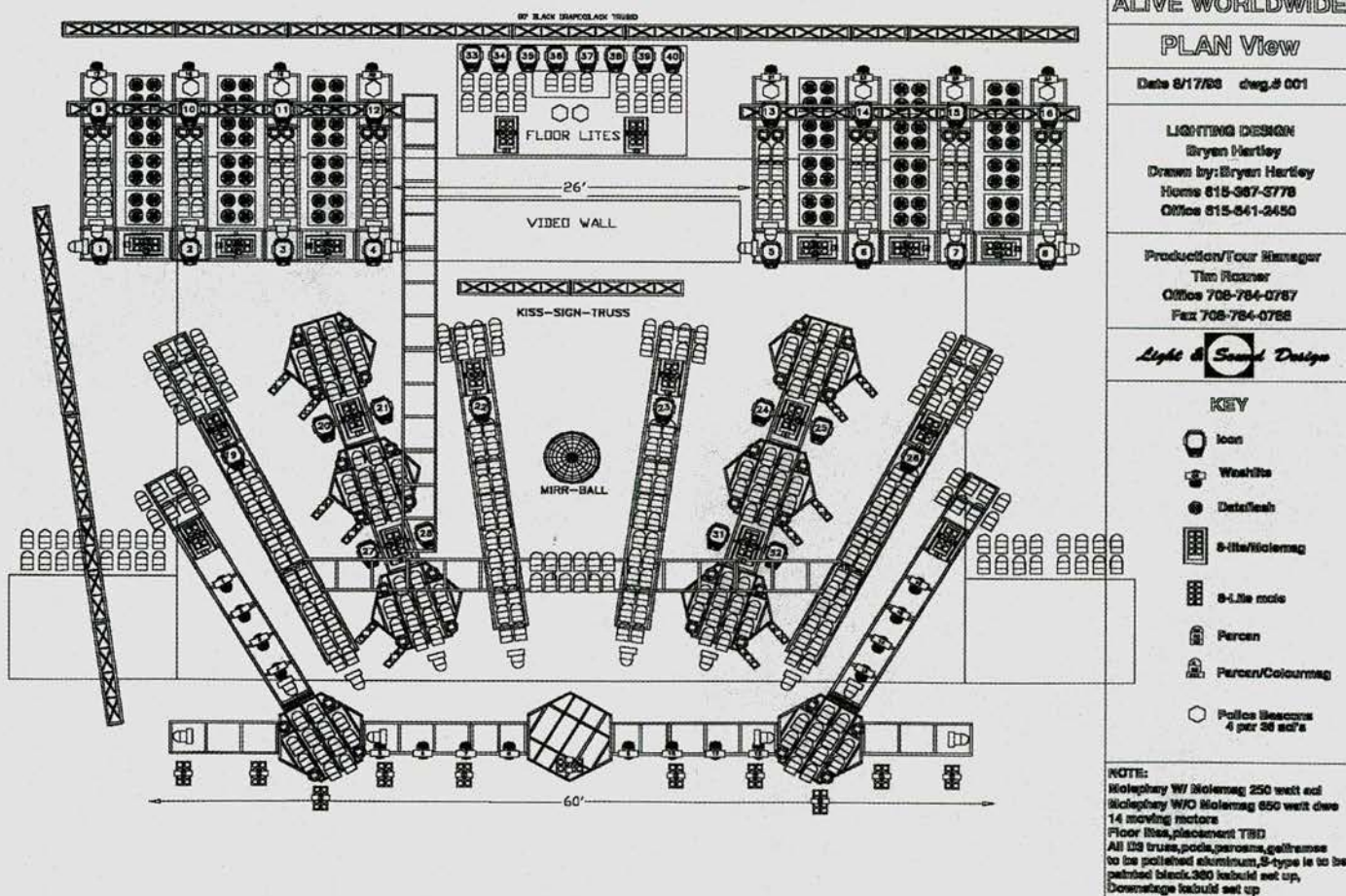
For monitors there's a Yamaha PM4000 although after this leg of the tour, it'll switch to a new Recall desk which will do 76 mixes and is totally automated.

"It'll be good because we have a combination of in-ear monitors (everybody on stage wears at least one in-ear monitor) as well as 24 wedges mounted under the stage, Toby said. "The wedges are to let them feel more than the in-ear monitors can provide. Ace relies heavily on the wedges for his guitar sound. All the mi-

crophones are Shure, all the cabinets that are microphoned are underneath the stage and isolated, the drums are a combination of being acoustically microphoned as well as individually microphoned and triggered. Both (mic & samples) are used out front, it's a mixture for a bigger sound."

The band wanted as big and as extravagant sound as possible, the whole KISS philosophy is to give the biggest show they can. They wanted a lot of volume which they certainly got. Even Toby admits the volume is excessive and he advised me that ear plugs were on sale in the foyer.

"I get very little input from the band even though they ask for the tapes," Toby told me. "But they've never said anything to me one way or the other. The room here at the Sydney Entertainment Centre is above average but I prefer the Tennis Centre in Melbourne. In the States we did the newer, larger arenas some of which hold over 25,000 which is a challenge. In the States we carry a Showco Prism PA, in fact the whole of the tour except Australia has it. I believe it's the only totally state-of-the-art PA in existence, everything else is a generation behind. I don't have to EQ the Prism PA - the way the drive system works means you don't have to EQ and it's very much like mixing off of a left



and right speaker. You get drastic stereo imaging and it's very much like sitting in a studio mixing between monitors. Every place in the room sounds the same, more so than any PA in existence. Flashlight is an interesting PA but I don't like it. The low end has a punch that's inherent in all Turbo cabinets that I do like



Toby Francis and Bryan Hartley

and the vocals sound really good out of it. I don't like the way the high end sounds and I don't like the big hole in the low mids. The concept is flawed, you have to ground stack bass bins and fly everything else. That won't work in arenas, it's physically impossible to make that work, I don't care what anybody else says. If you fly bass bins in your main hang you create holes in the way that the 3-way boxes work. It's such a tight coverage pointing boxes like a light and if you put bass cabinets in there, you're eliminating your ability to do that. I defy anybody to argue that, I've used it in several configurations and I don't like it. For a PA anybody can buy, it's a good PA and I like it better than EAW850's which is another flawed concept."

In Japan, Toby had a 160 box Prism PA put up in under an hour something he believes impossible with any other PA. With such a large production there is limited time to do your job but with the Prism PA Toby only has to play two songs, walk the room and he's done. With the Jands PA he has to work harder although Toby is a big Claire Brothers fan.

"I know some tricks with it but the Prism PA is just leaps and bounds ahead of it and I don't work for Showco," said Toby. "For this tour we could use any PA we wanted and a lot of people in the past have said the Prism PA won't work for hard rock but it certainly does. I think the Prism PA is more suited for any situation than any other PA. The challenge is as much as you want it to do. The mix can have as much air as you want, as much stereo imaging as you want as clarity as you want. You can always work backwards. My only criticism of the Prism PA is because it's so clean, it's not very forgiving with bands that make mistakes as they stand out. I like the way S4's sound with guitars and I like the way you can ground stack them and when the artist stands in front of them there's no feedback, as long as the artist stays between the mic

and the speaker. It's the only PA that will do that."

Toby has also had his own fair share of problems with the pyros stating that electronic equipment and explosives do not mix. In fact several amplifiers have been damaged by the pyros.

At the time the show was the loudest on tour using Showco, with the highest SPL levels, but they have blown the least speakers. Toby gives credit to the Recall as it has gates and limiters on everything - it would take 3 x 20 space racks of inserts to do what is being done internally in the desk.

"So we can control a lot of the transients when the explosives go off" he said. "All the vocal mics have to be muted, in both mains and monitors, when the pyros go off. During one show a charge took out nine monitors because the vocal mic was left on. Other than that it's been an easy tour."

Toby is looking forward to using the Prism PA with a band that is "more challenging" than KISS as the only challenge there is to keep it sounding big.

• Cat Forcer

Touring Personnel

Tour Manager *Tim Rozner* Production Manager *Rocko Reedy* Production Assistant *Julie Peterson* Sound Engineer *Toby Francis* Monitor Engineer *Kurt Springer* Lighting Director *Bryan Hartley* Venue Security *Tony Morehead* Head Rigger *Bobby Carrell* Rigger *Erik Smith* Head Stage Technician *Bob Weber* Stage Techs *Michael Garabedian, Scott Nordvold, Randy Wilson* Lighting Crew Chief *Gordon Hyndford* Lighting Techs *Bill Boyd, Russ Felson, Andrew Mills, Bill Staton* Sound Crew Chief *David Moncrieffe* Sound Techs *Mike Adams, Jake Mann* Head Pyro Tech *Randy Bast* Pyro Techs *Brian Kuoght, Tye Trussell* Video Director *Gary Odum* Video Crew Chief *Sean Corrigan* Video Engineer *Nate Damron* Video Techs *Chris Bennett, Patrea Cheney, Stephen Gray, Dan Harnett, Michael Lane, Peggy Powers, Lonnie Stoner* Tour Electrician *Jim Ferry*

Local Touring Personnel

Tour Manager *Michael Murdochson* Production Manager *Wayne Skals* Sound *Matts Frankl, Alun Hodgkinson* Lights *Dave Fenton, Mark Harris, Andy Cowen, John Delahunty, Ian Mezier.*

ROUGH RIDERS

It's 42°C and the day is stinking hot. A long, stifling February has begun as we wait for the onslaught of European and American tours all attempting to escape the harsh Northern winter and revel in our heat.

"Fools", I think as I crack another tinny (diet coke of course) and rub fluoro pink zinc on Bluey's nose; even dogs have to slip, slop, slap in this weather. The air conditioner's on the blink and the office is deathly quiet except for the buzz of a couple of desperate flies I let in out of the heat; then the fax machine jumps to life spitting out an updated rider for the debut Aussie tour of this month's hot North American band. It's pretty standard stuff until I get to paragraph 72, I read it and have a chuckle:

"During inclement weather it is essential that experienced snow removal crew and equipment be available at the time of load-in, show call and again at load-out. Sand and salt should also be on stand-by for all vehicle areas if required."

I glance out the window at the dry, sandy track that leads to the loading dock and the barren landscape beyond. Definitely no problem with supplying the sand and we can certainly buy out the year's salt supply from the local Poolmart. The snowplough could be a problem though and the experienced snow crew! Well I think Dave our head mech spent a week-end at Perisher one year, though I don't think he ever actually left the chalet bar.

I decide to do the right thing and ring the American Tour Manager, imagining that we'd share a joke when he realises he forgot to stamp that paragraph with the usual "Not Required In Australia", but I can't resist taking the piss, so I tell him that there could be a bit of a problem with getting a snowplough at this time of year. I wait for the laugh...but there's a deathly silence. "That could be a real problem, hold a moment please". I hear him conferring with someone in the background their voices becoming raised and agitated.

He finally comes back on the line; "We're prepared to pay whatever it costs, the band are adamant about being prepared for this contingency". I hesitate for a moment before blurted out, "It'll be a hundred and twenty-seven thousand dollars for the week's hire". I hear a sharp intake of breath, then "I'll have to get back to you on that", before he hangs up.

I put the phone down, stunned. I know I should ring him back and set him straight but I think the heat's got to me. I see a way to make that quick fortune and decide to inquire about hiring a snow making machine and converting the faithful Victa mower into a snow plough.

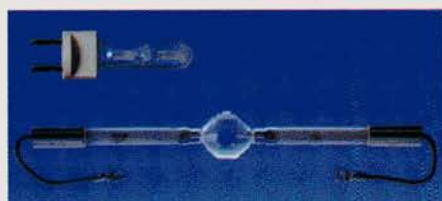
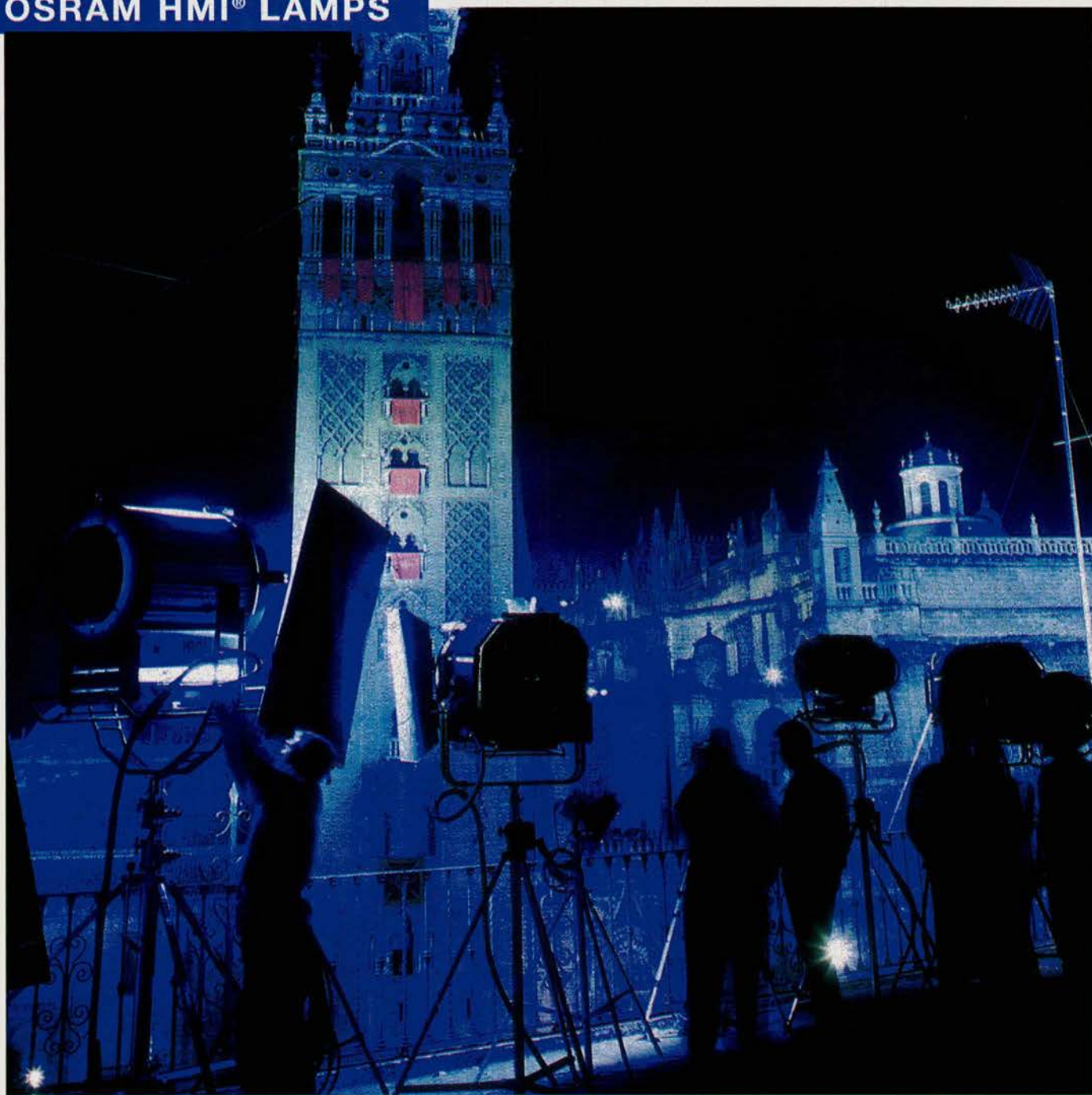
Rufus B

If you have any wacky or funny requests from artists, please send them in. Remember, no tale is too bizarre!!!!

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OSRAM HMI® LAMPS



HMI SE / HMI DE

A fairy-tale wedding

The occasion was the wedding celebrations of the King of Spain's daughter. The Giralda in Seville had to be lit for the television cameras. 15 spotlights with OSRAM HMI® lamps, with a combined power of 118,000 W were erected on a neighbouring building. The result was a scene of enchantment for this fairy-tale wedding in the old quarter of Seville. For more information ring 02 - 9481 8399.

Write in Reader Service Number: 183

QUALITY MAKES THE DIFFERENCE

OSRAM



LIGHTING MONTHLY

March 1997

Edited by Catriona Forcer

LXbizzBITS

PRODUCTS

ABSTRACT 64 CHANNEL DMX/MIDI CONTROLLER

This controller boasts 64 chases, programmed from a large bank of over 500 scenes, some of which have been pre-programmed for ease of operation. The digital display allows full user interface and to further assist the initialisation of the product set up, even simple dip switch settings are displayed on screen.

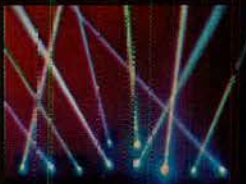


Colour and gobo selection is accessed via 12 individual control buttons and indicated in the display window. Other features include: instant light show; joy stick invert on X-Y mirror movement; midi control; X fade; variable strobe speed; instant head access; multiple head access; variable colour scroll. The Abstract 64 Channel DMX/MIDI CE Controller has the capability of controlling up to 16 individual heads. Price is \$1245 ex tax.

READER SERVICE NO 400

LASER SHOWSYSTEMS DEBUT AT ENTECH
Laser ShowSystems Inc., based in Florida USA, has appointed ELSTA to be the exclusive distributor of their lasers.

The worldwide launch of their 100 mill watt StarBeam V laser will be on ELSTA's stand at Entech.



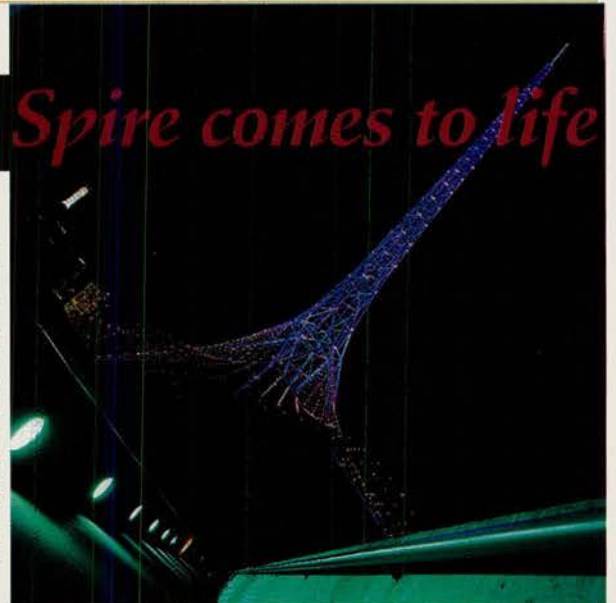
Standard features of the StarBeam V include: 100 milliwatt air cooled argon laser with option to upgrade to a bigger laser; 10 output beams; dual beam outputs; dichroic colour filters; precision mirror mounts; quality optics; programmable controller; touch sensitive control pads; adjustable chase rates; safety interlocks; 0-10v control with optional DMX; and master fade/black out. Optional features include a multiline 180 diffraction fan; rotating diffraction gratings; remote bounce mirrors; and scanning effects and patterns.

Starbeam V comes in four models with 5, 8, 10 or 12 positions. The fibre optic cable option can adapt to various output lenses to create a remote laser effect. It is Midi/DMX 5-2 compatible for use with DMX lighting consoles.

READER SERVICE NO 401

The VAC Spire comes to life

Barry Webb may not be a household name, but his latest project has captured the imagination of a whole city. His transformation of the Victorian Art Centre Spire from its former dowdy yellow mass, to a delicate and totally versatile system of mood lighting, has been the result of two years of research and development, and approximately \$2 million.



Webb became involved in the spire project when the Victorian Art Centre (VAC) launched an international competition for a lighting consultant to work in conjunction with the reconstruction of the spire. The VAC looked at designs from all over the world and after interviews, short-lists and presentations, Barry Webb and Associates, an Australian company, won the contract.

The idea behind Webb's proposal was three simple requirements: to construct something that appeals to both young and old, to demonstrate the soft and attractive applications of technology, and to achieve a stunning effect without masses of energy. The goal for the design was therefore a marriage of all three ideas.

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ENTECH SEMINAR

MEET THE LD'S

line up confirmed

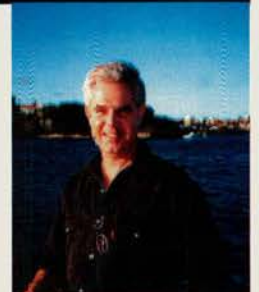
Once again a top line up has been invited to Entech's Meet The LD's seminar to be held on Thursday 24th at 4.30pm. Hear your favourite questions - What's the worst production you've worked on? Tell us about your disasters? Then think of a few taxing questions to ask yourself! Afterwards coffee will be served so you can mingle informally.

David Murray

David's list of clients include many of the major theatre, ballet, opera companies of Australia as well as festivals. Last year he lit the Puccini Spectacular, Tap Dogs, The Fieretic and Into The Woods amongst others.. David is also experienced in Architectural and Event lighting



Tap Dogs



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Adding **ROBOTICS** to your rig

By Andy Ciddor

It's finally happened! The producer/manager/director/production manager, whoever it is in your place that passes out the lighting dollar, has decided to lash out and allow you to add a few robotics to your rig. (Sorry, I just can't go along with the name *intelligent lights*.) Believe it or not, getting the robotics was the easy part; now we have to go about making the beasties work in with our existing system.

Rigging a robotic is not quite as straight forward as slinging up a par-bar, as robotics are **heavy** - being full of little motors, gearboxes, wheels, a power supply and sometimes the ballast for a discharge or arc lamp. Many require two hook clamps to spread the load. Adding a couple of serious robotics to a bar or truss can double its weight, not to mention its volume. If you are flying anything in the vicinity of the robotics check for clearances, particularly if you're using "nodding bucket" (VLs, Icons, Studio Color etc) or rotating periscope (NAT) luminaires. Which of course, leads straight on to the question of masking. If we fully mask our robotics from the audience's sight, how much coverage are we forced to give up?

Your average robotic lives on a diet of mains and control signals, quite often with fairly substantial servings of mains. Whilst the electronics and Lego Technics® motors of the robotics system may not use much power, many of the lamps in these luminaires are discharge lamps with inductive ballasts which can have quite serious power losses. Remember, it's always the Amps on the compliance plate to use for power calculations, not the lamp wattage. One of the unfortunate side effects of using switch-mode power supplies to feed the electronics of our robotics and a thumping great ballast to feed the lamp is that we produce distorted mains waveforms for all of the other electronics (audio, lighting consoles, talk-back, video, A/V, etc) in our production. Aside from being antisocial in the extreme, distorted mains can produce a wide range of, often obscure, electronic symptoms throughout the venue. It's usually worth the effort to keep the mains supply for the robotics well separated from devices that need very

clean power. At the least robotics should be powered from a different distribution board to any sensitive electronics.

Robotics feed on a wide variety of control signals, ranging in type from RS-232 through RS-422 to RS-485 (which includes DMX 512). Many use private digital data formats. Most of these data streams need to connect sequentially to every device in the system before being terminated in some way. In some systems you can weasel your way around the sequential requirement through the use of the appropriate *buggery box** to split the data feed into a number of smaller segments; the now familiar DMX splitter being a good example.

Data is often very finicky about what type of cable it will travel through. Digital data is a stickler for cable of the right impedance and gets very upset if the cable impedance changes within a run or if a connector is not making good contact. If the data stream is DMX 512, in fact if you have anything at all to do with DMX 512, then you could do a lot worse than getting your hands on a copy of Adam Benette's really useful little book "*Recommended Practice for DMX 512*" which costs under twenty dollars from the Connections Shop. There is probably only one universal rule for data cabling and that is "using microphone cables for digital data is asking for trouble". It may work with mic cables this afternoon, but you really do get that sinking feeling when the robotics take it upon themselves to do their own show fifteen minutes into the performance.

If you've blown all of your budget on the luminaires, based on the firm assurance from your supplier that you can "run these beauties from any desk", you shouldn't really be surprised when the supplier, on being asked where you plug them into your system replies "Oh, you've got one of those! Nobody uses them anymore." Fortunately you aren't the first one to have been caught in this situation and there are a range of protocol converters which can be placed between many types of desk and most robotics. However as the data sampling rate and accuracy of your desk is often different to what the robotics are

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LXbizzBITS

PRODUCTS

LSD CONTROLLER

Since parting company with its former manufacturing arm, Total Fabrications, UK company Light & Sound Design has commissioned Out Board Electronics

to produce a chain hoist motor controller. Sporting the LSD logo and built



to its own specifications, the system is similar to one recently used on the Bon Jovi and Michael Jackson tours. Out Board has supplied the system in a rugged 3u high 19" rack mounting unit featuring heavy duty connectors and controls
Call: Out Board Electronics +44 1223 837827.

MARTIN HIGHLIGHT

Martin Professional have purchased the exclusive worldwide distribution rights for the Highlight lighting design software package.

Developed in Holland by Lighthouse Software BV, the Martin Highlight system a virtual reality tool allowing lighting designers to create, test and modify their designs in 3-D computer graphics. Major features include: 3D modeller - allowing the user to construct and edit 3D models; Material Editor - providing colour manipulation; Spot Editor - creating realistic light visualisation by accurate specifications such as light spreading and colour temperature; Filter Editor - creating customised colours; Scene Manager - enabling the interactive manipulation of objects; Light Manager - allowing the interactive positioning and operating of luminaires.

READER SERVICE NO 402

FAL 1000

ELSTA have taken delivery of the new FAL 1000 which has less features than the FAL 2000 but offers the

same power and reliable technology, claim

ELSTA. Features include two auto-



matic operat-

ing modes: pre-programmed internal sequences and Master/Slave with or without sound activation.

ELSTA claim that at a price of \$1995, the FAL 1000 is cheaper than it's main rivals - the Martin 218 and the Clay Paky Miniscan. It utilises a MSD/HSD 200 lamp with a 2000 hour lamp life with an output similar to HMI 575 projectors due to FAL optics.

Other features include 9 dichroic filters plus white and a fast action shutter for beam blackout providing a fully adjustable strobe speed.

READER SERVICE NO 403



Geoffrey Simpson DOP and the Director Scott Hicks

Shooting *Shine*

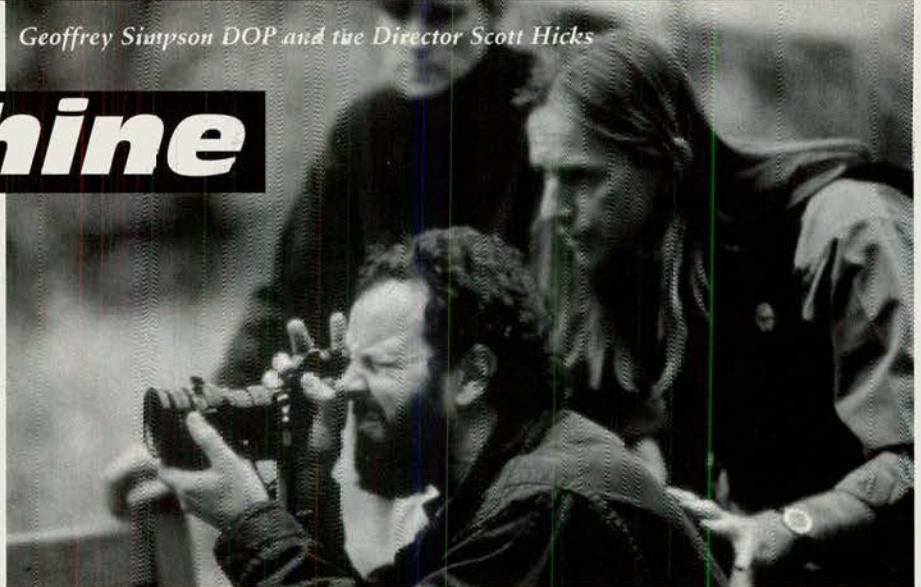
Shine is just beginning its sweep of the world, helped by the intense, emotive images that DOP Geoffrey Simpson has created, images that are becoming icons. Noah Taylor, backlit, sweat pouring off his forehead, Geoffrey Rush naked under an open overcoat, shot against the sky. Just to see one of those shots brings all the passion and sweetness of the film back.

"It really fantastic to do work that's noticed," Simpson says about *Shine*. "In '89, the director Scott Hicks lived at our house for about six months, and would sit around telling us outrageously funny stories about David Helfgott. When the phone call finally came, I was in."

Like most films, the crew worked under pressure. "It was quite a tough shoot," Simpson says. "We had not a very helpful crew in England, people getting miserable. Scott's humour helped."

Simpson has shot *Green Card*, with Peter Weir, *Little Women*, and *Oscar and Lucinda* with Gillian Armstrong. *Shine* has heightened his profile even more. Everyday, he gets new scripts from the States. "I feel quite strange saying 'no' to some of them. The bottom line criteria is whether I'd go see the film myself. I try to find work that I'd be proud to be associated with."

The thrilling scene in *Shine* where Noah Taylor is performing, was shot in the Hall of the Royal College of Music in London, and back in the studio in Adelaide. "We set the whole scene with an English crew," Simpson said. "We had a very big lighting setup in the Hall. Scott had always talked about Helfgott's coming into the limelight, and things around being very dark, and falling off. Really concentrating on Helfgott's world as he played the piano. We wanted to isolate David from the audience, from everything, and just have him



and the keyboard.

"So it was the obvious way to go to have him in spotlight, and the camera would move around. With that one single solid gutsy light source, he's backlit and sidelit, and rarely front lit. Basically we were shooting behind, and using that hard light that picked him out, that let us pick up the glinting sweat dripping off his face, and the mad fingers leaping along the white keyboard. It was wonderful graphics, to simplify it that much, to get into the black and white of the keyboard, the black dinner suit, the white shirt, a skin tone, and black hair. It came down to those raw elements, the man and the music. It was good stuff to work with.

"Going into slow motion was another wonderful device. We could have done more, I suppose, with more time, longer lenses, deeper slow motion."

Scott Hicks, the director, and Simpson talked about the concept of the single strong light source before the shoot. "I was a bit worried that we'd be going into solid black for the background and have trouble making the transition," Simpson said "But once you get in there, all you're really interested in is seeing David play the piano, so it wasn't really a problem not seeing much orchestra."

As Simpson commented, Scott had had ten years to think about shots, so he had a big catalogue in his brain. "Don't be afraid of the dark, go for it wherever you can" Hicks told Simpson.

Simpson likes the childhood scenes in the film. In one scene, David is just trying out Rachmaninoff, beside his father. "That was a very simple lighting

setup with basically one light, a 1K dressed heavily with black wrap to really control it, so it was working in one particular space," Simpson said. "I wanted to light their face, put a bit of light on their hands, the keyboard, and a bit in the passage. That was quite tricky to do to fine tune it, and tuck around with that one light. We ended up with quite an elegant shot, that was emotionally satisfying, important and powerful for the film. It's good to do those simple things that work from a photographic, and emotional point of view."

Like most scenes in films, the trampline was shot under pressure, of time, money, and light. "We got bogged down, and spent too much time doing the interior stuff that day," Simpson said. "We had lunch, and there we were in the afternoon of a short Adelaide winter day, trying to do that whole scene. We had seven setups to achieve, the wide shot, the track, closeups, etc. We had fading light, and we had to light the background, bounce light all over the place, to make it happen. We were lighting the trees and the bushes in the background, and putting a bit of bounce onto people in the foreground. It was actually a nightmare, because we knew the sun goes at 5:30, and the colour temperature changes at 4:30. We were mucking around with filters, and things. It looks like a simple scene, but we were panicing, and freaking."

Trevor Tonne, the gaffer on *Shine*, and Simpson have done ten films together. Back in the early days, when budgets were small, they shared a room in Port Augusta on *Sunday Too Far Away*. During the shoot, Tonne fell madly in love with a woman who worked behind the counter at the Ampol service station, so Simpson didn't have to share the room long. Tonne moved in with Angie, and is still with her, drinking his beer on the verandah, and looking out over the Flinders Ranges.

continued on page 71



Gaffer Trevor Tonne sitting amongst his lights



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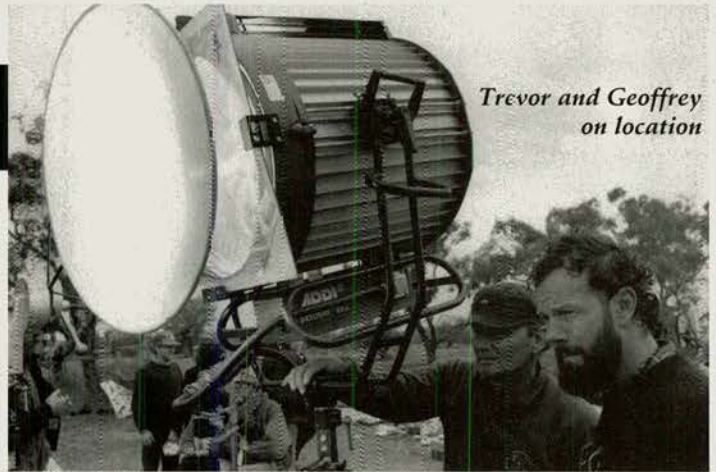
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Shooting Shine

continued from page 69



Trevor and Geoffrey on location

The biggest scene Toune had to light in *Shine* was David's Bar Mitzvah, shot at the huge Bonython Hall in Adelaide. "That was by far the biggest lighting setup," Toune said. "We emptied the truck, every HMI was out, just to light the ceiling. The ornate ceiling was about 20m high. We just lit the actors with a couple of soft lights. But we used 10 HMIs, 2x12Ks, 2x6Ks, 4x4Ks to light the background. We were shooting at a glass window, and it was day light outside, so we had to bring the light level up to match that."

Another big setup was the night scene, where Helfgott looks into a brightly lit restaurant, and then goes in, and plays the piano. "That was a fairly huge setup, and to make it worse, it was blowing a gale, and pouring with rain," Toune said. "We had to shoot it as quickly as possible with all the extras, so we lit for every shot. We used 2x6Ks, 2x12Ks, 3xHMI Parlights, and that's just the light coming through the window."

Helfgott's childhood scenes were shot in an old house in Adelaide. "We had to punch holes in the ornate ceiling to put lights in, because we didn't have enough clearance for the big scene when David leaves home. It was awkward," Toune said.

Toune uses mainly Arri gear. "I bought my first Arri 6K in '88, and I've been changing over ever since. The Janiro gear is good as well. The Arri looks good, it's pretty impressive, it's bright blue. Everytime I buy a new light, in the past six years, it's been Arri. The Arri 6K has a bigger lens size, and that makes for a better quality light. I bought an Arri 12K which costs me \$36,000, which I've had for six years. It's never let me down."

What does Simpson look for in a gaffer? "It's a personality, somebody you can deal with on the floor, and work with. Who's going to understand you when you mumble about needing something quickly, who

will respond quickly when the light's fading, or the night shoots running out of time. It's knowing that you've got people there, who will make sacrifices, and go for it, when you need to.

It's a combination of personality, technical expertise, and how many lights they've got in their trucks."

"One of the things about Aussie gaffers, is that they build a lot of their own gear," Simpson says. On *Oscar and Lucinda*, the gaffer, Peter Bushby made some Chinese lanterns that could be controlled. The Heritage houses were difficult to rig in, because the crew couldn't put any holes in the ceiling, or walls. They put 2Ks bubbles inside them, and had black velvet with velcro draped over the side, so they could control the direction of them. These were rigged off scaff pipes, and cantilevered into the set. "We had to be very inventive, so working with gaffers who are prepared to build things to cope with problems is great," Simpson said.

Aussie gaffers own their own trucks, unlike American and English gaffers, who hire everything for a job. "With good planning, that can work, but it's great in Australia to get that odd little piece of gear out of the truck that can cope with some weird problem.

"It means that the gear is really well maintained, and looked after. The storage inside the truck is like a copybook of how gear should be stored and looked after. You get a respect for the equipment. In the States, the gear is not treated so well. When there's a midnight wrap, or long day, the gear gets chucked about, and treated roughly.

"The equipment is as up to date. We know that things are changing all the time, and we're now up to the minute with American technology here. All the big lights, the HMIs, the Pars, are exactly what is used in the States. All the flags, and the 4x4 floppies, all the light controlling devices that hang off C stands are absolutely up to the minute with what's available overseas. So our technical expertise, inventiveness, and bush mechanic philosophy is as good as, if not better than the States, where they throw money at problems.

"A good gaffer has that air of anticipation, reads his call sheet, knows what problems may come up, and anticipates. He'll have the truck emptied, and the stuff standing by just outside the door, ready to be used. With the English guys, I'd have to say, 'Look, I may need X or Y. Can we just have them standing by?' And invariably they wouldn't be. I can't quite put my finger on it. I've only done two English shoots, maybe we didn't have the A-team, but it was so disappointing. Compared with an Australian crew, which is there for you time and time again. They can see when you're angst-ridden, tearing your hair, and trying to cope with some problem, and they'll be bringing the lights out, and trying to help right to the last second. Often at the last minute, I'll want to whack in a bit more light, and ask for something, which is naughty."

★ Madeleine Murray



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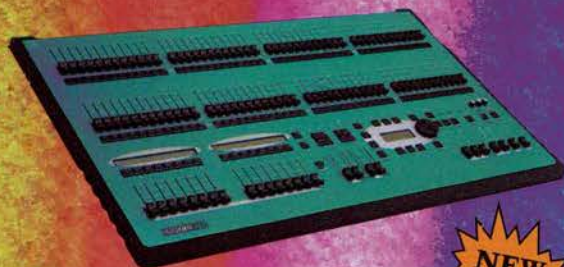
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MEET THE LD'S

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Hoodoo Gurus

Troggie

Alias David Platt, Troggie has been very busy this past year as lighting designer for *The Hoodoo Gurus* and *Midnight Oil*. Constantly touring the country, Troggie has found time to join the panel.

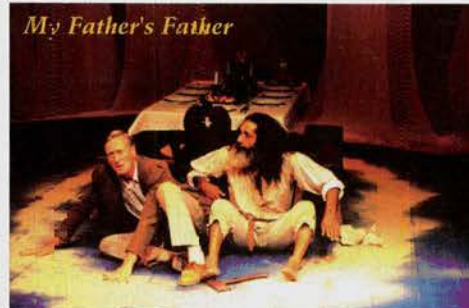


My Father's Father

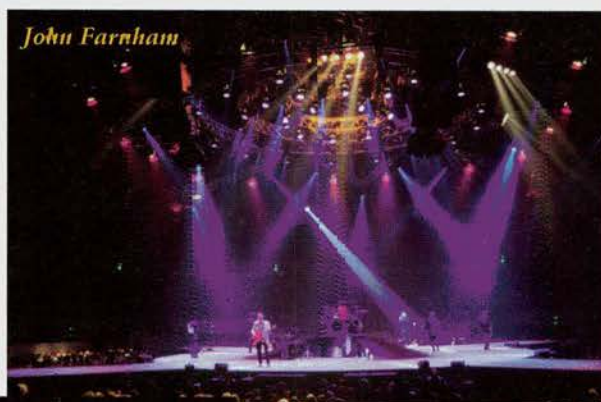
Jamieson Lewis

Jamieson Lewis has been the Resident

Lighting Designer for the Melbourne Theatre Company for nearly twenty four years. During this time he has lit over 350 productions for them in Australia, USA and the UK. Jamieson has also designed for The Victoria State Opera, State Opera of South Australia, Opera Queensland, The Australian Opera, Sydney Theatre Company, Canterbury Opera (N.Z.) and the Wellington Opera (N.Z.). At presstime he won a Green Door award in Melbourne.



John Farnham



Chris Newman

Chris Newman is best known for his stunning lighting designs for *John Farnham* but he also designs for the *Little River Band* as well as many Corporate Shows and Special Events like the *Australian Music Awards*.





VAC Spire Comes to Life *continued from page 67*

Bytecraft Australia and Lightmoves came on board to develop new technology for the dimming and light injection systems, and in doing so have created a unique export product.

The Design

In achieving their design requirements, Webb and Associates have created a unique addition to Melbourne's night image. The Art Centre and its spire, Melbourne icons, have become a true 'performing' arts centre as now the spire's programmable demonstrations are as much as spectacle as the performances that take place within the venue.

Webb's vision for the spire includes five different types of lights - incandescent, neon, strobe, optic fibre and twinkle. Dispersed throughout the 162 metre high structure, these elements can be used to achieve almost any mood through colour, pattern and variable rates of change. Approximately 14,000 lamps and six kilometres of optic fibre cables have been incorporated through the structure, along with tonnes of electronics.

The creative possibilities are infinite - the spire can be programmed to glow, twinkle, sparkle, and change into any conceivable

colour. To ensure that the lighting effects would appeal to young children, Webb and the VAC invited 35 children from the South Yarra Primary School to act as a focus group to decide the program for the spire's unveiling on Australia Day.

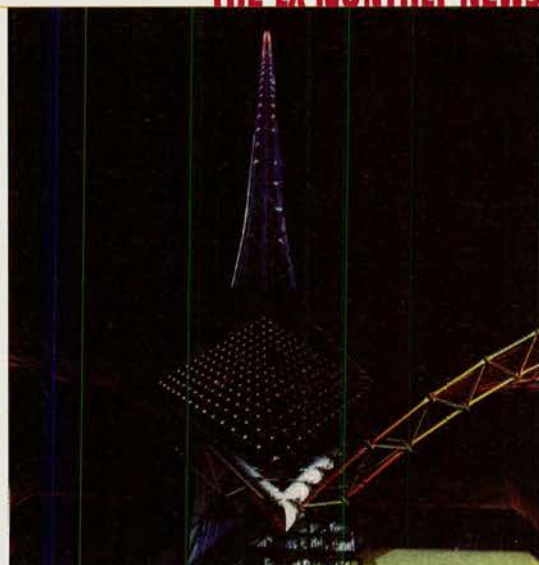
"We took a section of the spire into a dark room, lit it in different ways, and got the children to vote on what they liked."

After statistical analysis based on the children's voting, the colours and pattern speeds for the Australia Day show were decided. The children were invited back for the unveiling on Australia Day, and attended a special ceremony afterwards. Webb said the children could hardly contain their excitement after seeing their ideas come to life on the spire.

"Each child was given a certificate for being my Junior Lighting Consultants."

As to whether any lighting designers will have emerged from that group in 20 years, time will only tell.

"I would like to think I became a role model to those children."



The Technology

To integrate the unique design elements, new technology had to be developed to power and operate the complex structure. Each of the different lighting types required separate receivers and control systems which then had to be united by the overall programmable system. The result was 'Inspire' a fully integrated control system created by Bytecraft for decorative lighting of outdoor structures.

Rather than be wired back to a central dimmer in the bowels of the Art Centre,

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VAC Spire Comes to Life *continued from page 73*

Bytecraft devised a dimming system that could be broken up into hundreds of separate pieces scattered throughout the spire, and connected by a form of local area network.

The biggest challenge in the development of the control system was the exposure of the technology to the elements. Not only did the electronic equipment have to be able to stand up to rain and extreme temperatures, but also pollution and the odd lightning strike.

The level of hands-on operation of the system is limited.

"Effectively, once the system is running there is no human control. Everything is stored in the control system's memory and it just does its job," said Webb.

Humans do come back into the equation however when a new show needs to be programmed. Webb and his creative team are currently developing new shows for the 9.30 and 10.30 timeslots. After trialling, they will become the nightly demonstration of the spire's capabilities.

The maintenance strategy for the spire is as complex as the design itself. The design is such that maintenance should

only be needed once every five years. The main requirement was to design a system that would not require technicians climbing up the structure every day. Instead, there is a gentle degrading which should not be noticeable to spectators. Webb explains that this is where the engineering design comes in.

"The engineering design behind it means that each lighting effect is generated by two sources of light. That way, one lamp can fail but to a good eye it won't look any different. The fibre optic effects are specially designed so that light is pushed into two ends, so that if one fibre optic injector fails most of the effect will still be achieved because one injector will still work."

Another back-up system has been created by running fibre optic cables parallel to each other so that if one fails, the overall effect will not be lost.

Only minor problems have been experienced to date when two circuit breakers tripped and caused a partial blackout. The fault was quickly repaired and Webb described it as "a tiny problem in such a large and complex structure".

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winds, installing the electronics on the spire became an incredible challenge, and at times, physical struggle, for the 25 technicians involved in rigging the structure. Every piece of the lighting equipment, including tonnes of electronics, had to be strapped on to the back of a man or woman who would then climb the structure. Webb said there was something "nice and Australian about that". The best climber on the team was a woman which led the group to conclude that women have a better power to weight ratio than men when climbing vertically.

Low Energy Usage

The crux of Webb's design was that the structure itself should illuminate rather than be lit from a separate source. Webb uses the Eiffel Tower as a good example of what he did not want to achieve.

"It's a simple principle, you can take a structure and you can squirt hundreds of kilowatts of flood light at it, which is the traditional way that you light an icon. That's the way the Sydney Harbour bridge is lit and the Eiffel Tower, but we thought why not do better than that, why not make the structure itself glow. "When you do that, the amount of

energy you waste can be enormous because the majority of light just passes through the structure. Its wasteful of energy as compared to attaching a lamp or a fibre optic cable to the structure itself and making it glow in that point. If you look at energy to achieve impact, you achieve the impact but you also have changing colour and changing brightness which is something that a floodlight installation doesn't normally have, the Sydney Harbour Bridge is a static display, as is the Eiffel Tower, so you have a huge improvement in that impact for a lower energy level."

Webb explains that while the power usage for the spire is not constant in terms of the different power requirements needed to perform specific moods, less than 25 kilowatts is required to power the effects - approximately half the power usage of the 'old' spire lighting. He says consideration of power usage in essential in decorative lighting design from a conservation standpoint, and hopes that other decorative lighting designers will take into consideration the need for energy efficient lighting.

"It is just decoration, it's optional. It's not as if it is street lights or electric trains.

That's why we have to be efficient."

Webb says he has been totally overwhelmed by the positive reactions his design has received by everyday Victorians. He believes that the acceptance of the spire's facelift shows that the rest of the city needs development in its night image to compliment the spire.

"You could begin to see an enormous escalation of lighting of this type."

After 23 years of lighting consultancy, Webb says that without a doubt, the spire project has been the most exciting and emotional venture he has undertaken in his career. With degrees in Science, Electrical Engineering and Architecture, Webb saw this type of lighting design as the "no man's land" between the three areas, putting to great use his experience. Among Webb's other notable decorative lighting projects are Luna Park in Sydney, The Federation Pavilion in Centennial Park (Sydney), the National Theatre in Malaysia, and the Asian Village in Singapore.

★ Mandy Jones

The Victorian Art Centre Spire is programmed to run through its 10 minute demonstration nightly at 9.30 and 10.30 pm.

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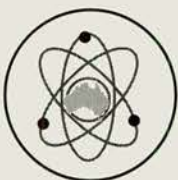
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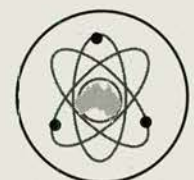
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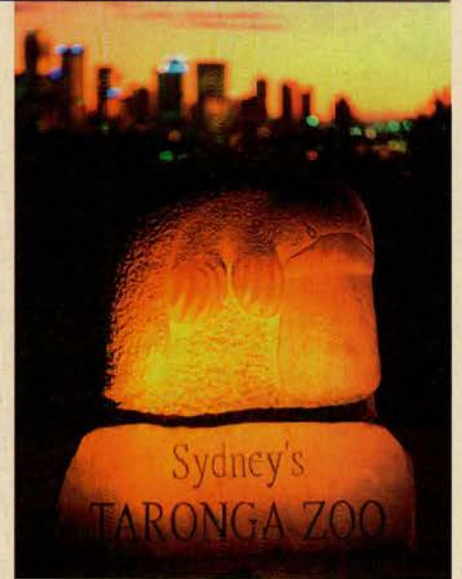
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EnergyAustralia's Taronga Night Zoo wins Award



EnergyAustralia's Taronga Night Zoo won the Outdoor category at the inaugural International Lighting Awards presented during the recent annual convention of the Illuminating Engineering Society (IES).

Night Zoo qualified for entry in the awards after winning the regional IES Meritorious Lighting Award in early November 1996. Both awards were presented in recognition of the work of Night Zoo's lighting designers, Taronga Zoo's Colin Reid and Phillip Dunesky of the Sydney Opera House.

The project involved the input of electrical engineers from Taronga Zoo, EnergyAustralia, Sydney Opera House, Donnelly, Simpson & Cleary Electrical Consultants and Brisbane-based lighting manufacturers, Lumascope Lighting Industries.

Although a theatrical look was required, a light show was not. The emphasis was on simulated moonlight, reinforcing the night time landscape. It was also important that the light sources, both for the exhibits and the pathways, were as invisible as possible. There were approximately 22 exhibits to be illuminated and three kilometres of pathway to be lit. Many excavations were through rock and rough backfill.

The existing electrical installation was extensive but the project faced problems in terms of actual points of attachment. A trial was run on the waterhole area.

"We wanted the light coming from low to give a pseudo-moonlight effect," said Phillip Dunesky. "With the moon you have one light source and lots of shadows. We had lots of light sources made from shadows which we gelled back a little in blue tones. It ended up looking really good. The idea was to see the animals at night rather than to artificially extend the daylight hours."

With the success of the trial, plans were started for the Chimpanzee enclosure. Being a rather broad area it was lit from the front, again with the moonlight blue (a custom gel made for them by Rosco and described as a cross between a Lee 174 and a Rosco 63).

"We lit the foreground, the middle ground but no background as it's just a plain brick wall" Phillip said. "With the waterhole we lit the back as it was a nice granite look and it came up really well. I think that's what they were after when they said they wanted a theatrical look, they didn't want floodlight towers. Night

after night Colin and I tried different things and everything was mocked up before we wired it in permanently."

The animals were observed for response but there were no adverse reactions in fact some animals, particularly the kangaroos, seemed to prefer it. Some were inquisitive and the break in routine was good for them. The dingos turned into vandals digging up cables but a bit of concrete and some large rocks put a stop to them.

"Lumascope supplied the light fixtures," Phillip told me. "Their products are made of copper and brass and are all Australian made. They are also low voltage which was necessary because a lot of the stuff is through garden areas and could get dug up. All of the high voltage stuff is way down deep. These particular fittings were good for drilling holes in concrete blocks and sliding them straight in. We looked at other fittings but nothing compared to Lumascope and also their service was excellent."

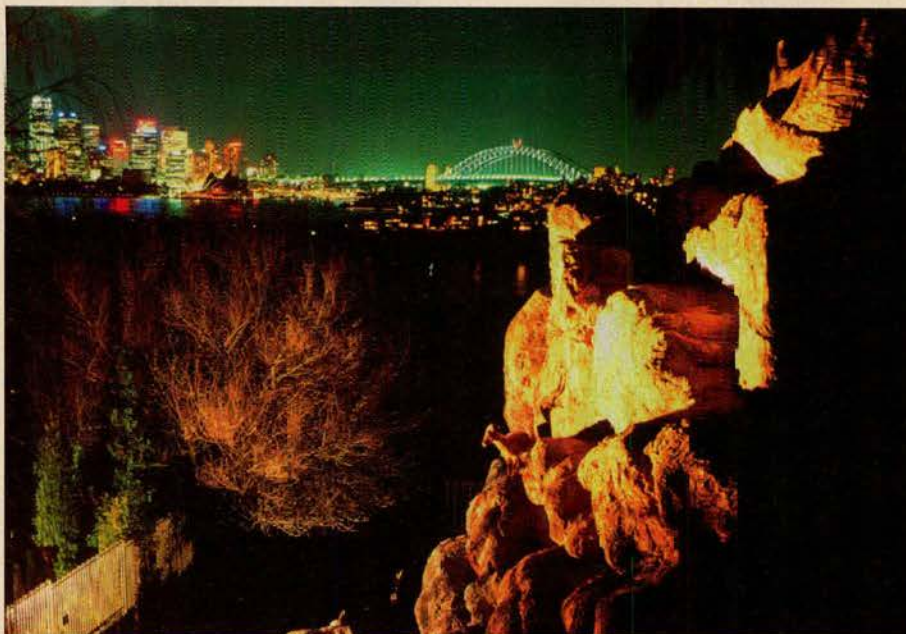
The preferred lamp type was mainly 20w 12v dichroic because of their long service life and optical precision. In 12 months of service, only a handful have failed.

As most of the exhibits are 'in the round' finding subtle places to secret the light fittings became a challenge. Consideration for their service also had to be taken into account.

"Finding access for cabling was hard," said Phillip. "The gorillas were good because we had a brand new enclosure starting from scratch. We were able to get conduits in with the concrete pour although sometimes the concrete was pouring down the hill towards Colin as he was trying to get them in!"

The 1600 plus light fittings are controlled by a dimming system with generator backup. All of the exhibits are locally controlled for level but are master-switched. The control system was researched by EnergyAustralia who specified a form of

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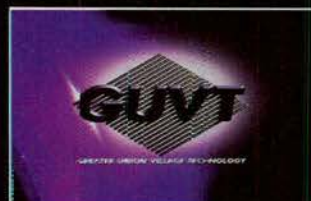
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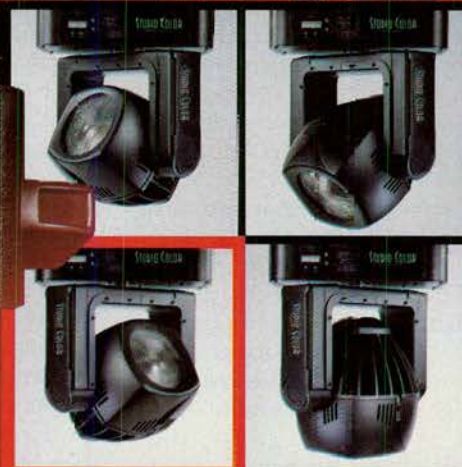


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WHICH IS BETTER?

Rohan Thornton of GTV9 and On Air Productions airs his views

We of the lighting fraternity are somewhat obsessive about the products we use. Whatever we are using at the time is always the best thing invented and you would never dream of using anything else. Well, not until the next best thing has been invented. Moving lights brings out this obsession to an almost violent state. The camps seem to be divided into three areas: the Holden Lovers (moving yokes); the Ford Lovers (moving mirrors); and finally Lada Lovers (any other obscure format). The lights we intend to concentrate on are the DMX512 operated fixtures that live in the top end of the market such as Vari*lite, High End, Clay Paky, Studio Due and Martin.

Let me start this off by saying that I am an obsessive Vari*lite fan. I will try to be as objective as possible but like everyone else I have my favourite. The rambling's that follow are based on my own first hand experience. Everything good and bad described actually happened.

The fundamental difference is really in the style of movement. A mirror is much faster although somewhat robotic in its movement. A yoke is as some describe as more human, but it is by no means super fast. The actual features that the fixtures provide such as gobo and colour features, are generally similar to each manufacturer providing it's own 'special' item that gives them the competitive edge over the others. It is unfortunate that the common theme is that they only tend to get some of their features right. In choosing an automated light system, it is much better to choose the fixture to suit the application instead of trying to force a concept on the limitations of the fixture you are using. The other thing to consider is the manufacturer limitations. An example of this is what I fell is one of the most ridiculous features of High End equipment, the fact of disconnecting data will douse the lamp. If you want fast movement, mirrors are the go.

There are some excellent moving mirror products on the market today, I think the

best would be:

- High End's Cyberlight
- Clay Paky's Stage Scan/Goldenscan HPE
- Martin's PAL 1200
- NAT moving head fixtures

In all I have found them to be incredibly reliable. The Clay Paky lamps appear to respond to DMX better than most. High End equipment is very good when running from dedicated controllers, but rarely meet promised performance with DMX. Martin lamps again are good, but one may think that their R & D guys had a little too much time on their hands. I mean the automated shutter system is quite ingenious and well engineered but you have to ask yourself why? Weight is also a major factor. A small rig of any of the above fixtures will weigh as much as a small car.

The Cyberlights are very reliable and have excellent features. I like particularly the colour mixing as it is better than most fixtures. The Litho gobos were a nice gimmick, but it is cost prohibitive to keep large stocks of them and they become a bit boring after a while. Cyberlights have given me less trouble than any other moving mirror system I have ever used. Once going, they chug along forever.

The Goldenscan range is probably not as well constructed. The main problems they have are mainly mechanical as opposed to software or electronically orientated. They do have better optics and feel better to use. It must be a European thing, as most fixtures take standard gobos. This is an important feature as it makes a versatile fixture even more so.

The Martin 1200 and the NAT's I have only had a little play with but on the surface, they are quite impressive. The crew on Michael Jackson had little trouble with the Martins, but on the other hand, they weren't particularly active as the Martin publicity machine would lead you to believe. Neil Diamond's crew liked the NAT's and I think for all those that saw the show would be impressed by them.

Unfortunately, there are very few in hire

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PRODUCTS

FRANCIS SEARCHLIGHTS

Francis Searchlights was formed in England in 1901, at that time the company was involved with theatrical installations. With the advent of the Great War (1914-

1918) Francis was commandeered to perform electrical work for the British Admiralty. After the War Francis returned to civilian work but in the 1930's developed its first searchlight



which was designed to be installed and operated from Fire Trucks, the light was successfully used during the 'Blitz' for search and rescue missions throughout bomb damaged British cities. The Second World War (1939-45) also saw total commitment from Francis into all types of searchlight and signal lamps for the Royal Navy, British Army and Royal Air Force. This work continues today for the Ministry of Defence and NATO in addition to general marine applications and other special illumination systems for theatrical, film, television, military, special purpose vehicle, helicopter and both internal and external architectural projects.

At LDI Francis showed their Moonraker Extravaganza Searchlight which was first put to work with the British 8th Army as 'Battlefield Illumination' for 'Operation Desert Storm' during the Gulf conflict. Moonraker is the flagship of the Francis Architectural and Extravaganza lighting range.

Call: Francis Searchlights +44 1713 464 9474

NEW FROM ROSCO

E-colour has increased it's range to 90 colours with the introduction of 4 new colours - 008 Dark Salmon, 058 Lavender, 341 Plum and 345 Fuschia Pink. **Dulling spray** is a 400ml can of clear matt spray for removing the glaring highlights from polished surfaces for photographic, motion picture and video studio use. The **Shrink Mirror Scrim** is back, stretched over a frame and heated the surface is a true front silvered mirror when lit from the front and can be seen through when lit from behind. **Slit Drape**, sometimes called a 'slash curtain, is available on a 90cm header. The colour range has been extended to 23 colours and combinations and 3 standard drop lengths. Rosco Australia now stock the complete catalogue of 620 **Gobo** patterns in the popular B size as well as many patterns in M and E size.

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Disco Effects

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4 x Spartans	Beam effects	Ex Hire
1 x Multibeam	Scattered beam effect	Ex Hire
1 x Shining	Motorised scattered beam effect	Ex Hire
1 x Beverley	Motorised beam effect	Ex Hire
16 x Par 56 Cans		Ex Hire
10 x Pinstots		Ex Hire
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1 x Fly	Midas Lighting effect	Demo
4 x Coemar Forte 400 MSR Projectors		Ex Hire

DJ Systems

4 x Martin 1004 Roboscans and controller	Ex Hire
Various three way Light Boxes (Ex Hire) & Chasers (New)	

Luminaires

4 x Teatro 1000 watt Profiles	New
2 x Teatro 1000 watt Fresnels	New
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Par 56 Cans	New
Pinstots	Black & Polished
Par 16 cans	Black & Polished

Video Projectors

1 x Vidikron TGS 100 Projector	Trade In
--------------------------------	----------

Dimmers and Lighting Desks

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1 x Q Engineering Dimmer Rack	Trade In
4 x Dyalite Pro Pack Dimmers	New
3 x Theatrelight Scenemaster 3 2/4	New

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LXbizzBITS

EnergyAustralia's Taronga Night Zoo

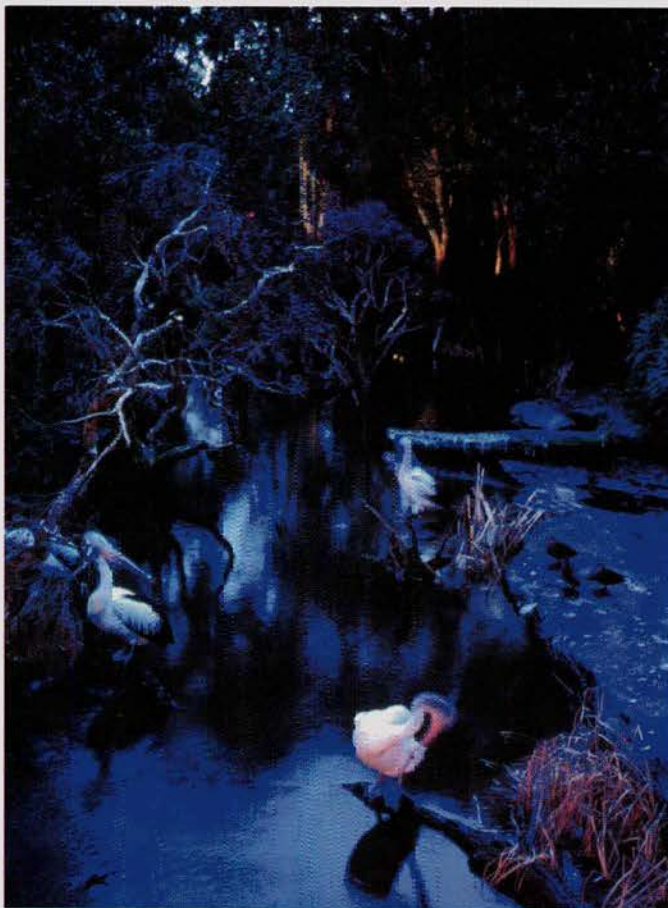
continued from page 76

radio controlled dimming system for the pathways because of the long distances involved between dimmer racks.

"We couldn't really trench it all and put cable in the ground so they used a radio modem system," explained Phillip. "The C-bus software is supplied by Klipsall and it has various timing functions - basically it can run itself. It also has other facilities like infra red sensing for intruders. There are a few generators around the place for emergency back up power for the pathways only. It was not deemed necessary to back up the exhibits."

"The pathways are divided into seven zones and there is a generator for each zone," added Colin Reid, Zoo Electrician.

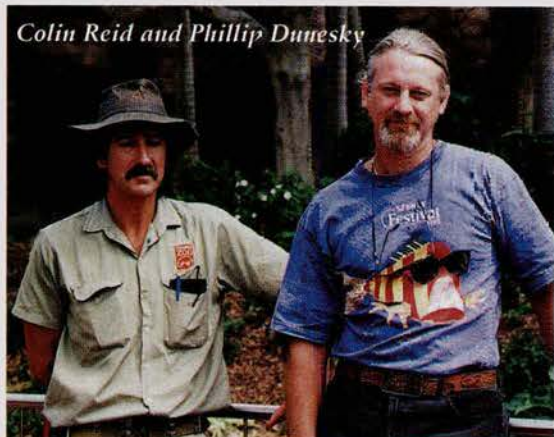
The pathways had to be lit as discreetly as was safely possible and garden features along the pathways and roads were also lit but not to detract from the exhibits. The idea was for a physically low mount-



EnergyAustralia sponsored and installed the pathway lighting to the Zoo team's design specification.

"We decided on low down lights with hoods on them and a spread lens to spread the light cut wide to light any trip hazards," explained Phillip. "The pathway lighting was checked by Work Cover and lighting specialist Dr Alec Fisher, FIES." "The whole project has taken us about two years and we're still perfecting it," said Colin. "The zoo is constantly changing so it's an on-going job. The Night Zoo lighting has to fit into the usual day operation of the Zoo."

Australia's Taronga Zoo is the only zoo in the world that has a permanently installed night zoo. Singapore has a specific night zoo and San Diego zoo contracts exhibit lighting for their seasonal night zoo. The next limited season of EnergyAustralia's Taronga Night Zoo opens in April 1997.



Colin Reid and Phillip Dunesky

ing height so people were able to view over and above the pathway lighting and into the exhibit areas. In order to keep the pathway lighting low enough, a great number of fittings had to be installed.

★ Cat Forcer

PRODUCTS

ABSTRACT MINI CE CONTROLLER

The new Mini Controller from Abstract has been developed with the small club, band and mobile DJ in mind, where a lightshow is required without the need for programming. The CE Mini Controller features standby (shutter), advance to strobe, lightshow select, slow cross fade select and sound on/off mode. Selecting any of the functions will instantly initiate a factory programmed light show. The Mini Controller has built in pre-programmes and an on-board microphone for ease of use. Price is \$375 ex tax.

READER SERVICE NO 406

LUMENYTE

Lumenyte International Corporation of CA, USA, claim to be the premier developer and manufac-



turer of fibre optic lighting systems in the world. The company holds numerous patents on its monofilament, large core plastic optical fibre (LCPDF). They manufacture and market entire lighting systems worldwide. The systems consist of three parts, including optics, illuminators (light source), and peripherals (extrusions, lenses, fixtures, fittings), which are used to mount the fibre optics in various applications.

For an impressive information pack call: Lumenyte +1 (714) 556 6655.

HORIZON

Rosco Australia can now supply you with the Horizon CD-ROM software which, combined with a Pentium processor and MS Windows 95, can turn your computer into a lighting control console. The initial release of Horizon offers 3072 channels of control, each with it's own time base. Horizon is designed to control any DMX512 compatible device including dimmers, traditional fixed lighting, automated lighting, colour scrollers, fog machines and show control systems.

Rosco will provide Horizon software on CD-ROM free to anyone who asks for it, or you can download your own copy from <http://www.teleport.com/~etinet/horizon.htm>. Also on 3.5 floppy disk.

Once installed on a Pentium PC, the software allows you to write cues, assign channels of control, prepare groups, submasters and even parked channels. To run the show and dim lights however, you must purchase a Horizon DMX Interface Module, for around \$1200, and plug it into your PC.

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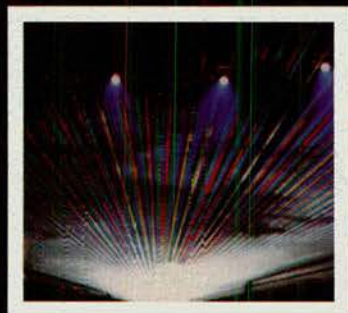
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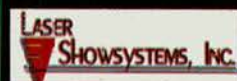
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SELECON



BUYERS GUIDE

MOVING LIGHTS (DMX CONTROLLABLE)

HARD EDGE

SLS

Quantum Eflex (08) 8351 9085

Panscan 4 1200 watt HMI lamp, 99 colours, 10 static gobos, 5 rotating gobos, 4 rotating prisms, 180° pan, 110° tilt, remote focus, dimmer, iris, shutter, bi-colour, Autodetect DMX512, 39kgs. \$10,989

Panscan 3 575 watt HMI lamp, 16 colours, 16 gobos, shutter, 180° pan, 110° tilt, bi-colour, Autodetect DMX512, 24.5kgs. \$4,552

Panscan Junior 200 watt MSD lamp, 16 colours, 16 gobos, shutter, 180° pan, 110° tilt, bi-colour, Autodetect DMX512, 15kgs. \$3,174



Panscan 4

GENIUS

Quantum Eflex. (08) 8351 9085

Omega 2 700 watt HSR lamp, 12 colours, 7 static gobos, 7 rotating gobos, 1 rotating prism, 300° pan, 300° tilt, dimmer, shutter, bi-colour, DMX512, 28kgs. \$6,907

Omega 575 watt HMI lamp, 12 colours, 12 gobos, 300° pan, 300° tilt, shutter, bi-colour, DMX512, 23kgs. \$4,419

COEMAR

Coemar De Sisti Australia (03) 9467 8666

NAT TM (Total Movement) 1200HMI or 2500HTI lamp versions, CMY colour mixing, 360° total movement head, 10 bi-rotational indexable gobos, rotating multiplying prisms, seamless bi, tri, colour wheels, iris, dimmer, zoom, strobe, frost, remote focus, DMX control, 22 parameter, 16 bit positioning, LED multi-function panel addressing. Available in DX (reduced feature), and BBI (in-built ballast) or remote ballast versions. From \$9,200.

NAT MM (Mirror Movement) 1200W HMI or 2500HTI lamp versions, CMY colour mixing, removeable and repositionable touring head, 10 rotating indexable gobos, rotating multiplying prisms, seamless bi, tri, colour wheels, iris, 15°-30° or 8°-15° zoom options, dimmer, strobe, frost, remote focus, DMX control, 18 parameter, 16 bit positioning, LED multi-function panel addressing. Reduced feature DX version includes 17°, 21°, and 25° lenses. Available in DX (reduced feature), and BBI (in-built ballast) or remote ballast versions. From \$6,700.

Microscan 3 575W MSR lamp, 9 colour wheel, bi-colours, mirror movement (MM) head, 4 bi-rotatable indexable and 4 fixed replaceable gobos, iris, dimmer, strobe, DMX control, LED multi-function panel addressing, extremely quiet operation, condensor optics. (1K tungsten version also available). From \$3,100.



Nat MM

TAS

Coemar De Sisti Australia (03) 9467 8666

Mini Ultrascan 1 200W MSD lamp (2000 hour life), 9 colour wheel, mirror movement (MM) head, 10 gobos, black-out, strobe, DMX, analogue, or dedicated control, dip switch addressing, highest luminous output of any fixture with this lamp, extremely flat field, optional 18 wide angle lense. From \$2,300.

Mini Ultrascan 2 200W MSD lamp (2000 hour life) or 575 MSR, 9 colour wheel, mirror movement (MM) head, 4 rotating and 4 fixed gobos (including dichroic glass & Wood's UV glass), black-out, strobe, DMX control, dip switch

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MOVING YOKES vs MOVING MIRRORS

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stocks around the country. Perhaps that is because hire companies can't afford the staff required to lift them up.

Moving fixtures open up a different world of lighting design. The movement is a lot more fluent. The obvious advantage is that you can point the lamps anywhere you wish. They are also much brighter compared to moving mirrors and generally consume much less power. Moving fixtures come in two types - the wash light and the effects (profile spot) lamp. Each lamp is simply used for it's specific application.

In the moving fixture department we have: Vari*lite's VL5 and VL6; High End's Studio Colour; and Studio Due's Stratos/Stratos Colour. Again all are fundamentally excellent fixtures but all have inherent problems. Looking at the profile type lamps first, the Vari*lite does not run off DMX as well as some of the others. The slow moves are particularly jumpy. However, it is bright (in fact it is brighter than a lot of Cyberlights and Superscans that are currently available on hire) and the gobo and colour wheels are very fast. Some interesting effects can be achieved with a bit of thought to the colour and gobo position within the lamps.

The Stratos is a good reliable and cost effective product until you start moving it a lot. It does have rotating gobos and unlike the Vari*lites, you can buy them off the shelf. This is a good install product that fires up faithfully every day, but I certainly would not like to take them on the road.

As far as the wash lamps go, the Studio Colour is good and bright. It's colours are good and saturated, but it lacks a bit of subtly around the lighter palettes. It will be even better when High End get round to making it do everything it's brochure says. A handy trap for young players if you hire them is that the pan and tilt are on stepper motors. If you knock them, they will not automatically return to their position the way other manufacturers lamps do. If you knock them, they have to be homed. This would be no problem if the part of the software that allows you to remote 'home' the lamp, had been finished when the lamp was released. It would have been nice if they had told us about it.

The VL5 has a quartz halogen globe that runs off a conventional dimmer which assists in it's integration to conventional light sources. I fell that it's colours are far sweeter (especially in the VL5b) and the transitions are smoother. It is also a well engineered product, with most of the road testing done prior to it's release onto the market.

For some reason Lighting Designers in this country are loath to mix manufacturers (in terms of lamps) with each other as well as mixing mirrors and yokes. This may be because hire and production companies only seem to stock the same brands. The trend is starting to change maybe due to the influence of overseas touring acts. You would be pleasantly surprised how effective a mixture of the two can be. One of my favourite little rigs at the moment is a combination of Martin Pro 400's and VL5's.

One factor that we tend to overlook, is that no matter how good a fixture is when it comes out of the box, it will eventually be only as good as the hire company's maintenance program. I remember trying to fix a 'stuck dimmer' problem with an Intellabeam only to find the source of the problem was the maintenance technician's cigarette jamming the mechanism. One hire company's response to an inquiry regarding dull lamps was to polish the reflectors!

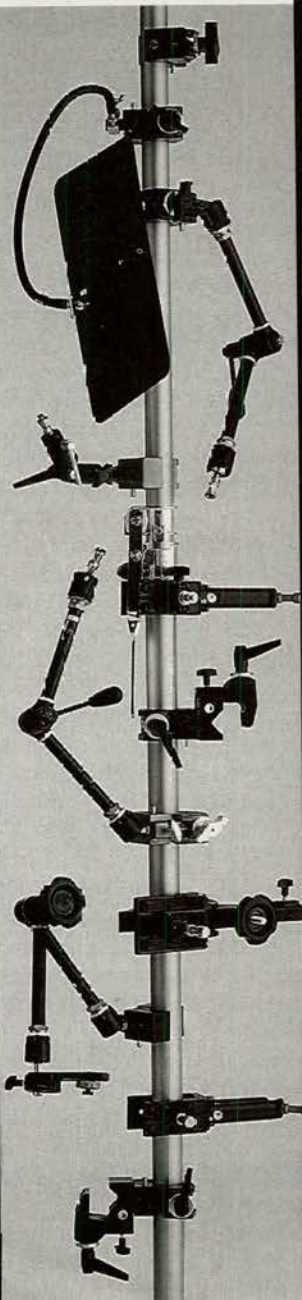
It's soap box time. Moving lights are expensive to buy. They are also expensive to maintain. I do however believe they are becoming too expensive to hire. When they first came out they cost 'X' amount. When the next model came out, the hire cost became 'X+Y'. The moving light domino theory had begun. It's an interesting exercise to find that the hire costs have increased at a far greater rate than the purchase price of the fixtures. On top of this, manufacturers are leaving it to us to pay for the privilege of road testing their fixtures. My only advice punters is to shop around. If everyone starts doing this, it may bring the price down and fixtures may be completed by the time they end up on the shelves.

Moving lights, like art, are a subjective thing. many beers have been consumed late into the night arguing the virtues of each fixture. The only subjects that we agree on, are:

- automated lights have expanded the scope of creativity for Lighting Designers to infinite proportions. In the right hands they are absolute poetry.
- we wish we got paid for all of the R & D we do for manufacturers
- they cost too much
- they are too heavy and
- if you don't keep up with the technology, you are in more shit than the early settlers.

If anyone disagrees with me, don't clog up the pages of Connections, pay out on me personally e-mail rohan@planet.net.au

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AVENGERMANFROTTO



Adding **ROBOTICS** to your *rig*

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expecting, it's possible that the protocol converter may not be able to feed the robotics exactly what's needed for smooth and responsive operation.

Perhaps the most attractive property of the robotic luminaire is its ability to do so many more things than simply fade up and down. All of those colours and prisms and frosts and gobos and the ability to wave about are very appealing, but each of these functions requires a separate channel (sometimes two channels) on the control desk. Many robotics use more than twelve channels per luminaire and at least one robotic uses twenty-six channels. Merely adding four robotics to your rig could more than double the number of channels needed on your desk. If you are looking for information on channel usage, have a look at the Lighting Links Page on the world wide web at URL <<http://waapa.cowan.edu.au/lx>>. In the miscellaneous section there is a link to "ESTA * DMX Usage Data" which covers many makes of robotic and another which covers the Martin Professional robotics in a lot of detail. If you know of similar information for other robotics, send an email message to the webmaster to add it to the page so that we may share it.

The majority of lighting desks designed to control dimmers rather than robotics work with groups, scenes or memories which we fade or snap between to run our show. The desk usually works on the basis of the highest level coming from any memory, scene etc, being the level sent out by the desk to the dimmers. Most of us are happy with this state of affairs and can't imagine a more logical way of working. Robotics, on the other hand get very confused about what they should do on this type of desk. If 70% is a Light Blue for a particular channel on a robotic and 80% is a Purple, as we do a gentle cross-fade between a scene at 70% and a scene at 80% we may pass through 40%, 50% and 60% along the way causing flashes of Yellow, Lime Green and CT Blue. Now while this may be effective sometimes, it really shouldn't be compulsory. If you think it looks bad on a colour channel, consider the effect on the pan or tilt channel as the robotics wave all over the venue. If you can use your desk in a "latest level takes precedence" mode you can avoid this problem, otherwise count on plotting lots of extra scenes in which only some of the

control channels for each robotic are changed.

Robotic controllers come in a bewildering variety of sizes, shapes and with an equally bewildering range of operating philosophies. Some controllers work on the arcade game principle with track-balls and joysticks to control movement, some feature lots of wheels and others use acres of buttons each with a selection of preset parameters. Each of these styles has its devotees and detractors and each has merits for specific plotting situations. What all of these controllers have in common is that each is so different to program that it's just about impossible to move a show to another type of controller without grief. Which brings us to what is probably the most important issue in adding a few robotics to a rig: programming time. Even if you are really familiar with the controller and the robotic luminaires, programming good looks out of robotics is much slower than programming for dimmers, if only because you have so many more possibilities for each luminaire.

Don't despair, and don't even think about giving back the budget for the robotics. Just walk in to the process with your eyes wide open and your homework done - that way you'll stand a chance of getting what you want from your rig.

The writer may be contacted via email at acidor@kilowatt.com.au

* generic term for an electronic device which takes in a signal, buggers around with it, then puts out the result.

LXbizzBITS

PRODUCTS

MARTIN CASE

For the largest productions and tours, Martin have created the Case controller. Available in two models, the Pro1 and Pro 2, the Case can handle a maximum of 70 automated luminaires. The Case controller delivers 2000 memories with 350 presets and 1120 cues with up to 4 sequences and 10 playbacks.

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LXbizzBITS

NEWS

LIGHTSOUNDS INCREASE HIRE FLEET

Lightsounds, one of the major testing grounds for ELSTA's imported and manufactured products, has been adding to the size of its hire fleet. In the past eight weeks they have taken delivery of 16 additional FAL 2000 projectors, 8 of the new FAL 1000 projectors, 5 Botex Laser Crabs, and 2 more FAL Galactica's.

Call Lightsounds (02) 9568 2100.

DANTE'S PEAK

Wildfire Inc., recently completed work on Dante's Peak, a new attraction at Universal Studios Hollywood. Wildfire, in collaboration with Universal's own planning and development team, designed the scenery, and ultraviolet lighting effects.

The new attraction themed on the motion picture of the same name, takes visitors through a simulated volcano chute, filled with fiery molten lava. Adding to the thrill, the tunnel through which the ride moves actually spins, bringing dramatic motion to the already glowing scenic rock treatment.

ENLIGHTMENT

The latest inventory of Enlightenment Automated Lighting & Special Effects of Queensland includes: 64 Studio Colors; 32 Litho Cyberlights; 36 AF-1000 Dataflash; 4 Emulators; 1 Status Cue Console; 1 AF-1000 Dataflash LCD controller; 1 Cyberlight LCD controller; 1 Emulator LCD controller; 2 F-100 Foggers; 2 Coldflow modules; 2 DF-50 diffusers and an assortment of Litho pattern gobos. Call Enlightenment (07) 5593 4656.

JESUS CHRIST IN GOSFORD

Entertainment Installations have supplied a full intelligent lighting package for Gosford Musical Society's production of Jesus Christ Superstar at Laycock Street Theatre during March. They added to the existing theatre lighting the following: 6 Martin Roboscan Pro518; 2 Martin Roboscan 812; 6 Martin Robocolour Pro400; 1 Geni Mega Strobe (1500w); 1 ADJ Sunflower; 1 Argon Laser System; 1 Martin 3032 PC control system and a Martin 2510 replay unit.

When programmed the cues will be downloaded to the 2510 unit for simple one-touch operation by the operator. Apparently the LD is happy as they don't have to wrap their head around a computer software package to successfully run the show.

IT'S YOUR CHOICE NOW

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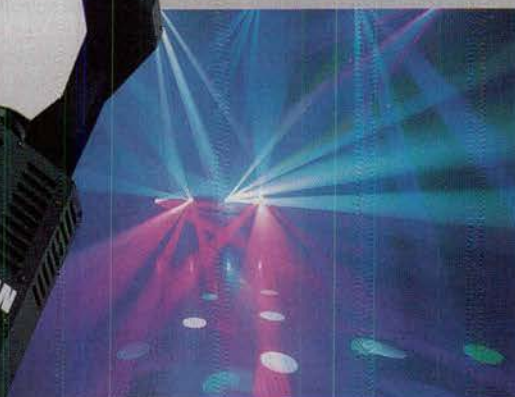
made in Germany

See the range of
JB Lighting Products
at ENTECH '97
Stand Number A 13

VS 3 SPECIAL PLUS*

Smart, powerful and friendly priced.
Our new VS 3 Special / Special Plus* is
the ultimate answer to the needs of
almost every discotheque and club.

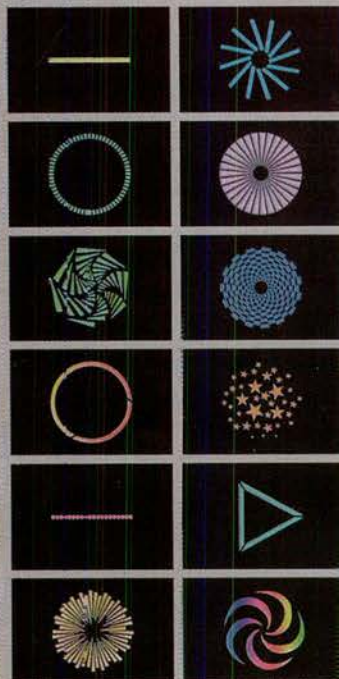
- 20 gobos (fixed)
resp. 6 gobos fixed, 6 rotating*
- 24 (36*) great dichroic colours
- even illumination
- 200 W "longlife" MSD lamp,
2.000 h, 5.500° K, 13.700 lm
- high tech stepper motors
- 1 (2*) conversion filter
- 4-way prism*, flood effect*
- black out, high speed strobe effect
- dimming fade to black
- overheat protection
- channel-code dip-switches
- standard DMX 512/1990 control



VS 4 1200 HMI

JB takes pride in introducing the new
Varyscan* 4 1200 HMI. The unit offers
you exceptional light quality and rugged,
modular design. An ultimate range of
features meets all your needs for high
level mobile or installation use.

- double condensor, high efficiency optical system with parabolic reflector
- even and saturated light beams
- sharp projections
- 1.200 W HMI light source, 5.600° K, 110.000 lm
- conversion filters to 6.000° and 3.600° K
- 24 saturated colours (+ 24 mixed colours)
- 4 bi-directional variable speed rotating gobos, 68 mm diameter, M-size 66 mm possible
- dimming fade to black
- high speed shutter, up to 10 flashes/sec
- 4-way prism
- frost (diffusion) filter
- infinitely variable high speed iris
- double fan, low noise cooling system
- DMX 512/1990 standard
- 6 channel operator
- weight 35,8 kg



Also available
several new designed
DMX 512 Controllers
for all kind of applications



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Write in Reader Service Number: 103



BUYERS GUIDE

MOVING LIGHTS (DMX CONTROLLABLE)

addressing, highest luminous output of any fixture with this lamp, extremely flat field, optional 18 wide angle lense. From \$2,800.

Crono 1200W MSR lamp, 12 colour wheel, mirror movement (MM) head, 5 rotating indexable & 5 fixed gobos, iris, dimmer, strobe, DMX control, LED multi-function panel addressing, extremely quiet operation, condensor optics. From \$5,900.

Duetto Twin 120V 250W dichroic lamps, 10 colour wheel, dual mirror movement (MM) heads, 10 gobos, black-out, strobe, DMX control, dip switch addressing, extremely flat field, internal microphone, lamp on/off remote control. From \$2,600.

FAL

ELSTA (02) 9568 2100

FAL 2000 9 dichroic colours + white; HSD 200w lamp; 4 bi-directional rotating + 3 fixed gobos; 1 rotating 3 facet prism; rainbow effect; fast-action shutter; fully adjustable strobe 1-7 flashes per second; frost effect; colour correction filter; DMX or stand alone. \$2455.

FAL 1000 9 dichroic colours + white; HSD 200w lamp (2000 hours life); 7 gobos; strobing 1-7 flashes per second; 4 DMX channels or stand alone. \$1635.

Proscan 2 9 dichroic colours; HMI 1200w lamp; 2 gobo wheels - one with 5 bi-directional rotating gobos, one with 7 fixed gobos; 5 prisms bi-directional rotation; strobe 1-7 flashes per second; 2 colour correction filter; dimmer 0-100%; iris; DMX controlled focus; 12 channels DMX. \$8190.

Scan 575 9 dichroic colours + white; HMI 575w lamp; 7 gobos + clear; strobe 1-7 flashes per second; 4 channels DMX; high reflective mirror. \$2785.

MARTIN

Show Technology (02) 9898 1111

Profile Automated Luminaire (PAL) only profile framing spot on market: fully automated; full colour mixing; motorised zoom and focus; variable frost; MSR1200w lamp; 4 indexed rotating gobos; smooth dimming (0-100%); silent; colour temperature correction; power factor correction; modular construction. Optimal effects module. \$12,294.26.



Martin Roboscan PRO812

Roboscan PRO518 compact scanner with rotating gobos (dual direction, continuous rotation on colour wheel - 5 plus open); 17 dichroic colours inc. 2 multi colours; UV plus white; 3 facet prism plus frost filter; colour modifier; MSD 200w lamp (2000 hours); smooth dimming and fast strobe; adjustable focus with precision optics; power factor correction. \$2950.

Roboscan PRO218 compact scanner with 17 dichroic colours; 18 motorised gobos; MSD 200w lamp (2000 hours); 176° pan; 85° tilt; variable speed control on all functions; fan cooling; fast shutter control; stand alone using built-in random sequence with and without music and by remote; precision optics. \$1802.45.

Roboscan PRO812 light and compact with 11 dichroic colours; 11 gobo effects; HTI 150w lamp (750 hours); 180° pan; 90° tilt with microstepping precision; strobe effect (strobe between black and any colour or between adjacent colours); stand alone random programs; power factor correction; fan cooled; precision optics. \$1474.59.

MAD LIGHTING

GUVT 1800 773 187

MADSCAN 611AR uses 6000 hour Arcstream 150w lamp; 10 dichroic colours plus open; 10 rotating gobos plus soft edge; strobing; 6 channel DMX or stand alone. \$1792.

MADSCAN 411A uses 6000 hour Arcstream 150w lamp; 10 dichroic colours plus open; 12 gobos plus open; strobing; 4 channel DMX or stand alone. \$1348.

MADSCAN 411H uses M33 250w lamp; 10 dichroic colours plus open; 12 gobos plus open; strobing; 4 channel DMX or stand alone. \$1037.

MADSCAN 311H uses M33 250w lamp; 10 dichroic colours plus open; 12 gobos plus open; uses barrel mirror covering large spaces; 3 channel DMX or stand alone. \$812.

HIGH END SYSTEMS / LIGHTWAVE RESEARCH

GUVT 1800 773 187

Cyberlight Automated Luminaire MSR1200w; motorised variable zoom; focus; frost; strobe; iris and dimming; infinitely variable subtractive colour mixing; eight position indexed and four rotating glass gobos. \$13,403.

Cyberlight CX Automated Luminaire MSR1200w; motorised variable focus; strobe; iris and dimming; eight position indexed colour wheel; eight position indexed and four rotating glass gobos. \$10,236

Intellabeam 700HX Automated Luminaire MSR700w, 11 dichroic colour plus open; 11 gobo motorised dimming and iris; 30kg industry workhorse. \$6513.

Trackspot Automated Luminaire uses low cost QT8500 lamp; 8 dichroic colour plus correct and open; 9 gobos plus open; strobing; dimming; ana-



pirouette

from
Strand Lighting

- Familiar Theatre Lighting qualities
 - Precision remote control
- Use with 2500, 2000 or 1200W lamp
 - Unique suspension arrangement



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Phone: 02 9550 3955 Fax: 02 9519 3977

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log; DMX512; LWR protocol or stand alone. \$2192.

GENI

Show Technology (02) 9898 1111

Cirrus-5 HMI575 lamp; 7 dichroic and 1 quadracolor filter; colour mixing for countless hues; rainbow and bi-colour beam; 8 gobos with gobo layering and scrolling effects; fast shutter has 0-15 fps strobe effect; 180° pan; 90° tilt with microstepping control. \$3799.

Nimbus-2 long-life halogen M33 lamp; 9 static gobos; 8 dichroic colors + white; 2 separate effects wheels for overlay effects; strobe; computer maximised high output ellipsoidal reflector; 170° pan; 90° tilt. \$1299.

Stratus-2 MSD200w lamp; 6 rotating replaceable gobos; 6 rotating effects inc. prisms and frost; adjustable rotation speed and direction; 8 static gobos; 9 dichroic colours + white; high speed shutter; 170° pan; 90° tilt. \$3299.

RYGER

Disco World (03) 97350588

Discovery HTI 400 discharge lamp; 400w; 10 colours 2 x split colours; 20 gobos; gobo colour mixing; roto gobo; roto colour; strobe; fade in/out; 180° pan; 90° tilt; DMX or Midi via converter; 18Kg. \$2195.

Discovery 250w lamp economy; 10 colours 2 x split colours; 20 gobos; gobo colour mixing; roto gobo; roto colour; strobe; fade in/out; dimmable; 180° pan; 90° tilt; DMX or Midi via converter; 10Kg. \$1295.

Discovery HTI 400



Defender' 250w lamp economy; 10 colours 2 x split colours; 10 gobos; roto gobo; roto colour;

strobe; fade in/out; dimmable; 180° pan; 90° tilt; stand alone; microphone; DMX or Midi via converter; 8Kg. \$980.

STUDIO DUE

Show Technology (02) 9898 1111

Mini Beam moving head spot; 400w MSR lamp; 5 colours + white; rainbow effect with 3 speeds; 6 gobos; black out and strobe effect; 300° pan; 300° tilt; fan cooled. \$5193.

Stratos moving head spot; 700w MSR lamp; 10 colours (2 colour wheels); total of 14 colours with overlap of dichroic filters; rainbow effect; 1 rotating gobo wheel with 6 interchangeable gobos; 1 disk with rotating gobos; strobe, iris, dimmer; 360° pan; 300° tilt; both 12 bit resolution; available with magnetic* or electronic ballast. \$13,113.93*.

CLAY PAKY

Show Lighting Australia (02) 9898 1666

Silverado Halogen halogen version of the Miniscan using an economical 250w halogen lamp. Features: colour wheel with 7 colours + white (continuous rotation); bi-colour beams; 3 fixed gobos; 2 interchangeable E size gobos; 1-7 fps strobe; 4 control channels. \$2297.26.

Miniscan HTI 300 uses HTI300 lmap (750 hours). Features: colour wheel with 7 colours + white (continuous rotation); bi-colour beams; 3 fixed gobos; 5 fixed gobos; optional interchangeable E size gobos; 1-7 fps strobe; 4 control channels. \$4024.78.

Golden Scan HPE HMI1200 graphic projector which features: iris; dimmer; strobe; frost diffusion effects (2); rotating prisms (5); 113 colour combinations inc. special effects colour wheel with bi-colours; UV and concentric colour; 4 standard gobos; 4 rotating gobos. \$11,992.

Stage Scan HMI1200 new and features are the same as HPE plus hot restrike ignitor; multi step zoom featuring 6 beam angles (13, 14.5, 17, 18, 21 and 25 degrees); electronic focus; RGB colour mixing; special exclusive flou frost effect and fully indexible prisms and new silenced cooling systems. \$14,268.

JB LIGHTING

Universal Lighting (07) 5532 9922

Varyscan 3 Special 24 colours; 20 gobos; full DMX512; conversion filter; strobe shutter; dimming fade to black; full stepper motors; 200 MSD lamp; 6 channels. \$1950.

Varyscan 3 Special Plus 36 colours; 12 gobos (6 fixed, 6 rotating and interchangeable); 2 conversion filters; quad prism; quad colour; flood; colour scroll; strobing; dimming; full DMX512; 200 MSD lamp. \$2786.

Varyscan 4 575 HMI Compact 24 colours; 24 semi-colours; 6 gobos (5 rotating, and interchangeable); high speed shutter; 2 conversion filters; quad prism; blackout; flood; full DMX512; 575 HMI lamp. \$4590.

Varyscan 4 1200 HMI 24 colours; 24 semi-colours; 5 gobos (4 rotating, and interchangeable); 2 conversion filters; quad prism; blackout; flood effect; fast iris; full DMX512; 1200 HMI lamp. \$6940.

ABSTRACT

Universal Lighting (07) 5532 9922

Futurescan 2CE 8 colours; 8 gobos; full DMX512; A1/232 15v 150w (500hr) lamp; stepper motors; 4 channels; has own internal preprograms for sound to light operation. \$1025 inc. lamp.

Futurescan 3CE 12 colours; 12 gobos; full DMX512; M33 29v 250w (500hr) lamp; fully micro stepped; 4 channels; has own internal lightshow for sound to light operation. \$1300 inc. lamp.

Futurescan 3CED as above but uses GE arc stream 150w HQI 4000K 6000 hour discharge lamp. \$1680 inc. lamp.

S.G.M.

Ashton Admor (09) 478 3800

Victory 10 interchangeable gobos, 12 colours, rainbow effects, bicoloured beam, independent operation facility, 24v halogen longlife lamp, DMX controlled. \$2381.

Victory 2 10 interchangeable gobos, 12 colours, rainbow effects, bicoloured beam, independent operation facility, 1 interchangeable rotating gobo, 24v halogen longlife lamp, DMX controlled. \$2846.

Galileo 3 8 interchangeable gobos (25 combs.), rotating gobo wheel (20 combs.), music sync. gobo

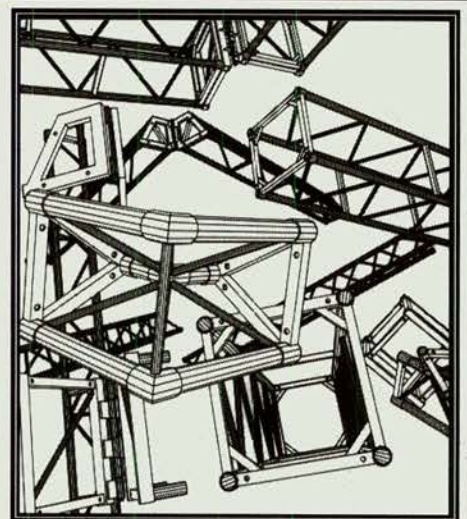
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**BUYERS GUIDE****MOVING LIGHTS (DMX CONTROLLABLE)**

change, fast gobo and colour change, 1200 HMI lamp, rotating prism, frost lens, UV filter colour correction, shutter and strobe, 12 channel control. \$7482.

Galileo 4 8 interchangeable gobos (25 combs.), 2 rotating gobo wheel (25 combs.), music sync. gobo change, fast gobo and colour change, 1200 HMI lamp, rotating prism, electronic focusing, UV and colour correction filters, shutter and strobe, 16 channel control. \$8354.

SOFT EDGE**HIGH END SYSTEMS / LIGHTWAVE RESEARCH**

GUVT 1800 773 187

Studio Color Automated Wash Fixture 370° x 240° movement; high output MSR575; over 100 million colour permutations; unique beam shaping; 8 to 22° beam angle; no fan. \$11,216.

STRAND LIGHTING

Bytecraft (03) 9587 2555

Pirouette new PC or Fresnel automated spotlight uses 2500/2000 or 1200w lamp. Allows pan (>360°), tilt, focus (4° to 58°) speed control. Compatible with DMX scrollers. \$7000.



Pirouette

STUDIO DUE

Show Technology (02) 9898 1111

Stratos Colour moving head luminaire; MSR 700w lamp; 12 bit resolution; 360° pan; 300° tilt; full CMYK colour mixing; 1 colour wheel (5 dichroics + white); frost filter; 0-100% dimming in 256 steps; strobe/blackout effect. Options include gobo (1 wheel with 6 interchangeable gobos); iris (min. 3, max 15°). Available with magnetic* or electronic ballast. \$11,884.43.

MARTIN

Show Technology (02) 9898 1111

Mac 1200 yoke driven luminaire - precise, high-resolution movement; 440° x 360° pan/tilt, closed loop positional control; MSR1200 lamp; full colour mixing; addition 4 colour wheel; 6 beam apertures plus 1 interchangeable gobo; ultra-smooth full range dimmer; frost filter; modular construction. \$11,228.69.

DEDICATED CONTROLLER**TAS**

Coemar De Sisti Australia (03) 9467 8666

Mini Ultrascan Controller 16 Dedicated controller for up to 16 Mini Ultrascan units offers complete control of all parameters, address individual or multiple fixtures, 8 presets, 8 chaser presets,

up to 32 programs of 16 steps, Midi In/Out, Audio In, and simple rack-mount housing with scratch-resistant fascia. From \$1,000.

DMX Controller 16 Dedicated controller for up to 16 Mini Ultrascan, Crono, or Microscan 3 units. With full independent control of all parameters, 16 static presets, 180 memory banks, 32 programs of 90 steps each, 32 chasers, Cybercard storage facility, external analogue triggering, audio input. Compact board with scratch-resistant finish and key-locking programming control. From \$5,700.

FAL

ELSTA (02) 9568 2100

EASY-2 easy to operate DMX controller - controls any FAL scanner, 12 pre-programmed sequences, configurable for multiples of 4 or 6 scanners, automatic or music activation, splash-proof front panel, 3RU rack mountable. \$1228.

MAD LIGHTING

GUVT 1800 773 187

MAD1 Controller 64 channel DMX midi controller; 60 preprogrammed scenes and 12 preprogrammed chases with same number of scenes and chases programmable; X/Y joystick and 5 sliders. \$879.

HIGH END SYSTEMS / LIGHTWAVE RESEARCH

GUVT 1800 773 187

Universal Controller 16 fixture control of any combination of Trackspot, Emulator or Intellabeam; 500 scene; 64 presets; 32 position memories; supports midi show control; liquid crystal display. \$2430.

Cyberlight LCD Controller eight fixture control; 891 scenes; 1024 presets; liquid crystal display; simple menu operation; PCMCIA card; supports midi show control; proportional or remote level submasters; joystick. \$4866.

Status Cue Control System provides simultaneous control of up to 32 Cyberlights or 64 Intellabeam / Trackspot or 32 Studio Color (DMX) or 1024 DMX channels per link card. \$32,340 (complete system).

Intellabeam LCD Controller twenty four fixture; 891 scenes; 1024 presets; liquid crystal display; simple menu operation; PCMCIA card; supports midi show control; proportional or remote level submasters; joystick. \$4866.

all prices are ex tax unless stated otherwise

Next Months Buyers Guide**FILM & TV
STUDIO LIGHTING**

Vendors- why not Email your next BG submission (as an attached RTF rich text format file) direct to me thus eliminating possible typo's?

My email address is:
catriona@conpub.com.au

LXbizzBITS**NEWS****SPACEBALLS**

Clearlight Melbourne have purchased five more Spaceball smoke machines from LSC to add to their existing stock of eight.

CLEARLIGHT

Clearlight: Shows claim they are the only stockists of Source 4 luminaires in Victoria and any Victorians wishing to see the range are welcome. They have the 240v lamp in stock with a full range of voltages available for every application.

Clearlight also have the new Nebula Hazer from High End Systems in stock and extend the same invitation to all interested designers to visit them at 9 Horscroft Place, Moorabbin, Victoria or call on (03) 9553 1688.

Also see Clearlight's heavy duty L-16 winch up lift is now widely available from lighting hire companies across Australia. With a 550 lb lift capacity to 16' this is a stand for the serious rigger.

SCOTTY

The stage shows "Beauty and the Beast" and "Crazy For You" have purchased Scotty smoke machines - the world's smallest battery powered smoke machine - from LSC Electronics.

RIMINI

The 15th International Exhibition of Equipment and Technology for Discotheques, Dancehalls and Rental Firms is due to be held at Rimini Trade Fair Centre from March 23-26. Manufacturers and distributors of lighting, sound amplification and diffusion, lighting and sound effects as well as new ideas for furnishing and services will show up-coming trends in club and dancehall tastes.

A special showcase this year will be 'SIB THEATRE' dedicated to equipment and products for large theatres, television studios, live shows and concerts.

The expo's trade sectors have been expanded this year to include equipment for recording studios, video production, conference centres, museums, cruise liners and show-rooms.

For further info call: Rimini Trade Fair +39 541 711228.

WILDFIRE EXITS

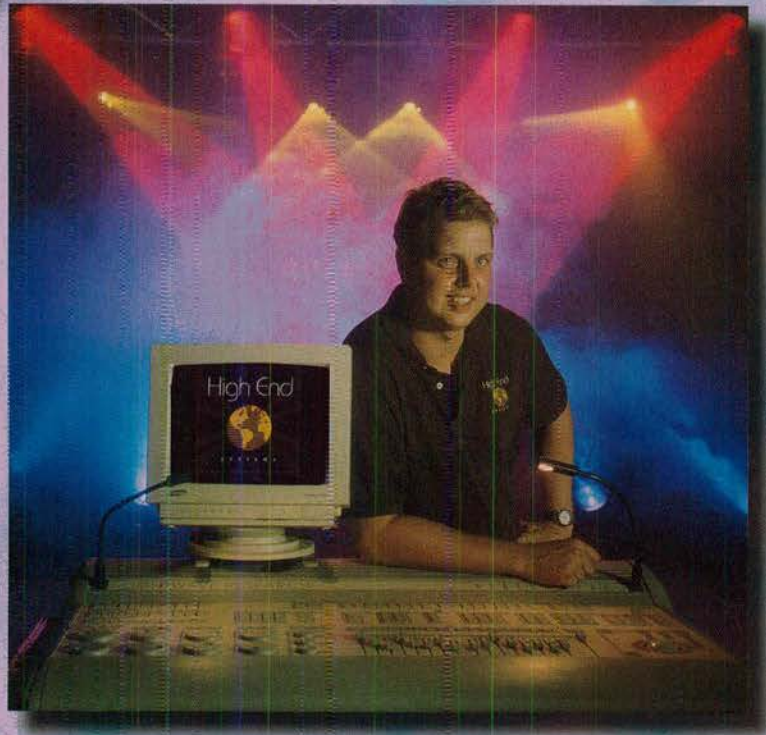
Wildfire President Richard Green, who entertained us with a seminar at last years Entech, and Creative Director Kent Mathieu have left the LA based company to start UV/FX Scenic Technologies. The new company will specialise in creative development, design and scenic applications for entertainment venues worldwide.

Call them on: +1 310 392 6817

"Hello World"

Our company, **Enlightment Pty Ltd**, has recently purchased Australia's largest inventory of Cyberlights (litho), Studio Colors and Dataflash (AF 1000) fixtures.

The formation of **Enlightment** as a company, and the evolution into automated lighting was a natural development for our Theme Corporation group, which was established 12 years ago by Lloyd Bord, and which also includes Australia's most innovative theme event production company (**BOJO Productions**) and one of the world's most creative theme architecture companies (**Imaginæring**).



In simple terms **Enlightment** hires its inventory of computerised High End Systems Cyberlight, Studio Colors, and Dataflash lighting fixtures to event producers or promoters for international & national concert tours, major corporate events, entertainment spectaculars, theme events, product launches, theatre productions and major sporting events in Australasia and Asia, as well as providing a sales and installation service for new High End Systems and Wildfire fixtures.

We are committed to providing superb client service and to offering our automated lighting fixtures at very competitive pricing.

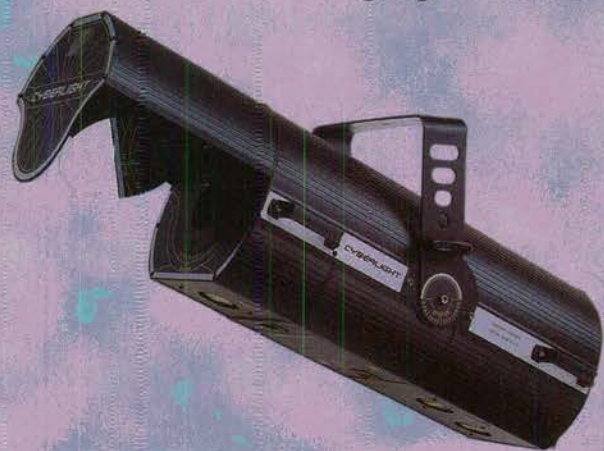
Stephen Bond
Managing Director



64 X STUDIO COLORS



36 X DATAFLASH (AF 1000)



32 X CYBERLIGHTS (Litho)

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Our initial space requirement is _____ sq.m.

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Product Profile:

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 Lighting Equipment
 Musical Instrument
 Audio Broadcast
 Visual Comm
 Sound Comm

We wish to VISIT
PALA '97

Name _____

Job Title _____

Company _____

Address _____

Country _____

Tel _____

Fax _____

Product/Service _____

VENUES

• Compiled by Caroline Grafton

SHOOTER'S SALOON BAR in PARADISE

Shooter's Saloon Bar situated in the heart of Surfer's Paradise, on Orchid Avenue has fast become one of the premier bar and club venues on the Gold Coast. The success of Shooter's Saloon Bar is largely attributed to its uniquely designed theme atmosphere. The venue is a replica of an early western style saloon bar. Features include many unique pieces of western memorabilia, including wagon wheels, bellows and barrels.

Shooter's Saloon Bar is open seven days and nights a week and caters to a diverse audience. During the day it acts as a pool hall and luncheon spot, converting at sunset for casual "after work drinks" and that intimate dinner. Shooter's then transforms into one of the hottest night spots on the Gold Coast sometimes featuring special events such as the Miss Indy contest, the Johnny Walker Golf classic after party, Film previews for movies such as Twister, Scream, etc, fashion parades and more.

George Rigas and partners meticulously sought moving/effects lighting & audio to complement the decor and atmosphere already established in the venue. Something different with a touch of drama was the order of the day and was finally achieved in a cooperative effort between interior, lighting & audio designers, featuring JB and Abstract Lighting & Oz made Acoustic Technologies pro audio.



THE LIGHTING SPEC

6 x JB Varyscan 3 Special Plus 200 MSD and DMX Controller; 2 x Abstract Twister 3; 1 x Infinity Sate 203/Turtle Light; 60+ x Infinity Par 36 Pinspots; 1 x Le Maitre C300 Haze machine and 1 x Minifog pump machine; 16 x Litecraft Par 56 Cans/Stubbie Cans; 1 x Lightomation 1500w Mega Strobe, 1 x Touch Sensor 16, 4 x 4x8amp Switch packs, 1 x Pack Master Zone chaser; 1 x Fro

Light 2K Fresnel and 1 x 1.2K Profile; 1 x Dyalite single dimmer.

THE AUDIO SPEC

1 x Numark DM 2160 mixer; 1 x Denon 2000F CD Player; 14 x Acoustic Technologies FR-01 Full range cabinets; 2 x Technics SL 1200 Turntables; 3 x QSC Audio amplifiers; 1 x Yamaha Graphic EQ; 1 x Citronic Sound Limiter; 1 x Electrovoice M2500 Cordless Microphone; 1 x Shure SM58 microphone.

THE VIDEO SYSTEM

1 x 'Nightlife' CD/Video system inc. computer, keyboard, 2 Sony CD/Video players & 2 VCR's 1 x Sony VPH Video Projector; 12 x Orion 20" TV Monitors.

THE PEOPLE & THE PLACE

Venue: Shooter's Saloon Bar
Address: The Mark Building, Orchid Avenue, Surfer's Paradise, Gold Coast.

Promoter: Tony Rigas

Lighting Design: Cuono Biviano, Mick James

Audio Design: Harry Lloyd-Williams/Mick James

Lighting and Audio Installation: Mick James Electronics 9/11 Surfers Ave Mermaid Beach Qld, 4218 Tel: (07) 5572 0133

Video Design & Installation: Noiseworks

Interior Design: George Rigas
Resident DJs: Trent Maximus, Toni Farini

Door Charge: \$5.00 only for weekends and special events; Members free



Sublime in **Sydney** is the place to be Friday's for **Voodoo**, a night of house music, brought to you by some of Australia's top DJs. Only a recent addition to the Friday night club scene, Voodoo has brought an attendance of up to 500 people every Friday Night. From 10pm, Voodoo brings to you 2 rooms of House. In room one the sounds of uplifting house are brought to you by Johnathan Wall and GT. But if you feel like something a bit heavier room number two provides you with hard house performed by Nik Fish and Jumping Jack. Guest DJs also appear each week. Sublime is at 244 Pitt St, Sydney.

Another addition to the streets of **Kings Cross**, in NSW is the **Icebox Nightclub**. The club was opened to provide Sydney with a new and exclusive dance venue, providing club goers with the cool sounds of Drum'n'Bass and House. Friday nights, resident DJs Stevie B and Grant bring you the best of dance tracks all through the night. On Saturdays Naughty Nina plays a night of house one week and then satisfies your desire for Drum'n'Bass the next. The club is open 24 hours and cover charge is \$10. You will find the Icebox at 2 Kellet St Kings Cross.

January saw the opening of **The Vibe Shift** at Jameson's Bar in **Brisbane**. Situated below Jamieson's Restaurant, The Vibe Shift provides listeners with a solid mixture of house, funk, soul and rhythm from 9pm every Wednesday night. During the week you can also hear live music at Jameson's bar 'till late. Look out for Comedy nights set to hit the Bar, along with Cabaret nights on every Thursday (bookings a must). For more information call Jamieson's Restaurant and Bar on 07 3831 76475 or visit it in Adelaide St East, Brisbane.

If you are craving the sounds of R&B in **Sydney**, then head for **The Booty Bar** at The Brooklyn Hotel. From 10pm every Saturday you can experience R&B, hip hop, funk, soul and reggae at it's finest with a great selection of DJs and MCs to hype the crowd.

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CUSTOM PATTERNS

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You will find all this every Saturday at The Booty Bar, Corner George and Grosvenor Sts, Sydney. Phone 018 276 763 for details.

Rebar Dance Club in **Geelong**, Victoria, provides you with a variety of nightclub entertainment Thursday through to Saturday nights. Thursday nights is Zyber, an alternative dance night, featuring live bands from 10pm. Friday night it's Pop night, with cover band Mrs Robinson, pumping out the latest British covers. Doors open at 10pm with a cover charge of only \$5. Saturday nights experience 3 levels of entertainment, with Cafe Rebar on level 1, Dance Music on Level 2 and Glass Bar on Level 3. Saturday nights the club opens

at 10pm and entry is \$10. For more info call 03 5229 2366 or see it for yourself at 177 Ryrie St Geelong.

The Blackmarket Cafe in **Sydney** has extended its Dayclub to two days a week. The Dayclub, originally happening on Sundays will now be pumping every Saturday and Sunday from 5am. So after a big night out in the city on Friday night, why not wind down at the Blackmarket from 5am Saturdays with the sounds of Guest DJs or perhaps a game of pool or a drink. The Blackmarket is on Regent St Chippendale, NSW.

Like a taste of the European nightclub culture? Head for **Bazaar** in **Hurstville**, Sydney's first European nightclub experience. Housed in the Roundabout Hotel in Hurstville, Bazaar is decked out in the guise of a true European nightclub. Open every Saturday night the club provides you with two dance floors and a lineup of DJs which pump out the sounds of the latest in dance music mixed in with a little of the latest from Italian, Greek and Latin dance cultures. Bazaar opens at 9pm, with a cover charge of \$10. For more info call 02 9211 2220 or make your way to 220 Forest Rd, Hurstville, NSW.

If 'your looking for a little Drum'n'Bass in **Adelaide**, head for the **Silverfish** on Wednesday night's. Kicking off at 8pm The Silverfish brings you a hot selection of DJs every week, pumping out the best of drum'n'bass for a small fee of \$3 before 11pm. Friday nights at the Silverfish is 'Bellissima', a European House and Garage night, featuring Silver and Rob as resident DJs. Bellissima is \$6 for entry. For more info call 08 8231 2922 or make your way to 182 Hindley St, Adelaide.

A new addition to the **Brisbane** Club scene is **Montego's**. Montego's club specialises on the sounds of reggae, ska, rock steady and dub, releasing a hot Jamaican feel. Thursday night engage yourself in the smooth sultry sounds of the Groove Doctor. Starting from about 8pm with Pool Comp also happening Thursdays. Friday and Saturday nights experience something different with world music leading the theme. Friday nights the sounds of live percussion beat out African and Latin sounds. Saturday nights make your way for Montego's to hear live bands with a African and Jamaican feel. Friday and Saturday nights are free with the action starting from about 9pm. To find out more call Craig on 07 3252 8355. Montego's is situated below Bonapartes Hotel at the corner Gibbes and St Pauls Terrace, Fortitude Valley.

A new location has been added to the **Melbourne** club Scene called **The Racquet Club**. An upmarket approach to the clubbing scene, the Racquet Club is housed in a Victorian Mansion in Queens Rd, Melbourne. Lavishly furnished, the club houses a brand new JBL surround sound system, and boasts 2 dance floors, plenty of parking and a strict door and dress code policy. Resident DJs include Jason Digby, Symon Digby and Jason D'Costa. Out is the club, the Racquet club is the location. For more info call 0419 897 809.

For those in **Melbourne** who like to start late and finish...later, make your way to **Blend**. Housed at Saratoga in Melbourne, Blend provides you with a late approach to clubbing. Doors open at 2am (out the rear) and the music will be a mixture of popular grooves such as drum'n'bass, dub, and deep house to add a little variety. The club doesn't close until 9am, so you can be ensured a full night of partying. Blend goes off every Friday Night at Saratoga, 46 Albert road, South Melbourne, Vic.

For a night of pure unadulterated House and Garage in **Melbourne**, head to Lounge for **Plush**. Happening every Thursday night, Plush hits off at 10pm with a cover charge of \$4 or \$2 with a pass. For more info call 03 9663 2916 or visit every Thursday Night from 10pm 'till 4am at 243 Swanston Walk, Melbourne, Vic.

Also...from last month, there was a typo error in Club News with reference to Club 378 was actually meant to be Club 383 in Lonsdale St, Melbourne, Vic. Oops.....Sorry.

NIGHTLIFE MUSIC VIDEO: masters of digital music video

With consumer use of DVD just around the corner, Nightlife Music Video are concerned that unreal timing expectations may arise of the new medium. DVD will offer high quality vision and surround sound audio on a CD sized disk, with the benefit of random access.

Nightlife started business last decade with a system that used a computer to program a pair of VCR decks, allowing clubs and retail outlets to custom program continuous music video. The system was and is very successful, but the firm saw the potential of digital technology back in 1992.

Nightlife introduced a Video CD (V-CD) based system at ENTECH last year, which offers better performance than the VHS system. Both systems are currently supported by Nightlife, who secure music tracks under license and package them out to system subscribers.

VHS video suffers usage deterioration as do all magnetic tapes, whereas Video CD doesn't. This is a major issue for a firm supporting a large number of sites, each of which could have dozens of compilations on hand. Despite the compromises offered by VHS video Nightlife have successfully managed the medium.

Video CD was first mooted in late 1992 when a firm called Nimbus demonstrated a system using MPEG-1 compression, storing vision and audio on virtually standard CD media. Connections wrote about the technology in early 1994, Nimbus were making claims that V-CD as it is now know, would take over the world. They were vending an interface which hooked onto the SPDIF output of any upmarket domestic CD player, allowing V-CD to be played at home.

V-CD suffers roughly the same vision resolution as VHS video, the MPEG-1 compression needing to ration down the vision in

VHS, V-CD, DVD - acronyms abound • by Julius Grafton

order to fit onto the disk. Audio quality is quite reasonable. Nightlife have found that their system is typically appreciated for audio quality, and the picture quality is quite acceptable from either VHS or V-CD.

Indeed V-CD is now a huge format in Asia, where any visitor can be confused at seeing almost 200 different models of domestic V-CD players along with umpteen thousands of prerecorded titles on sale. V-CD has eclipsed laser disk which was once considered the penultimate video format. Laser disk is a large format (12") and also fragile.

Short run DVD replication is still some years away, and when available will enhance the activities of firms like Nightlife. Meantime V-CD is up and running, with the firm offering over 130 separate titles. Each title holds up to 74 minutes, an average of 18 songs.

• Call Nightlife Music Video on (07) 3367 1045.

Say WHAT?!!

In Brisbane QLD recently a large number of clubs have been inspected by Workplace Health and Safety (WH&S). The clubs have been advised that their staff can only work in an area for 8 hours if the sound level is at 85dB.

One doubts that this legislation has actually been thought through properly by WH&S. Think about it. The average club only pumps from 9.00pm 'til 3.00am - six hours and at a lot higher level than 85dB. Nevertheless, club managers are requesting their staff to wear earplugs. It must be a little difficult for the punters to order a drink though. Just imagine some of the mixers you'd end up with. • CG

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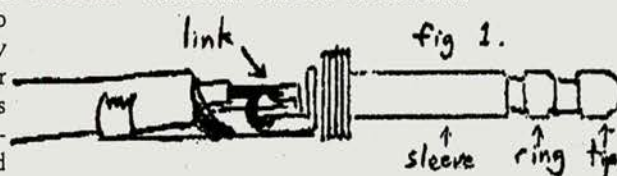
A new way to use inserts

These days, one expects to find insert points available on all but the most basic audio consoles. For beginners, these are connections which give you the option to "break into" a line level (+4db) signal path. On a microphone input channel, this would normally occur just after the preamp stage, before the EQ, auxiliaries and main fader. It is normally accessed via a TRS or Tip Ring Sleeve jack connector. These are often called stereo jacks because they are often used for stereo applications such as wiring headphones. The tip and ring part connect the unbalanced line signal to and from whatever is being inserted, with the sleeve connecting the common ground/shield. The TRS socket on the desk is usually a self switching type, so that when it is unused, the tip and ring are shorted together. When a plug is pushed in, the contacts are forced apart thereby engaging external things within that part of the audio chain.

There are of course, variations on this theme. Many desks have separate send and return jacks. These range from the Peavey Mk 4s and Dynamixes (which had separate volume knobs for insert sends) to the bigger Yamahas and Soundcrafts. The claim is that separate sends and returns, especially when valanced both ways, help maintain signal "integrity", although I reckon you'd have to be pretty fussy to find any real advantage within most live applications.

On monitor consoles, it's become a pretty common practice to insert equalisers over the outputs. The big advantage over having equalisers "in line" between the desk and amps/crossovers is being able to do away with the messy "comparators" of old. The monitor engineer can then "listen in" post EQ, using on board desk facilities. Much neater.

The most common uses for inserts on a FOH console are gating and compressing/limiting. These tools, once luxuries, are now considered essential for a well controlled mix. Other applications include external equalisation. Sometimes we have been presented with the most diabolical kick and snare sounds, where it has been politically incorrect to push the drummer aside and tune his kit for him.



Inserting external EQ on drum channels won't guarantee good sounds but it can give you a fighting chance. Sometimes we need to insert external EQ on lead vocals. One of the Elvies we regularly do likes to wander around the auditoriums with a radio mic while singing ballads (what does "All my dreams for Phill" mean anyway?) Very handy to reach out and engage the inserted EQ whenever he'd wander in front of the speaker system.

Another handy use for inserts on smaller desks is for driving effects. If there aren't enough auxiliary sends or no channel direct outs, then you can use the desired extra effect by inserting your gated reverb or whatever on a drum group or even just the snare channel. The advantage of doing this is not requiring an extra return/channel for the effect to return. The disadvantage is that you may encounter some level matching difficulties, resulting in unacceptable noise levels, or signal degradation with cheaper effects. If the number of channels/returns is not a problem, then my preferred method for utilising insert sockets for driving effects is as a send only. This entails using a TRS jack with the tip and ring shorted together a la Fig. 1. This then

"taps" into the signal without interrupting it.

The first time I thought of doing this was several years ago when I was doing monitors for a certain Oz rock deity, He needed eight monitor sends which was no problem for my new eight send desk. Then he asked for reverb in his monitors. After trying to insert a reverb on his channel without success (too noisy), I thought of making up a TRS (as per fig. 1) to TS (mono jack) lead to drive the reverb which could be mixed in using a spare channel. It

worked like a beaut and became a regular technique within my bag of tricks. Although a simple enough idea, I've never seen it suggested or used elsewhere and other operators have always been surprised when I've suggested it as a solution to similar problems.

A cool use for insert sockets on main FOH left and right outputs is for recording desk tapes. For years we used a parallel split off the inputs to our FOH equalisers to the RCA inputs of our cassette decks. This worked fine with our earlier desks which, despite XLR outputs were nevertheless unbalanced. With the newer consoles, I liked the idea of using balanced when available, and the unbalance RCA splits compromised this. We now use TRS jacks, TR shorted, to feed recorder inputs off the main inserts. We do have matrix sends available for recording, but this means extra knobs to deal with in what most live engineers consider a very secondary role...recording desk tapes for muso's post mortems.

Anyway, enough insert applications. Neat issue we'll look at neat, practical methods for writing insert looms, and generally removing the "hass" factor.

Michael runs The Public Address Co in Sydney, call (02) 9799-7219.

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