

Sound & Lighting catalogue inside

# Channels

Big new Studio and Broadcast supplement

Australasia's Professional Sound and Lighting Magazine

Published every 6 weeks

Mailed FREE to industry Professionals (See Page 3)

Issue # 14

15th June - 1st August 1992

## WHAT HAVE WE HERE?

### High Production Values Pay Off

Prince achieves 'seamless integration' of Sound, Lighting and Staging - delivering the gig the others dream about!



L.D. Marilyn Lowey in Sydney

## Emmy LD

-By Katronia Forcer

After an absence of 16 years, Neil Diamond returned to Australia with a sell-out tour. The Lighting designer was Marilyn Lowey who has worked for Neil since 1980 but is still the newest person of the tour entourage which is affectionately described as a family. As well as working with artistes such as Liza Minelli, Cyndi Lauper, Glen Campbell and Bette Midler, Marilyn has achieved much recognition in other -continued P.12

SYDNEY- No matter what you think of Prince, if you saw one of his recent shows you'd have to agree the sum of the parts made them brilliant. Too many large scale performances fail to mesh all the elements together, the larger the show, the greater the chance something will stand out of the big picture.

The very first impression gained once the Diamond & Pearls Tour 1992 swings into town is the sheer size of the production. 13 semi loads, 67 non-performing crew including 12 wardrobe staff, and some mammoth set pieces indicate this is a very major tour, the extraordinary security precautions heighten expectations.

Security is a commodity performers will pay for, Prince has a team that take command, seal up the venue, and rule. For example, this was the first time I'd found the steel gate at the rear of the Entertainment Centre shut, likewise the stage door - upon which a timid knock is greeted by one huge beefcake who is best addressed as 'Sir!' -continued P. 12

P.14: Prince lighting, P.15: Sound.



KATRONIA FORCER

### Concerns raised regarding outlays to stage benefit show starring INXS

## Concert For Life costs questioned

SYDNEY- The Concert For Life in March was touted as a major fundraiser, but according to The Sydney Morning Herald, cost \$1,216,134 to stage. A leaked set of financial figures revealed outlays of \$15,840 for artist accommodation, \$39,336 rehearsal costs, more than \$200,000 for publicity and promotion, \$16,576 paid to an orchestra who performed during two songs by headline act INXS, and \$34,940 as a fee for Venue/Stage/Site coordinator.

Channels was told a Mr. Lee Charteris was flown out from England as Stage Production Manager, and at least another two crew were imported from overseas for the show. Michael Chugg of Frontier Touring was quoted thus in

the Herald: "To fly in overseas production people is the greatest kick in the face for our industry. I find it insulting". Local production management was apparently offered free, but declined.

International air travel was noted at \$12,465, with 463 room-nights clocked up. A sum of \$24,676 was paid to Radio 2JJJ to facilitate a live to air broadcast, said by the Herald to have been complicated by a movie commissioned by INXS. Venue Centennial Park cost \$106,995.

The Newcastle Earthquake Appeal Concert in 1990 cost \$160,000 to stage. Channels has faxed certain questions to a Concert For Life director, who has failed to respond by presstime.

-See EDITORIAL; Page three.

## inside

International Production News	P10
Stan Miller -Audio Legend interviewed	P11
Backstage at Movie World	P16
NSCA Report by Peter Blackmore	P17
Duncan Fry writes	P29
Travel & Leisure- new feature!	P30
JBL Sound System Design Manual	
-Serialised, this issue: Part 1.	P32
Colour Changers Compared	P34
Paul Mulholland: The Lighting	
Dimensions Interview	P37
Doctor Light	P41

....and all the usual News and Gossip!

# POWER

With

# SIMPLICITY

## ESP III



ESP II has power, with a 680C0 microprocessor and many of the functions of our acclaimed Event Lighting Console. ESP II also has something it's famous predecessor ESP offered. Simplicity.

Get your hands on ESP II and it all falls into place. The LCD Window prompts you while the Graphic Keypad spells out the functions available to you. Jands unique software allows you to work the way you want to, intuitively.



U.S.A.: Jands Sales  
Phone 714-497-9091 Fax 714-494-2594  
U.K.: AC Lighting  
Phone 494-44-6000, Fax 494-46-1024.  
Japan: Theater Engineering  
Phone 03-3705-5611 Fax: 03-3705-6766

Jands Electronics Pty Ltd, 578 Princes Hwy, St. Peter's 2044 N.S.W. Australia.  
Phone 61-2-516-3522, Fax 61-2-517-1045. (Australian Company Number 00187837)

### WIDE MODE

- 48 Control Channels (ESP II-24)
- 96 Control Channels (ESP II-48)

### SOFTPATCH

- Proportional to 5:2 Dimmers, 3 tables

### MASTERING

- 10 Pages via 12 Scene Masters -ESP II-24  
24 Scene Masters- ESP II-48
- 10 50 step chasers
- 100 random accessible effects memories
- 10 100 entry cue stacks, programmable dipless crossfade times
- Up to 498 memories

### FEATURES

- One button recording and editing
- Random access to cues
- MIDI control
- Multiple chases via Scene Masters
- Set-up options

### OPTIONS

- Analogue output (soft patched)
- M CARD storage

## Concert For Life - Sorting Right from Wrong

The Victor Chang Cardiac Research Centre is caught between a rock and a hard place, and they don't really understand why. Just six months ago they were made an offer they couldn't possibly refuse, and as a result are today over \$600,000 better off. Despite this, the eminent charity has found it necessary to defend its windfall, while the prospects of any future charity concert look remote.

When INXS's management and Sydney's St. Vincents Hospital announced plans to stage a benefit concert in Centennial Park, industry eyebrows raised. A view was expressed that this was a concert looking for a charity, that INXS sought a way to stage a showcase event. A later statement from the charity said "we fully supported INXS's requirement for Centennial Park, the venue". Note their word: 'requirement'.

The pre-publicity was relentless, building expectations of an enormous crowd and resultant million dollar plus windfall for the Victor Chang Cardiac Research Centre. AIDS funding was also loosely linked to the event. On the day fewer people than expected paid \$23 a head to see a strong roster of local talent perform in a stunning parkland setting, cumulating with INXS, who finished the concert by unveiling an orchestra, who performed two numbers. 2JJJ recorded the show, a movie was made.

Six weeks later the financial report for the Concert was leaked to the press, and the sky fell in for the Victor Chang Cardiac Research Centre. Suddenly they were placed in a difficult position, not of their own making - or so it seemed. The media had jumped on the financial report and criticised concert organisers over expenditure, which saw the total cost of the show stand at \$1,216,134 - according to a report, not refuted.

Perhaps confused at the furore, the charity ran a very large press ad which sought to clarify their point of view. In effect it said they were \$600,000

better off, they were sorry more people hadn't attended, and INXS and their management company MMA, along with Meridian Marketing had staged the event for the charity. They went on to say to stage the event on a fully commercial basis would've doubled the cost, and that criticism of the costs essentially relies on subjective observations made by a few music industry people with a vested interest.

This is certainly correct, and in the turmoil important matters are overlooked, like how INXS donated the proceeds from a warmup show to Sydney's Wayside Chapel.

What about the disparity between those who worked for free, those who were paid something, and those who went in at pure retail? The figures indicate this was a case of who knew what, and certainly those being paid kept quiet. Channels was told by Colin Baldwin that Showcorp provided lighting 'at raw labour cost', yet an amount of \$34,000 was spent on 'lighting'. Jands Production Services said nothing, and collected a fee representing something like a 50% discount for provision of P.A., while other companies like The P.A. People who were approached by the organisers were paid nothing other than costs.

The fee paid to an English Production Manager, said to be in the vicinity of \$30,000 - is wrong. An Aussie could have done this for free. INXS apparently said no, they wanted Keith Bradley. Bradley wasn't available, he suggested someone else. Several other international crew were flown in, including a sound engineer who hadn't worked with INXS before. But would the Rolling Stones have acted any differently?

How much harder will it be to stage a charity concert in the future? At the very least the budget will need to be revealed beforehand.

-Julius Grafton.

Opinions herein are not necessarily those of the Publisher.

# AUX 1

John Mellencamp's support act in Sydney was forced to amend his act - Magician Brendan Joseph couldn't eat fire, as the venue management pointed out the 'No Naked Flames' signs. The following night, poor Brendan was told he couldn't use the pigeons and ducks either - lest they foul the floor!

The No Naked Flames sign at Sydney's Entertainment Centre doesn't stop VIP's and others smoking at the mixing riser - have a look sometime. And let us not forget the flame eater who did his thing during Carmen either!

**Creative partnership no more.** John McConnell is not seated behind the sound console during Tommy Emmanuel's latest expedition to every nook and cranny around Australia. Falling out?

Ivan Smith replaces Dave Ferguson at Herkes in Sydney, the lighting wholesale outlet.

**Trevan Johns, long time Audio Consultant at Sydney's Sound Affair has left, he now is out on his own, after some kind of 'purge' at the firm.**

The bonking activities outside the marriage(s) of some Queenslanders in the Music Trade caused upset when revealed in this column earlier this year. Aux would like to reassure all readers that nothing is sacred, no one is spared.

**Who was the Monitor Engineer recently booted off a national tour in a country town due to powder use? When will some inexperienced crew get the message that powder is no-go in 1992. Maybe the still rampant number of musicians who insist on powdering their noses are a bad influence on some kiddies masquerading as roadcrew?**

Bad timing dept. A famous Sydney L.D. lobbied to have a look at the outdoor Prince concert setup, only to run into a very real foe who pointed out the very real lack of a security pass upon same L.D.'s personage. Exit L.D. stage rear. Much bad and dark muttering followed. The feud started 20 years ago, it's still running strong today.

**Gordon Hoskins of M & G Hoskins P/L must be sad at the defection of star import line Celestion after 20 years. The line is now represented by Amber, who are 'chuffed', says John Fitzpatrick.**

Birdman alert. Not prepared to heed the advice of those who know better (like AUX), our fearless adventurer took off from terra-firma beneath some kind of kite, and of course crashed. Famous Jands Contracting personage Chris Johnston broke parts of his anatomy - the Humorous (it wasn't) in this tragedy, which occurred due to the aerodynamic principle of The Stall. This is when your winged device gets a little slow and the lack of lift produces the effect of a brick hurled from a bridge. 26 stitches, and a big plate, Johnston now has a reminder of his Easter Break. He appears not deterred at all.

**BABIES- Coemar-Desisti Australia head illumination engineer Peter Kemp is proud first time dad, a girl. And Aussie Monitor design engineer Stuart McLean and wife Ros have just had a baby boy, their second.**

# Channels

Australasia's Professional Sound & Lighting Magazine

Produced by Grafton Services Pty Ltd, for the publisher, Jands Electronics Pty Ltd. All EDITORIAL correspondence (but not circulation) to:

**Grafton Services Pty Ltd,**  
P.O. Box 439, Epping 2121, NSW, Australia.  
Phone: (02) 876-2612, fax (02) 876-5715.

**Readership:** 15,000+ industry professionals.  
**Contributions are welcomed!**

Send your item by mail or fax, if you'd prefer to discuss your idea first, give the editor a call.

**Circulation, mailing list changes:**  
Dayle Schirripa, (02) 516-3622, Fax (02) 517-1045

All other enquiries: (not circulation) to the editor, Julius Grafton (02) 876-2612, Fax (02) 876-5715.

**THANKS TO AND FOR:**

**Proofing Assistance:** Geoff Haines, Gayle Garrett  
**Computer Consultant:** David Mulholland  
**The Printer:** Lionheart, Phone (02) 666-5162  
**The Bromide Bureau:** When we find a good one!  
**Colour Seps:** See above!

**Mono Scanning and Aldus Freehand diagrams:**  
Josh Luo, C & D Graphics: (02) 570-7342

**Keyboard Crunching:** Carmel Molloy

**Lotsa Help:** Dayle Schirripa & Caroline Grafton

## Advertising

We invite anyone interested in exposing their business to the entire industry to discuss advertising. Call Dayle (02) 516-3622, or Julius (02) 876-2612

## Channels Distribution Policy

Bulk copies are available at various Dealerships, Studios and Management offices. Channels is distributed free of charge to anyone involved in the technical side of the entertainment industry. If you would like to apply for a free subscription, please send us the following details by mail or Fax to (02) 517-1045 on your letterhead (or attach your card): Name, Address, nominate your employer and your role, whether you are employed full time or part time in the industry, and what your employer/company actually do. The subscription coupon elsewhere in the magazine should be used if you are not employed full time in the industry.

**New Zealand enquiries:** (09) 366-7021

©Jands Electronics 1992, nothing herein to be reproduced without asking first.

A.C.N. Jands Electronics Pty Ltd 001 187 837

A.C.N. Grafton Services Pty Ltd 002 964 591

Opinions herein are not necessarily those of the Publisher.



## World Supply Line

**Digital Compact Cassettes** from Philips will be with us at Christmas, according to authoritative Sydney columnist David Frith. Just before we went to press Frith revealed Philips have brought forward the Australian release of the medium, with recorder/players said to debut at about \$1,300 retail, the asking price of the first machine named the DCC-900. Cheaper models are expected to follow in short order. Sony, meantime are rushing the Mini-Disk, their new medium, with the 9cm (3.5 inch) disks on record store shelves early next year. It is expected a Mini-Disk recorder/player will sell for about \$1200 retail, with play-only machines cheaper. Both formats as chasing record labels with ferocity, the availability of substantial pre-recorded material is seen as essential for consumer acceptance of one or both mediums.

**Coemar** have sacked U.K. distributor's WB Lighting, replacing them with a new company headed by a former WB sales manager. Treachery is in the air?

**Strand Lighting** in the UK have just released a new Colour Scroller system, named 'Colour Call', and set up to fit Strand Cantata sized fixtures and Par 64's, and alternately a bigger model for 2k/5k fixtures.

**Soundcraft** have a new production line capable of producing 20 consoles - per hour! Mindful of the images this evokes, the firm say they have technology called QUARI - which stands for Quasi-Autonomous Replicating Intelligence, whose exact elements are a closely guarded secret, but a "pseudo-organic culture" is used to "grow" blocks of fully formed channel strips. Sounds different.

Meantime, **Europa** sales are kicking on, with more than 40 consoles placed in hire companies and venues across the world to date.

**NEVE** have launched the Capricorn console, said to be a third generation digital console.

**JBL** are said to be close to releasing two new Array Series loudspeakers to join the 4892 model. The new cabinets will be a dual woofer cabinet not unlike a stretched 4892, and a bass cabinet featuring 2 of the Array Series' unique 14" woofers. Array is launched downunder soon, see story re. demonstration tour on Page 5.

**AKAI** have released Version 2.0 software for their hot DD1000 magneto-optical disk digital recording and edit system. This product is spoken highly of by several people who have promised Channels material, but like many promises the story/stories on the DD1000 never came. Sigh. **In fact, now the lid is off this topic, why are some distributors so unwilling to promote their products? A couple of so-called major distributors in this country (Australia) have told Channels they won't/can't/shall not send product news along. You, dear reader, suffer for this!**

## New ARX D.I. Box



**Melbourne:** ARX Systems announces the release of its innovative new Direct Box, the DI-1.

Based on a single channel of the successful DI-6, the DI-1 is the first active direct box with a sophisticated power management arrangement. ARX control circuitry allows the DI-1 to automatically switch between batteries, phantom power or an external DC supply, such as a battery saver power pack.

Colin Park of ARX says "We listened to a lot of audio professionals complaints about existing DI boxes, and they boiled down to three basic areas: more gain, easier battery access, and longer battery life. The DI-1 has smart solutions to all these problems. In fact, the prototype proved so popular at the 1992 NAMM show that we had to chain it to the booth!"

The DI-1 has up to 20 dB of gain on a rotary control, battery check switch and LED, audio ground lift switch, phantom power LED, and the simple 'twist and slide' action of the battery compartment makes battery changing a breeze, even on the darkest stage. (ARX Press Release)

## AKG Micro Mics

**AUSTRIA:** A range of useful compact mics tailored to the needs of live sound reinforcement which include the two shown below, are now available down under. The C408 is a condenser mic that clamps to the top hoop of a drum, with the mic element on a swivel arm. Best of all, the manufacturer says "the mic case and arm are strong enough to resist drumstick impact". Response- 80- 20kHz, hypercardioid, \$250 retail.

Continuing the theme is the C409, designed for trumpet, saxophone and trombone players, who like to dance and fart around as only brass sections can do when given freedom. And often when they shouldn't, anyway! Clamping to the bell of the instrument, the C409 is effective from a low 20Hz AKG say, at \$260 retail. Distributed by AWA, offices in all state capitals.

**C409/B9 (right)**  
for Wind inst, &  
**C408/B9 (below)**  
for percussion



STOP PRESS STOP PRESS STOP PRESS STOP PRESS

STRAND DUMP STARTEC FOR BYTECRAFT

In a shock move, Bytecraft have assumed distribution of Strand Lighting products, just months after quitting Australia and appointing Gordon Richmond's Startec as distributors. The move came out of the blue, with Richmond advised hours after Bytecraft staff were told, and just the day before the Pro Light & Sound show in Sydney, where both firms were exhibiting.

Richmond told Channels he was disappointed, and keeping a brave face indicated he was considering his position. Just months after winning distribution rights to Strand products, Richmond has established premises in three states, and designed new complimentary dimmer based products to sell alongside Strand luminaires. All this now seems to no avail, it is understood Bytecraft sealed the deal with Strand by purchasing a stockpile of equipment Richmond passed over

..... Full story NEXT ISSUE!.....



## Bjorn Again Tour Jands Event Console Through Europe

**ROTTERDAM:** Melbourne act Bjorn Again are on tour through the North-world summer with their actually clever and entertaining ABBA throwback act. Lighting Director Alex Saad is touring a 36 channel Jands Event Lighting Console, supported by European Jands distributors, AC Lighting.

The band are in Manchester as we go to press, visiting Helsinki, Estonia and Sweden during the currency of this issue. Primary Talent in London are bookers, we're very interested how this tour goes for the act. Europe all but closes down for summer, as we freeze down-under. Alex is sending postcards, lucky sod

## JBL & Soundcraft new products ON TOUR in August

**SYDNEY-** JBL and Soundcraft have announced a major product tour encompassing the new Array Series digitally controlled loudspeaker, along with Soundcraft's new Europa and Vienna live sound consoles.

Australian Distributor Jands has set dates for the tour, which will take in Sydney on Monday 17th August, Brisbane on Wednesday 19th August, Melbourne on Monday September 14th, Adelaide on Wednesday September 16th, and Perth on Monday September 21st.

JBL International personage Mike Reeves will fly to Australia to present the Array Series, which is a major product for JBL down under. Ostensibly a fairly conventional looking speaker cabinet, the first of the series, the 4892 is in fact extremely compact, with a purpose made 14" woofer and a unique neodymium element h/f driver on a new 45° bi-radial horn.

The cabinet is, (as its name implies) built to 'array' in an ultra compact man-

ner, with even coverage and dispersion from low and high frequency components. The 45° h/f horn is allied with the 14" woofer in uniform dispersion vs. frequency, according to Jands. The smallness of the cabinet isn't evident in the photo (below), which details some of the rigging options available.

Used with the new ES-52000 Digital Controller, first seen in use here with Neil Diamond (see *Performance News, this issue*), crossover slopes of between 50 and 100dB per octave are achieved, which is critically important to minimise interaction between speakers.

Jands say the Array Series with the ES-52000 (and also with some other drive options to be announced) will be readily accepted by installers and P.A. operators alike, looking to maximise system efficiency while achieving 'real and appreciable gains in audio clarity and performance'. Various packages based on Jands new SR-3000 Split Rail 3,000 watt amplifier will be unveiled. A P.A. war horse, it seems!

The tour will not just demonstrate the Array series, Soundcraft's Europa and Vienna will both make their local debut, generating lots of interest already, according to Jands. Venue details soon.



## Singapore Show News

**ROME-** Those trekking North to the Pro Audio & Light '92 show in Singapore during July should note the promotional seminar; 'Italy - the market leader and trendsetter', to be held on July 9 at 3.00pm. Organised by the Rimini people, they offer a gabfest followed by a cocktail party and then a 'big party' at the Zouk Club. Not the Zouk Club! Renowned for ebullient hospitality, the fine folks should get a roll-out, say hello to Umberto Bonito from the Italian Trade Commission if you get there.

Local firms will be at Singapore in force, Jands, ARX (who have an office in Singapore), AM and LSC will all debut new products, with many local industry professionals planning to make the trip. This show is becoming a 'must see', growing in size & stature yearly.

## PENN- local plant

**MELBOURNE-** Penn Fabrications (Australia) has announced they will assemble certain Penn lines in Melbourne. They also have a new K & M Microphone stand - the 271 - which at \$79 retail is great going for a German product.

## Music Staff Agency

**SYDNEY-** A new company - Music Staff - has been established to place temporary and permanent staff in the biz, and also to 'headhunt' suitable top-end personnel for clients. The firm is an offshoot of Immedia, Phil Tripp's PR firm, who also publish the Australasian Music Directory twice yearly. Music Staff seems like a good idea, they can be reached on (02) 211-1535, or (02) 281-8795.

## People moves

Melbourne's Audio Oz has hired **Scott Jamieson** as Internal Sales Co-Ordinator, while **Serge Rancev** has been made Group General Manager. **Fred Pratt** is Group Accounts Manager, and is said to have an incredible talent for subtlety. Test him by asking for 120 days to pay!

Meanwhile, ARX have appointed **Rod Watts** as their sales and technical support engineer in Southern Queensland. Noosa, to be exact. His phone numbers: (074) 74-9194, (018) 710-071.

It appears the position of Finance Director has been abolished at Jands, after the sudden departure of long standing incumbent **John Paillat** recently. Functions are split between M.D. **Robert Young**, and Accounts Manager **Kathy McMahon**.

**Jenny Royal** (nee Miller) is now at Australian Monitor assisting M.D. Lionel Krupp. Jenny previously worked for your editor for a goodly number of years as General Manager of a confusing company structure, known for chaos and cashflow problems. Good qualifications ...

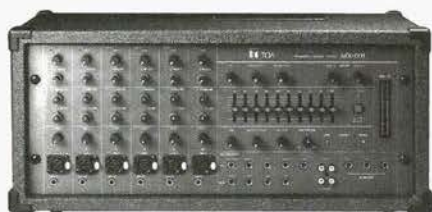
Speaking of which, Australian Monitor Sales Manager **Roderick McKinnon** has a part time helper these days, one **Barney Meyerson**, brother of the infamous **Hymie**. Hymie is not a director of Australian Monitor, he says.

**Shane Morris** (of CADD Console fame) has been appointed Service Manager at Fairlight.

## TOA chase PA sales

**SYDNEY:** Toa reps claim they are making inroads with the MX-601 powered mixer (below) and the SL line of compact 2 way loudspeakers. The MX-601 is notable due to four band EQ on it's 6 input channels, along with extensive patch facilities and two auxiliary sends per input. It also has a ten band graphic, reverb with EQ, and input trim control for the balanced XLR or unbalanced jacks. The internal amp is rated to 300 watts at 2Ω, which would deliver about 200w at 4Ω. Retail price is less than \$2k.

Speakers to suit the above are available from TOA's line of SL boxes, the SL-120 (right) has a 12" woofer with piezo h/f driver, and retails at \$413. A 15" version, the SL-150 does for \$457. Distributed by AWA.



## Freedman sells shop

**TEMPE:** The long established sound & lighting outlet at Tempe near Sydney Airport has been sold by its latest owner, Peter Freedman, to Mr. Roy Cooper, who trades as Soundlab. The sale followed, (and is said by Freedman to result from), the advertising of the business for sale here in Channels just last April. (*Great! -Ed*)

The premises concerned were used as a retail outlet for Freedman, whose Freedman Electronics Pty Ltd business is based at Summer Hill in Sydney's inner west. "We have moved away from retail", General Manager Colin Hill told Channels, "and didn't need the outlet".

After Freedmans itself, the Princes Highway premises at Tempe are thought to be Sydney's longest continual running outlet for lighting and sound equipment. First opened in the late 1970's as All Sight & Sound Hire, the business became Soundco after being acquired by Les Jones, who traded at the site for a decade before Freedman took over.

Controversy has arisen from time to time at the site, in the late 1970's All Sight & Sound Hire challenged Rock Industries as a rival manufacturer of winchup stands, causing Rock distributors Barratt Lighting to retaliate by way of renting an adjoining shop for a window display. More recently a partnership dispute simmered there.

## How it ought to be

Your editor had a rental experience that sets a good example recently, when hiring (in another name) four radio mics from Sydney's Sound Affair. The Chatswood firm has been in business forever, so the finicky detail was not unexpected. The four Eleco receivers were individually racked in sensible 1 r/u sleeves that weren't overly heavy. Inside was the IEC power lead, contained in a velcro strap, and the two antennae were already connected. Each belt pack transmitter, and corresponding receiver, was identified clearly with frequency and also colour coded. A neat package contained the four lapel mics, each with clip and pop filter. A fifth (spare) was supplied, and all the transmitters had working Energiser batteries installed. To top off this bonanza, the firm included an informative instruction sheet that acutally told even a novice all that they needed to know.

## Steve Bray- changes

Steve is, of course, the Sydney end of the Troy Balance Corporation, and now he operates as Australian Audio Brokers from Troy's Glebe premises. Problems with #?@\* Telecom mean his new phone number is (02) 552-3340, not the one he thought he had. Fax (02) 552-4883.

## Even Sidchrome can't match this set of tools!

**SCV's Tool-Box Series for Connecting, Balancing, Checking, Interfacing, Distributing, Controlling, Routing:**

- The world's favourite **DI** – SCV DI Box2 (Active, Passive, or 8-Way)
  - The renowned **SCV Phase Checker** – SCV PC-80
  - 4 Ch. **Phantom Power Supply** – SCV PHP
  - The complete **Cable Tester** – SCV TBOX
  - 2 Ch. **Transformer Balancing Box (1:1)** – SCV DBT
  - **Head-phone Splitter** – SCV PHONE BOX
  - Dual Stereo **Phono Preamp** to line out – SCV DPU
  - And for Interfacing and Distribution, the amazing **SCV Buffer**: 2, 4 or 8 unit frames with slot-in modules for Mic to Line, Line to Line, Unbalanced to Balanced, VCA/AGC, Test tone, EQ., Headphone, Phono . . .
- In fact, there's an SCV solution for your audio problem.

... **SCV SOLUTION**

For more info. contact:

**AR**  
AUDIO ENGINEERING

Phone:  
**(02) 299 3666**  
Fax:  
**(02) 299 2240**

Level 4,  
140 Sussex Street,  
Sydney, NSW 2000



Or, your local **SCV dealer:**

**SYDNEY:** Sound On Stage: Ph (02) 318 0066.  
P.A. People: Ph (02) 642 5344.  
Freedmans: Ph (02) 797 0986.  
Turrumurra Music: Ph (02) 449 8487.

**MELBOURNE:** EAV: Ph (03) 417 1835.  
Troy Balance: Ph (03) 699 3844.  
Audio Oz: Ph (03) 696 5690.

**BRISBANE:** Musicians Pro Shop: Ph (07) 854 1577.

**PERTH:** Kosmic Pro Audio: Ph (09) 242 3844.  
Sinclair Comms: Ph (09) 271 4993.

**HOBART:** K.W. McCulloch: Ph (002) 28 6373.

**DARWIN:** Integrated Media Services: Ph (089) 41 1128.



**SYDNEY-** Announcing a new pair of lighting consoles based on - but substantially different to - the successful ESP line, Jands have flagged a major export drive. The ESP-II is available in 24 channel format with 12 Scene Masters, and 48 channels with 24 Scene Masters.

ESP-II shares much in common with Jands' EVENT range, itself boosted by release of the Event Plus in 48 and 60 channel versions late last year. The 38000 microprocessor used in Event is also used in ESP II which makes for an extremely powerful console, according to Jands.

Simplicity of use was the reason for retaining the ESP name on a completely different console, along with styling similarity to the old ESP, which was a very strong seller in European markets. Meanwhile Jands has established an American office in conjunction with E & E Exports in Los Angeles. (See Paul Mulholland interview this issue).

ESP-II has an Event style LCD window which offers prompts in such a manner that first time

users can operate the console without referring to the manual. This I have proven myself, as a very rusty lighting operator with old habits.

A significant feature of ESP-II is the Wide Mode, which doubles the number of channels by means of using the second preset, so your 24 channel console becomes, 48, or your 48 becomes 96 channels. This is enormously helpful when controlling things like Moving lights that require 4 or more channels per fixture.

Softpatch to 512 dimmers is standard, as are 10 pages of memories to a total of 498 possibilities. Up to 10, 50 step chasers, 100 random accessible effects memories, cue stacks, dipless crossfade with variable times and one button recording and editing are some of the many features. MIDI control is standard, as is DMX-512 digital output. Analogue output and M-Card storage are options.

Common with the Event is the Graphic Keypad, and much of the rationale behind the software. Jands spent a lot of time worrying about 'user

# ESP II

## Major new Jands 24 & 48 ch Lighting Console to strengthen U.S. & European export markets

interface', which you and I only notice when we have trouble understanding a piece of equipment. Event has Assign & File™ capability the ESP-II doesn't, Event is also finished with an expensive laser cut Lexan finish, whereas ESP-II has a more traditional paint and screen finish. While Jands think they know how ESP-II sales will affect Event sales, they aren't saying, but clearly must be confident the Event won't suffer too much, because they have held ESP-II prices to the same levels as the old ESP, which would indicate volume sales are anticipated.

The Jands Memory Lighting Console range now stacks up like this-

ESP-II: 24 & 48 channels.

Event: 24, 36 and 48 channels.

Event PLUS: 48 & 60 channels.

Production of the Instinct has ceased with the introduction of the Event Plus, but the firm state they will support Instinct software indefinitely.

On the question of software, Jands say they have a policy of continual research, and that Event and ESP-II owners will be offered ongoing upgrades from time to time. The firm has an R & D Department with four permanent engineers on staff, which indicates a major commitment and obviously flags hopes of export growth in the year ahead. **-Julius Grafton**

## Soundcraft upgrade Venue

**POTTERS BAR, UK:** Having just moved into new premises, Soundcraft has unveiled an upgraded Venue console, the Venue-II. Offering standard mute groups, the Venue-II consolidates the hold the esteemed English firm has on the sound reinforcement market, and better positions the successful Venue between new Delta derivatives and the top-end duo, Vienna and Europa. (See Product Tour P 5) Vienna-II now has a

direct-out facility on the 6th auxiliary send, which makes it much more versatile. The meter-bridge option now allows for individual bargraphs for each channel. Optional module choices still include the standard mono input module with 4 band EQ, with stereo and also dual line input modules available. Output module choices include dual group, effects, and matrix modules. *For more info- Jands (02) 516-3622.*



Here are some publications that may appeal to you if you are an industry acolyte ..... or as a gift to someone in need, perhaps.

PLASA, the people who produce Lighting & Sound International magazine, have a technical book service. These are just some of the titles currently available:

**CONCERT LIGHTING**

Techniques, Art & Business. By James L. Moody. ISBN 0 240 80010 9 Price £25, 240 pages, hardcover, 1989.

**CONCERT SOUND & LIGHTING SYSTEMS**

By John (Ozzie) Vasey (Jands). ISBN 0 240 51798 9 Price £26.50, 178 pages, hardcover, 1988.

**THE STAGE LIGHTING HANDBOOK**

By Francis Reid. 3rd edition. ISBN 0 7136 2957 6 Price £9.95, 176 pages, paperback.

**LIGHTING & SOUND**

A Phaidon (Publishing Co) Theatre Manual. ISBN 0 7148 2514 X Price £7.95, 128 pages, paperback.

**THE TECHNIQUE OF LIGHTING FOR**

**TELEVISION AND FILM** (3rd edition), By Gerald Millerson. ISBN 0 240 51299 5 Price £29.95, 448 pages, hardcover, 1991.

**LIGHTING FOR VIDEO** (3rd edition) By Gerald Millerson. ISBN 0 240 51303 7 Price £14.95, 176 pages, softcover, 1991.

**PROFESSIONAL LIGHTING HANDBOOK** (2nd edition) By Verne & Silvia Carlson. ISBN 0 240 80020 6 Price £26.50, 256 pages, hardcover, 1991.

**SOUND FOR THE THEATRE** By Graham Walne. ISBN 0 7136 3135 X Price £12.95, 152 pages, paperback.

-More next issue.

**ORDERING from PLASA:** Best method is to FAX them, 44 323 646905, and give a Visa or Mastercard number, expiry date, and full name and address. Add 10% for postage, which is SURFACE MAIL. Wait at least 3 months. Alternately, ask them to airmail the book to you, and authorise them to add the cost to your creditcard account.

**Performance Magazine** is the weekly bible of the trade in the U.S.A., they have some very handy Directories available, usefull if you need to contact personnel in/from the USA.

**PRODUCTION PERSONNEL**

Lists touring production people and contacts, including equipment manufacturers. Price: US \$34.95, 150 pages.

**CONCERT PRODUCTION**

Lists Sound, Lighting, Staging, Video, Comm, Laser, Pyro, Backline, Set and Trucking Co's. Price: US \$34.95, 340 pages.

**TALENT/PERSONAL MANAGERS**

Over 1000 management company listings for over 7000 acts. Price: US \$34.95, 260 pages.

**THE BLACK BOOK**

Phone and Fax guide for the whole Performance Mag database, listed by state & service. Price: US \$34.95, 300 pages.

**Ordering:** Buy 2, get one free! Best do the same as PLASA, send FAX with creditcard details. They take them all, including Amex & Diners Club. Fax: 1-877-4273. Again, ask them to add the airmail onto your account or wait 3 months!

# NEW TOA Wireless Microphones

An affordable line of quality products for every application

After years of intensive research and development, TOA introduces a new line of VHF high-band wireless microphone systems.

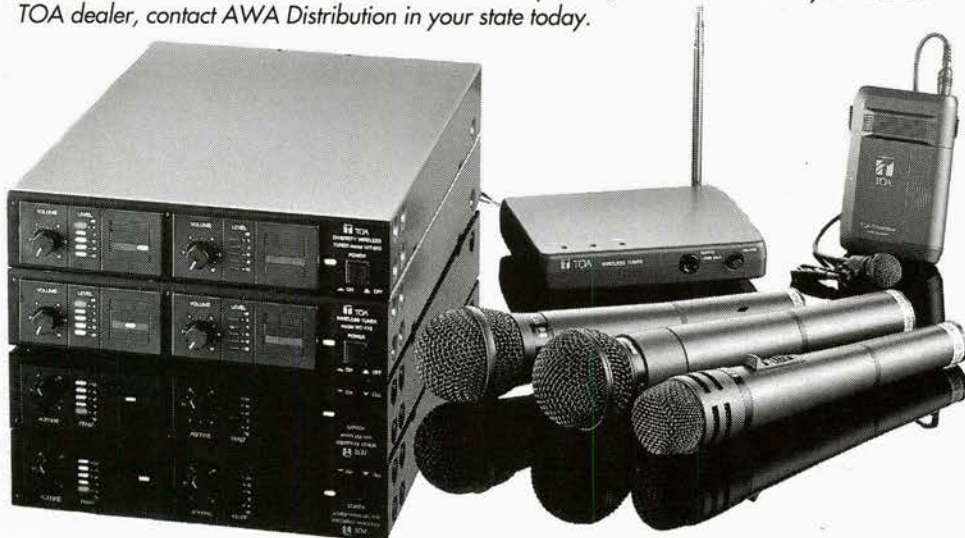
With TOA's advanced circuitry and unique design, these wireless microphones bring you high sensitivity, low noise and excellent sound quality.

Incorporating the latest RF technology, these versatile, high precision models meet all the professional requirements for both vocal and speech applications.

For more information on the new TOA wireless microphones, and the location of your nearest TOA dealer, contact AWA Distribution in your state today.

**Major Features**

- VHF high-band wireless systems.
- Choice of high-performance dynamic TOA head or SM58 head for vocal-use hand-held model.
- TOA's enhanced-intelligibility electret condenser for general use hand-held model.
- Light, compact lavalier bodypack transmitter, for hands free operation.
- 19-inch EIA rack-mountable diversity or non-diversity two channels modular receiver.
- High-sensitivity desktop non-diversity receiver.
- Tone-key technology to prevent RF interference.
- Comander circuit for expanding dynamic range.
- Double-squelch system to eliminate ambient RF noise.



**AWA Distribution**

- |                                        |                                         |                                          |
|----------------------------------------|-----------------------------------------|------------------------------------------|
| <b>SYDNEY</b><br>Phone (02) 888 9000   | <b>MELBOURNE</b><br>Phone (03) 693 3322 | <b>BRISBANE</b><br>Phone (07) 844 1631   |
| <b>ADELAIDE</b><br>Phone (08) 272 2366 | <b>PERTH</b><br>Phone (09) 244 2884     | <b>LAUNCESTON</b><br>Phone (003) 27 3566 |

## Not Amused.

I refer to a photograph of yourself and myself at lunch printed on the rear cover of the latest edition of Channels Magazine. I would appreciate you attending to the following items:

1. Please advise me in future when you are sending a staff photographer along to our meetings as I normally charge appearance fees commensurate with the quality of the journal in which the photographs will be appearing. (In this case I feel no fee is applicable.)

2. As I believe you are used to eating sh—, I think eating hay is at least a positive step forward.

3. I strongly object to the way in which the waiter was handling your rear end as I am a good Christian person and such promulgations during meals puts me off my bacon so to speak. I just hope he pinned the tail in the right place.

4. At least we got one thing right. You're the one wearing the tail..

-Stephen Devine, Managing Director, Topstage Productions.  
-See Page 19 for Captions.

## Where's Patti Mostyn?

I notice with great interest Dr Light is now sharing a double spread with "The Society Page". Please can you address the following questions?

1. When will the Channels "Best Yet Recipe Page" be introduced?
2. When will the "Lighting By Star Sign" feature be introduced?
3. How can any genuine Society Page not feature at least one photograph of Patti Mostyn?
4. Is Julius Grafton really setting the magazine up for a takeover by Kerry Packer?

-The Punter, N.S.W.

## DAT Tapes - Monopoly

I would just like to clarify a point that arose in your last issue relating to the manufacturers of DAT Tapes. It was correctly pointed out that there is another major manufacturer of DAT Tapes named DIC. The name DIC stands for Dainippon Ink & Chemical Inc which is a Japanese company founded in the early 1900's. The point that should be made is that DIC in fact also supply some or if not all the chemical components that go into DAT Tapes to most of the other manufacturers including Sony. DIC is now being used by most of Australia's leading recording and mastering facilities.

-Grant Lumsden, General Manager, Audio & Video Wholesalers.

## Grubby Exploitation

Your publication is guilty of the grubby exploitation of women, from the totally abhorrent and gratuitous inclusion of photographs of women, one of whom is engaged in some kind of sex show, in your Rimir article. These photographs bear no relation to the context of the article, nor are they useful in any way to a casual reader (such as myself) of your haphazard publication.

Have you considered that your publication has a demographic made up of many different people, not just perverted and sleazy males who so typify the genre of 'roadies' and 'musicians'? What about the high percentage of personnel in the performing arts industry who are gay? In one stroke you have disenfranchised these readers.

-Shiela Yates, Glebe, NSW.

Thank you. We cater to all fetishes. Even yours.

Send your letters & abuse: P.O. Box 439, Epping 2121 NSW Australia, or FAX: (02) 876-5715.

## Nice Try, Fry

Well, what a can of worms our 'Amplifier myths and legends' ad stirred up. It wasn't a thinly veiled statement' as you call it - I thought it was a pretty blatant one. Let's face it, we make Mosfet amps. Do you really think that every other amplifier manufacturer is going to roll over and play dead now that the SR 3000 RMP amp has arrived? No way.

Shit, I'm as keen on the Emperor's new clothes as anyone, but until we see some hard facts regarding the testing of this 'RMP' measurement (close enough to 'RMS' to confuse the buyers? Surely not) it's still an expensive 600 watt amp to me. Does anyone really believe that just because you stick a microscopically short peak into a speaker it's suddenly going to deliver twice the volume? What about some information on how quickly a speaker responds to a peak? From a point where it's already handling 600 watts, not from a 0 watt point. Speakers, especially low frequency ones, are sluggish bastards at the best of times. Just because the speaker will handle peak watts doesn't mean that it's going to deliver more SPL, certainly not in terms of the time constants of the human ear.

Regarding the price of Mosfets, I really don't see how 'the argument faltered with the admission that mosfet amplifier designs are inherently simple and require less components'. Since when has a simple design been considered a bad thing? I'm sure that people servicing Yamaha 2200's yearn for a simple design!

And don't tell me that the Mosfet cost isn't a part of the equation. Why, it even says so in Jands Tech Note 106 'the Bi-Polar devices are cheaper'. Whose argument falters now? The Tech Note also says 'our research proved that people preferred the sound of a well-designed Bi-Polar Amplifier'. What people? There certainly weren't too many of them at the Melbourne demo? Not that the SR3000 sounded bad - it sounded fine - it just wasn't the 'quantum leap' that the advance PR had led people to expect.

The cost of the Mosfets aside (which I agree is expensive), the point in manufacturing is the overall parts count. And Bi-Polar amps have more parts on more boards because they are not such smart devices as Mosfets. Geez, I shouldn't have to lecture you, of all people, on the economics of amplifier manufacture. Or have you 'sold your birthright for a mess of wattage'?

And what about this crazy new rack standard that the SR 3000 is designed for? It's not really a 2 RU amp at all, since under existing racking setups it needs half an RU top and bottom. At least our amps are a genuine 2 RU!

Okay, I've vented my spleen enough. On a more positive note, I admire Peter Twartz for coming down to Melbourne and facing what may not have been the most friendly, warm and caring audience he had ever done a presentation to. I think it speaks volumes for the growth of the Australian Pro Audio industry that you let me through the door. The only mistake he made was to turn on the beer too soon, making the lively cut and thrust of question time a little livelier than expected!

Duncan Fry, Director, ARX Systems, Highett Victoria.

In sequence let me refute your argument, since I sat in on most of the Split Rail Technology seminars, and have an interest in this topic. RMP seems a genuine way to measure output of an amplifier such as the SR-3000, Jands has promised a paper on RMP. The idea, they say, is to build an amp that delivers in excess of 1500 watts per channel, both channels driven, when reproducing music, not sine waves. If you ask the SR-3000 to amplify

sine waves it'd do so, and deliver about 750 watts per channel. Against any other amplifier running music it is simply more efficient, of this there is no argument. Getting on to your pointed comment about speakers responding to peaks, any speaker must handle the musical peaks given it! Otherwise it blows up! Then you say handling peak watts doesn't mean you'll get more SPL. This is of course correct. You've hit on 'Power Compression', the sensitivity loss at the specified power once the voice coil is hot. Use a crap speaker with bad Power Compression and suffer. Use a good one, get more. Component count as manufacturing cost? The thing that killed me when I started Australian Monitor was importing the 2kVa toroidal transformer used in the sine wave amplifying AM-1600. SR-3000 does it with one considerably smaller, because of the way it is designed, with two rails per channel- thus the 'Split Rail' part of the marketing. Quantum leap? I think so. The rest of Australia uses the Hitachi Cookbook, Jands tried it and threw it away. They produced the mosfet 516, which although it sold in quantity, was boring. The last time anyone got excited about power output capability was when Perreux launched the 8000, which wasn't even 3dB louder than the J1000. You KNOW that to make something SOUND twice as loud you need better than a 10dB increase. Read "The Handbook of Sound System Design", by John Eargle, Page 52, or "The Master Handbook of Acoustics", by F. Alton Everest, Page 38. Crazy new rack standard? Gee we get down to it here, Dunk. Look at the SR 3000 and what do you see? An amp with universal rack standard mounting ears, obviously structured for export. Jands tell me they ship a set of adaptors with each amp for those Aussies who cut their rack strip at odds with the U.S. standard. Lastly, Peter Twartz sure did get a hard time in Melbourne. Not from the masses of punters, but rather the small crowd of amplifier manufacturers like yourself. It was pure entertainment, the guy soaked up anything dished at him, and he is due the pat on the back you've given him! On a happy note, thanks for your Duncan Fry column, the readers seem to like it, and so do I. -Julius Grafton, founder, Australian Monitor (and Editor of Channels).

## Who would have believed it?

Here's a good news story to brighten your day and just goes to prove that the bastards don't always get away with it!

Remember the sombre note in the last Channels- (Number 13, Page 7) telling the sad tale of theft from Australia's Wonderland? Well friends after an anonymous tip and, I must admit, a surprisingly prompt reaction from the wallopers yours truly is happy to inform you all... "I got my stuff back!!!!". Yep. All of it.. Along with a healthy (?) dose of mud and covered in that atrocious finger-print crap, that requires a full sand-blast and acid bath to remove, all the gear was returned to the wee rightful owner.

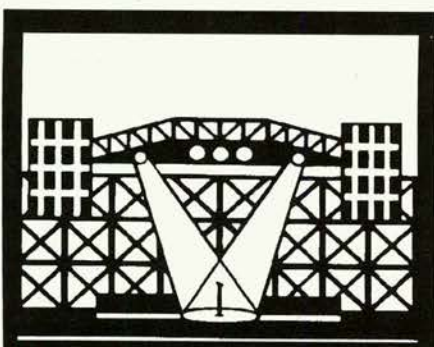
Public thanks must go to the caller - thanks very very verry much whoever/wherever you are - and to Julius and the Channels crew for publishing the fax that led to the gear being recognised. Ok... Ok... yeah... thanks to the police too...

Anyhow, I'd say by the time this goes to print all the gear and a dirty big alarm system will have been installed back in the theatre - along with barking dogs, mine fields, machine gun towers and arsehole seeking anti-theft missiles. Thanks again you-know-who-you-are-out-there and Channels and take heart viewers this proves episodes like this sometimes does have a happy ending.

-Spod, Audio Dept, Australia's Wonderland.

(MORE letters on Page 36)

From Debi Moen, Performance Magazine



## Colin Miller's Aussie Production Notes

Australian Concert Productions (ACP) have been busy of late. The **Charters Towers Country Music Festival** was attended by Dave Vinecombe, Brian Inglis and Jason Gendrowus, who ran 16 TMS-3's with Jands amps and used Yamaha mixers. Vinecombe has also been out with **Scatterbrain**, using 8 TMS-3s and subs. The **State Of Origin** match at Lang Park was another Vinecombe/Inglis gig, (up the Blues) where 16 TMS-3s strained to get over the sound of Queensland's praying in unison. **Circus OZ** had a run in Brisbane, with house engineer Clare Gallagher filling the tent with TMS-4 and EV-200 boxes, mixed from a PM-1800-32 console. **Billy Bragg** at Brisbanes Festival Hall used 24 TMS-3's with 8 TSW-124 subs driven by 32 Jands 920/960 amps. System engineered by Vinecombe, the rig was driven by a PM-1800/40, with a Soundcraft 8000 40 channel monitor console for 8 sends. 96 lights were controlled with a Jands Instinct 60 lighting console. Our last ACP item concerns a run by the **Maybe Dolls**, who did Townsville, Mackay and Rockhampton with a JBL rig made up of 8 x 4785 and 8 x 4750 types boxes, Jands amp powered, mixed on a 1532 console, with a PM2000-24 monitor console. ACP sent Peter Jackson (not the footballer?) as system engineer.

Meanwhile Brisbane's **Laser Productions** had the usual crap to contend with when Neds Atomic Dustbin had a sickness at the last minute, thus rescheduling their show. The Laser guys ran with good old V4 boxes powered by Amcron amps, mixed through a TAC Scorpion console. Craig Upton was system engineer, JBL Soundpower boxes were used for monitors, thru an MC2408 monitor board. LX was driven with a Showmaster II 96 channel board, Zac Harrison as system engineer supervised rigging 48 Rays, 24 Pars and a whole lot of stuff like pinspots, white lightnings and the obligatory fogger/s.

**R & K Lighting Design** (Melbourne) did an Indiana Jones Theme LX in a hanger at Essendon Airport recently, far too many luminaires to mention were rigged, with a DC-3 aircraft and a Suprex stage all adding to the fun. Rolf Greve says 'thanks to Trevor & Barry (CLS), Andrew (Premier), Burko, Kim & Bill'.

**PAP (PA People)** did a Perth Midday Show broadcast at Burswood with 80 channels of PM 3000, lots of studio type foldback through a Soundcraft 8000-40, JBL monitors, 7 Sony radio mic systems, and a weirdo arrangement of gear built into a golf buggy!

**McLean Audio** are out with Tommy Emmanuel, Glen Inglis engineering, Steve Cambridge looking after the system, which is JBL Modular. **Lots Of Watts** doing LX, with LD Phil 'Philbie' Lewis driving an Instinct.

**Bandanna Entertainment** have been busy, with acts like Tall Tales & True, and James Blundell- mixed by Michael Chandler. LD for Blundell is Tex Whitney. They tell of a lady who followed the tour for 15 shows!

Compiled by Colin Miller, Fax (02) 517-1045, Call (02) 516-3622. Next deadline: July 15. Be in it!

Michael Jackson's world tour is shaping up, with Mo Morrison named as Site Coordinator, and GLS Productions' Gerry Stickells named to coordinate the European leg. Benny Collins is Production Manager

**Light & Sound Designs (LSD)** are supplying pods and trussing for the Jackson tour. According to LSD's John Lobel, the firm is also expanding its TV Lighting push in the UK. **Todd Rundgren** and **Utopia** have reformed to tour Japan, tour manager is Mary Lou Arnold, production manager is Rundgren veteran Joe Lamond. Lighting designer Charlie Malings works with Lightwaves in Japan on illuminating the show, while **Clair Bros** provide the sound. Sound engineer is Larry Toomey. **Ringo Star** is about to tour, **Moody Ravitz Design Partners** are designing lights. "Ringo's not looking for an elaborate show" said Moody Ravitz's Mike Verkamp, explaining that the focus should be on the all-star musicians on stage, with no need for set or light distractions. **Bandit Lites** is doing the lighting. LD is Lane Hirsch of Moody Ravitz Design Partners. The company is also designing **Donald Fagen's** tour in August.

**O.J.'s Electric**, a division of Obie's Lights in Torrance, California, supplied all primary and secondary power distribution systems for **Paula Abdul's** tour in Japan, and also **Neil Diamond** in Australia.

**Steve Moles** left **Samuelson Concert Productions** in Middlesex, England, and is now with **Light & Sound Design (LSD)** in Birmingham, England. Moles says Samuelson's was financially cutting back and consolidated his job. At LSD he is project manager for the **1992 Olym-**

**pics** in Barcelona, Spain.

In her spare time, **Bee Oliver**, rigger/stage carpenter on **Natalie Cole's** tour, production managed a Mayors March for the "Save Ourselves, Save Our Children" rally. Oliver contracted for the stage and the roofing.

Before lighting designer **Marc Brickman** tackled the **Genesis** tour, he designed a massive production for **Yumi** (the "Japanese Madonna") **Matsutoya's** tour of Japan. Production Arts Lighting provided two BP-6 Gold projectors featuring PAL's newly developed image scrollers.

**ShowTech '92**, June 2-4 in Berlin, will present the latest international developments in entertainment technology. For information, contact Fax: (49-30) 3038-2279.

**MIX Magazine** recently announced its nominees for the **Technical Excellence & Creativity (TEC) Awards**, to be presented Oct 2 in San Francisco. Among nominees and categories applicable to concert touring are: **Sound Reinforcement Engineer:** Rob Colby, Dave Kob, David Morgan, M.L. Prociase and Robert Scovill. **Sound Reinforcement Company:** dB Sound (Des Plaines Ill.), Electrotec Productions (Canoga Park, Calif.), Maryland Sound Industries (Baltimore), Showco (Dallas), Ultra Sound (San Rafael, Calif). **Console Technology:** Amek Mozart RN, AMS Logic 2, Euphonix CSII, Soundcraft Europa, Solid State Logic SL8000 & Tascam M-3700. **Sound Reinforcement Product Of The Year:** Circuits Maximus C:Max Wireless Monitors, Crown 3600VZ Power Amplifier, Future Sonics Ear Monitors, JBL 4892 Virtual Array Speakers, Meyer SIM System II, and Soundcraft's new Europa.

## Tour Designed For Sell Outs

**Eric Clapton's** 1992 tour production was designed for sold-out arenas, with shows selling out "as quickly as we can sell them", says production/stagemanager **Mick Double**, who has toured with Clapton since 1975. Double & LD. **Tom Kenny** designed the show around the building, going for a very clean structural lighting system, Kenny says. 350 Par cans, 36 Vari\*Lites, 12 Xenons out front with 6 on the truss make the system. To improve sightlines there are no backdrops or scenic elements, thus no seats were killed. Double also trimmed the massive cable drops, or cable picks, usually hanging in gathers at all four corners of the stage. There are only two. **Showco's** PRISM system is used, the total production hangs 22 tonnes from 40 points, according to rigger **Bill Spoon**, who says it all goes up in four hours. House soundmixer **Mike "Dr. Funk" Ponczek** was surprised at the enthusiastic audience response and noise, which carried through the mics on opening night. The five-truck tour with 18 crew members is very small, but right for the show.

## Can't Dance, Can Perform!

**Genesis** can put on a spectacular show! Their world tour dazzles, with "an altered environment, a complete visual-aural experience, a real technology tour de force", according to production manager **Morris Lyda**. Lyda and production designer **Marc Brickman** (Pink Floyd, Paul McCartney) say the appearance of the show is very clean. Outdoors the sound stacks are 140 feet apart, rather than the usual 80. This provides a full stereo effect for fans who are a great distance away, Brickman explains. 3 giant **Sony Jumbotron** screens, each measuring 21 feet tall by 14 feet wide, can be used together or as separate pieces, positioned above the stage. Rather than using a lighting platform, hundreds of computer controlled lights are suspended from cables, and like a trolley car, moved back and forth as needed. The lighting consists of **Telescans**, **Vari\*Lite** 2Bs, VL4s and some bright lights, Lyda says. The tour, site coordinated by Genesis veteran **Steve Thomas**, is more efficient with 10 trucks plus steel trucks.

\*Debi Moen is International Editor for PERFORMANCE Magazine, a prestigious industry weekly.

He almost INVENTED sound - Julius Grafton talks to a guy who won't mind us calling him ....

# Stan Miller- Audio Legend

Stan Miller and Neil Diamond have been together for longer than almost any other team in showbiz, a remarkable feat, given Stan is Neil's soundman. Longer means 25 years, in that time 'The Neil' has only taken Stan aside twice for a talk. "One time he suggested I should try to get along with the musicians a little better!" (*Why? -Ed*) This is advice every sound person sometimes gets when the wretched posturing talent (ie: The Musicians) overstep the mark! Stan's other 'incident' with the boss occurred many many moons ago, when he had to depart a performance just ten minutes or so before the end. This was to connect with a flight and the start of an Alice Cooper tour. Stan's assistant had been preparing for this day for weeks, and successfully (quietly) sat in for Stan. Three months later, The Neil found out and summonsed Stan. "Don't you ever do that to me again!" he simply said.

There's nothing obtuse about this relationship, Neil prefers the security of having people he knows around him. His band, after all, have been with him almost as long, except for Neil's son, Jessy, who at 21 years of age, has started playing with a troupe more the same age as his father.

It's passe for the 'hip and trendy' music trade to dismiss Neil Diamond, but since Channels is a long way from hip and trendy we'll just fire some shots back. Promoter Paul Dainty is doubtless sniggering, having the largest grossing tour this year, and with an artist who has a number one album in the charts. A 51 year old artist, who last toured here in 1976!

"It's fun watching the audience" Stan told me. "Some of them just don't quite know what to do!



This is a great idea- the dip trap in the riser swallows the cables.

The last time they went to a concert was probably 16 years ago when we were last here!" Stan is a healthy 51 also, and most definitely a type 'A' personality, which means hyper. The guy is all over the place, organising the minutiae of touring life. "We're probably the best organised tour around, we have a load out meeting before every load out". They even have a daily newsletter, the "Post Bugle Intelligencer", which is crammed full of in-jokes and weird lingo.

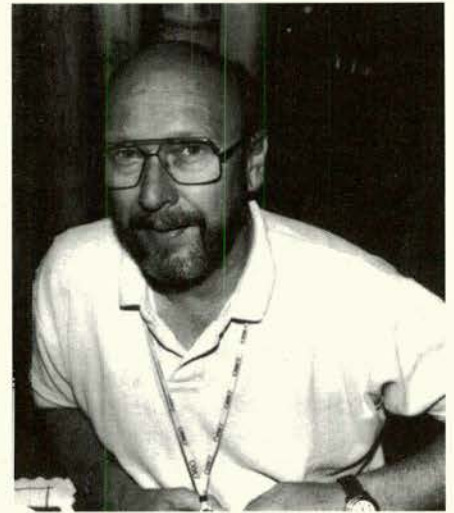
One of Stan's tasks is arranging the Carnet notes and import/export documentation for the 25 tonnes or so the tour air-lifts to each country. He has devised software for his Mac Notebook 170, so with a hand held laser scanner he reads the barcode label on each packing trunk as it's shifted, Stan the supermarket man, they call him. The software then can call up the individual serial numbers of each trunk's content, to foil any customs inspection. "We never get in any trouble this way" he says.

Walking through the Entertainment Centre before a performance, I am struck by the permanence of the set, which looks like it's been installed for good, not just toured in earlier. The rolling stage allows the foldback, backline and risers to be setup while the lightrig is prepared, then the stage is pushed by 48 sweating loaders into position. The monitor desk and racks are then also pushed, on their own dolly, into position. 16 JBL subwoofers are placed under the front of the stage, two caves are created at the rear, one for the guitar technicians and one as a 'fast change' room for Neil Diamond.

Some backtracking is necessary to establish Stan Millers credentials here. Essentially if you think about sound (as in Sound Reinforcement) in its present form, then Stan is somehow linked to it. The first person to fly loudspeakers was ... Stan. It all goes way back to the guy's college days, then the establishment of Stanal Sound. This was the late 1960's, bands like the 'Turtles' were Stanal sound customers.

Courtesy of Altec Voice of the Theatre products, Stan stretched the envelope, using the classic sounding 421 and 288 (prize to the first correct letter identifying these) in different boxes, always experimenting. Patrick Stansfield, Neil Diamond's production manager, once referred to one of Stan's earlier flown P.A.'s as "Stan's flying junkyard!".

Remember the 'Stanley Screamer'? That's one of Stan's designs. In fact, Stanal Sound was sold a few years back to Maryland Sound Industries, who acquired a customer base, then the manufacturing part of Stanal was sold to JBL, who in one stroke got a complete range of Concert



Series Loudspeaker designs. Stan had much earlier given Altec the flick and gone JBL.

Through the passage of time, it's always been Stan and Neil, although there have been other artists in between too. Bob Dylan is one, "we were in pre-production and he had a problem with the monitors", recalled Stan. "He said: 'make it sound like the bottom of the Grand Canyon, like when I wake up in the morning' Stan toured here with Dylan in the late '70's, also John Denver, "when John was doing big business".

The creative partnership between Stan and Neil (I have permission to use Neil as a form of address, by the way! -Ed) is of such intensity that when Stan suffered a heart attack during a pre-production session for a tour, Neil cancelled the tour. "Then he insisted my Doctor come on tour for the first two weeks!". The whole Neil tour party is intensely loyal in a family sort of way, characterised by Stan's comment: "When we have a meeting with four or more people, for 10 minutes or longer, it's catered!" The pecking order extends to air travel, where Stan flies first class. Why not?

Sound is the reason we're talking to Stan, so looking at his setup in the Entertainment Centre is enough to gauge the mans approach. The speaker system comprises 48 Clair Bros. S4 speaker cabinets, all JBL loaded. Three DLP wedges are hung under each side for front fill, for the see-the-man-sweat front seats. "I don't file stuff down on the stage", Stan asserted. 3 JBL 4866 boxes are atop the left and right S4 clusters, to project high frequency to the back rows. The neatly dressed stage front hides a wallop with the subs beneath, "Neil likes a musical sound energy to come off the stage", which translated means although the show is mixed reasonably quietly, it still kicks.

"We do get complaints about the volume, we're cognisant of the fact, we allow a certain amount of refunds". Stan takes his cue from Neil asking the monitor guy for more level. My associates who saw the show commented on the vocal projection in the mix, and were fairly uniformly of the view that Stan has mastered the art of a seamless, integrated sound.

Mixing consoles are a pair of 40 channel Ramsa  
(continued over)

## Stan Miller

(Continued from prev. page)

S840's, chock full of inputs. "I've rehearsed every contingency, I'm too old for emergencies". This is evidenced by the standby crossovers, with patchbay to bring then online. Stan has brought his own processing in the form of JBL's new ES 52000 digital processors, which provide 50dB per octave crossover slopes with FIR (Finite Impulse Response) filters. Crossover points were set at 220Hz and 1k8 for the S4's.

Another contingency Stan has planned for is the failure of a mixing console-FOH or Monitor. He has three foldback sends returned to the FOH, a stereo main mix, and one of Neil's vocal. If one of his consoles crash, he still has a show. A patchbay stands ready to route these three inputs to either console. Same at the Monitors, Stan sends an alternative house mix and a Neil vocal send down there, presumably so the monitor guy can run them in if his input chain fails, or even assign them direct to the EQ/amp chain if the desk carks.

Every show is preceded by a soundcheck-come-rehearsal, at least half an hour to an hour. Every single show. "We even rehearse the rehearsals!" Stan told me. Some Stan Miller-ism's to finish off. Advice to young sound engineers: "Don't EQ for EQ's sake!" Advice to (dreaded) musicians: "Make room for what you play".

## Marilyn Lowey

(continued from Page 1)

areas of lighting design. Industrial shows, spectaculars like Disney on Ice, architectural lighting, award shows and film have all received the Marilyn Lowey touch. In 1986 she won an Emmy for outstanding lighting on a CBS-TV production, 'Hello Again', starring Neil Diamond.

Today Neil Diamond is the only act that Marilyn will tour with, as that is his requirement. Everything else she sets up and leaves with someone else. Marilyn states that a Neil Diamond show is always evolving and is definitely a hands on type of tour. There are two different stages for this tour- an end stage and an in-the-round stage for the USA, UK and Ireland. Marilyn describes her symmetrical lighting system as semi-stage of the art and probably the only lighting system of its kind in existence right now.

"I designed the round show first, and it's interesting to see what works better in the round and then in the end. Using followspots on an end stage is a simpler application because when you're playing in the centre you're dealing with crossing and getting lights into peoples eyes. Once you put a show in the middle of the arena you're asking the arena to hang lighting and sound from the weakest point of the building so you have to have a super structure that holds up the lighting system".

"I use a Morpheus system because I prefer the quality of light from a Pan Command spot over a Vari\*Lite. I think the beam is more consistent and purer. I like the rotating gobos, the colour system, the dichroic filters and the cross fading

colours. Everyone gets particular. The smoke we use is very important, the vocalist is sensitive. We use a vegetable oil (*do NOT try this at home, readers.* -Ed) that produces a very fine mist".

Lights are built into the front of the stage, also there are Colour Rays which are a xenon light channelled through a fibre optic resulting in a light source that does effects similar to a laser. These are positioned about the stage so they come from different angles, and are particularly noticeable during the show opening. Lasers are used in two numbers, and Marilyn describes herself as "Laser Police", she doesn't like them overused. "People see green and know it's a laser. We do effects, full colour, neat looks and movement, as opposed to a harsh beam".

On the round system, Marilyn has added Telescans. Essential to the show are the audience lights which are placed in the middle of the arena, one song is performed with the lights up.

The last time Marilyn was in Australia was with Debbie Reynolds 13 years ago, she believes the country has 'grown up' a lot since. Marilyn is keen to state she has had some of the best followspot operators ever in her life in Australia. "People here care about what they do, Marilyn enthused. "They take pride in the quality of work and that's a unique trait to have - especially coming from the USA! I count my followspots out and they 'feel' the counting, they 'feel' the fade."

Marilyn has noticed the lack of women in the lighting business in Australia but she believes it will always be that way everywhere. (Why? -Ed). "People ask me if it has been tough but it's not something I've ever really thought about," she explained. "When I started, I just kept doing it. And that's the way it is. You might work a little harder but if you're good, you'll get the work".

*\*Katriona Forcer is editor of the 'On Tour' section of Lighting & Sound International magazine, with whom Channels has an exchange scheme. This story also appears on those pages in a forthcoming issue.*

## Prince

(Continued from Page 1)

The usual backstage pass isn't a great deal of use here either, unless you are directly accompanied by a 'laminated', ie: a known member of the artists or promoters entourage, wearing the 'Access All Area's' laminate. To get into the house at showtime, the backstage pass doesn't work in the venue itself unless you have either the aforementioned laminate with you, OR a ticket as well! Double redundancy, evidently the lengths scalpers will go to includes somehow reproducing the backstage pass of the day - despite the fact they change each day!

So an atmosphere of very serious business at hand pervades, which leads me to ask probing questions amongst the crew regarding the boss. The tour is in early days, and I find some candour - with interesting discussions regarding the star of the show relayed, but later I am asked very nicely to 'forget those parts'. The rules regarding what is on or off the record are universally

accepted - if you are talking to a journalist, state beforehand 'this is off the record ...' then your gossip. Typically you cannot finish your sentence, think about it, then say ... 'Oh, and that's off the record.' That is too late. However in this case I found the people I was dealing with were genuinely pleasant, so I acquiesce. Channels mission statement doesn't include providing tabloid newspapers with ammunition!

The tour started in Japan, some five months after initial pre-production rehearsals, which were then cancelled as management felt it would be better to wait before starting the tour - something to do with record sales. From Japan it was direct to Australia - and the whole box and dice arrived aboard two chartered 747's. The only local content came in the form of the Clair Bros. S4 Mark Two P.A. system (from Jands), and some Vari\*Lite heads (from Vari\*Lite Australia).

A run of Brisbane, Melbourne and Sydney sold out, with multiple shows in each city. Demand was such that promoter Paul Dainty added an outdoor show at Sydney Cricket Ground at the end of the Australian run. (See P15). Tickets were on offer at \$200 each, the scalpers made hay while the sun shone. Paul Dainty doubtless can't wait the promised return, which I'd guess would be at the start of the next Prince World Tour, sooner rather than later as the guy Eddie Murphy calls "A Musical MotherF\*\*\*ing Genius" has another album in the bag already.

-Julius Grafton

## David Byrne Live

STATE THEATRE, SYDNEY

The support band is Not Drowning Waving, a six piece with drums, percussion, cello's, keyboards, guitar and bass. Their music is hard to categorise, but leans heavily towards 'socially aware' lyrics. (*Pass the sick bag please* -Ed). They have problems - one keyboard isn't coming through, the sound is muddy. Halfway thru the second song the kick drum and bass spring into life, and the singer explains they did only have 10 minutes for a sound check.

Stage cleared, lights dimmed, and David Byrne walks on with acoustic guitar, and for 20 minutes plays with nothing else but a foot pedal operated drum machine. The lighting consists of a single pendant light globe, giving the impression he is playing in the unfurnished bedroom of an inner city flat! Just when you get used to this, the curtains behind open to reveal a 10 piece backing band that lurches into an old Talking Heads number.

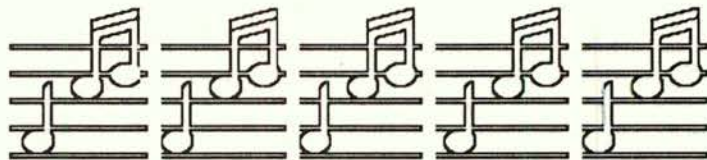
They do old stuff and new 'Byrned' offerings with clean punchy sound and simple lighting that makes use of a rear cyc. Byrne dances about in his unique way (remember the BIG suit in Stop Making Sense?) and never seems to tire. Byrne ends up doing three encores, the last being a solo acoustic number, as the drummers had already thrown their sticks into the audience.

-By Geoff Haines



# **ROCK 'N' ROLL MUSIC PTY. LTD.**

**197 PITTWATER ROAD  
MANLY 2095**



- \* WE SELL P.A., LIGHTING, KEYBOARDS.**
- \* RECORDING AND STAGE GEAR, NEW AND SECONDHAND.**
- \* WE SELL ON CONSIGNMENT.**
- \* WE ALSO PAY CASH FOR GOOD QUALITY USED EQUIPMENT.**

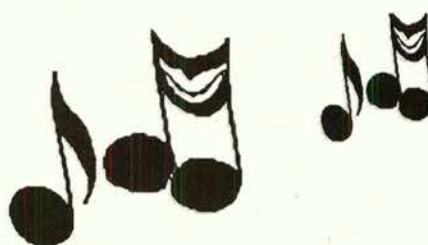
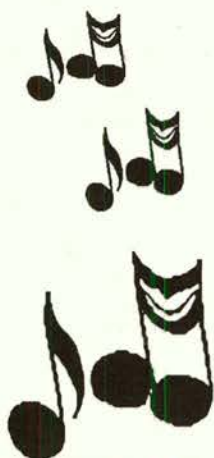
### TRADING HOURS

**MON - TUES 10AM - 5PM WEDNESDAY 10AM - 6PM**  
**THURSDAY 10AM - 8PM FRIDAY 10AM - 6PM**  
**SATURDAY 10AM - 4PM**

**PHONE: (02) 977-3188 FAX: 977-3270**

**MOBILE: 018 449 018**

**ASK FOR NEIL SMITH  
OR NEIL OHLBACK**



# Prince LX triumph

**R**oy Bennett is, with Patrick Woodroffe, one of the current wave of 'hot' lighting designers in the world today, and until now Roy always toured with Prince. This time out, Roy has designed the Diamonds & Pearls production in terms of lighting, props and staging, with Mac Mosier as Lighting Director. Similarly, Mac has always been Prince's Vari\*Lite operator.

Replacing Roy driving the analogue lighting console is Justin Collie, Justin and Mac were last here with INXS on the X Tour, another Roy Bennett design. Justin is also the lighting crew chief. Also familiar from X is Roberta Greenburg, the diminutive Vari\*Lite crew chief, who seems to like working with Mac. "He's the BEST", she told me.

Mosier and Greenburg make a good team, the tall Mosier whipping about his Artisan Vari\*Lite console, while Greenburg stands by on talkback to the Vari\*Lite crew, relaying re-patches and keeping an eagle eye on each fixture's status. This came to bear fruit at the Cricket Ground, when early in the show the Artisan console locked up for a second, later freezing during a number, requiring a reset. Mosier scabbled for his floppy disk loaded with memories, preparing to fire up the standby Artisan console, while Greenburg identified a miscreant fixture causing the problem, and took it off line. Problem solved, without reverting to the standby Artisan - a rare eventuality in any case.

The light rig isn't impressive in terms of huge numbers of fixtures, rather design and execution. Waiting for the show to start, a strange tape plays, with a women's voice in monotone reciting useless information, like "Prince drives a corvette" and "Diamonds And Pearl are dancers", and so on. Against this monotone is the sound of a waterfall, which drove some of the audience nuts.

Once the house lights go down, an overture crashes out while the "Love Arrow" performs for the first minute. This mammoth flying prop assumes the role of a spaceship, with Skjonberg Controls computer smarts operating four chain motors in sequence to pilot the Arrow on a trip down from the grid. The Arrow itself is 40' long x 12 feet tall, made up of backlit opaque perspex panels - with 16 Vari\*Lite 2B's and 12 x VL-4's affixed.

**POWERFUL.** This becomes a powerful symbol that lighting designer Roy Bennett has used as the centre-piece of the show. The Arrow theme is carried through the stage set, with little arrow facsimiles acting as banisters on the stair and riser rails.

The stage set itself is imposing, mysterious and sinister at times, and truly in harmony with the lighting - not surprising, as Bennett was responsible not just for Lighting design, but overall production design as well. Two 12' tall bronzed Gothic female statues stand each side of stage centre, arms clasped forbiddingly. The six band members are arranged uniformly, with Drums, Keyboards and Bass guitar on stage right, with Percussion, Keyboards and Guitar to the left.

Keyboards are behind strange cantilevered contraptions, and giant 'Plasma Balls' on each side of the stage are set atop frames with blue neon slashes running vertically inside. With a Grand Piano set low and forward, and a pair of dancefloors to each side, the whole stage appeared to almost step down to audience level.

This stepped stage is fairly deep, 48 feet to be exact, and it is set forward about 8 feet again from a 108' long fibre optic star drop curtain, a High End Systems



Mac Mosier and Roberta Greenburg in Sydney

product that uses 18 Colour Pro luminaries as a light source, for ever changing montages of coloured stars. The stage being set forward allows for lighting to be blasted up from the rear floor, to frame the stage and add a depth perception in front of the curtain.

Every fixture on the Diamonds & Pearls tour has a colour changer in front of it - or it's a Vari\*Lite. 72 Par cans and a squillion DWE Mole Phay make up the conventional part of the rig. Six hexagonal pods are flown on three chain motors each, each pod is loaded with 4 x 8 lamp Moles with Mole Mag's fitted. The front of the pod is fitted with an aluminium hexagonal mesh, so what you see is a big silver octagonal pod that blasts deeply saturated colour. Milan Rakic and Patrick Woodroffe have both used this theme in different packaging recently.

On stage and behind the stage are more Mole Mags, totalling 38, also behind the stage are some of the 24 VL-4 and 57 VL-2b Vari\*Lite's that makeup the rig. The behind stage fixtures are used brilliantly to frame the stage, the Vari\*Lite's throwing gobo patterns outwards and up over the stage while more fixtures do the same from on stage and in the grid. Two followspots live in the upstage grid, and eight are used out front.

**DARK.** If you find a word for the theme of this show, it should be dark, which is contradictory when you consider the hardware in use. But dark it is. The best example of this is the use of the followspots, which is restrained and always in colour. No more is the lightshow swept aside by dazzling followspot beams plastered all over the action. The followspots are supplementary to the lightshow, which is the point that 98% of lighting directors miss. (Or ignore due to performer vanity more likely!) In the Diamonds & Pearls show it doesn't matter if part of the stage is dark,

a musician unlit. There is another focus point at that time, maybe a blast of light from behind the stage, maybe some floor mounted Vari\*Lite's providing a crosswash, maybe the video walls jabbing intense saturated colour images from under the rear riser, maybe ... maybe ....

A two hour plus show can't keep normally keep re-inventing new looks. This one does. For example, the opening prelude with the Love Arrow (that's what I call it, disagree any who dare) sets up a sort of moody close

encounter scene that is blasted away by the opening of "Thunder", whereupon the star appears in a tube elevator centre stage (operated by a guy called "Scottie!") amidst blasts from the Lightning Machine, which is a deadly bright strobe. This number peels away your cynicism with so many Vari\*Lite cues you're sure you've seen it all. At the end of this, the first number, the audience collectively turn to the person next to them and mouth 'WOW'.

"Daddy Pop" comes next, and it's all Yellow, colour and movement, with some unexpected pyrotechnics. "Let's Go Crazy", "Kiss", and "Jughead" all carry a different set of looks, Jughead best described as wearing a rainbow look. "Purple Rain" is followed by the highlight of the show, "Live 4 Love", where the Love Arrow cranks into action and

the downstage floor Vari\*Lite's project a multicoloured gobo pattern onto Prince from each side.

The show rolls along with effects like the Flower Drop, where four 55 gallon drums suspended above the audience scattered scented flowers during a ballad for some aroma therapy. Then there's the Roll Drops - several squares of gauze that drop like flags from the grid during a number, through which some Vari\*Lite's shine Gobo's. You can do this effect yourself, it looks just magic as the drops billow slowly, causing the gobo projection to swim in mid air.

Then there's the number 'Insatiable', where everything happens, to whit: this is an intense song with a lot of visuals. A 'Pearl Drop' is lowered, essentially a 6 feet circle beneath which are hung hundreds of different lengths of Pearl facsimiles. The thing has lights inside, it descends to just over the performers head. A bloody big bed lowers from the grid, neon patterns on the bedhead. "What have we here?" Prince declares, climbing aboard. Naturally two girls are waiting for him, the bed travels out over the audience on tracks, lowering to just above reach height.

"Get Off" blasts along like a train on rails with Terra Max (essentially four Terrastroses with a Mole Mag colour changer) effects and the Arrow making another appearance. The Pod's lower and change angle in a choreographed set of computer commands.

What have I missed? The whole show is an evolving set of surprises, the combination of video, lighting, staging, sound, dance, musicianship, material, and atmosphere makes for the best live performance I've ever seen. Having not witnessed Pink Floyd live, those that have equate that band as a technical yardstick by which other performances are judged. I've found mine.

-Julius Grafton

## Old is New- engineer Dave shows the way

David Natale is Prince's Sound Engineer for the Diamonds & Pearls tour. A Clair Brothers person for 12 years, Natale spent last year mixing Yes, before being assigned to Prince. "Paisley Park hired Clair Brothers first, then asked Clair to provide a sound mixer", David told me. "Yes, I think it's a bit unusual, the trend has been to select a sound company and the act to provide their own mixer. I'm happy."

True to his Clair Brothers heritage, David has a pair of Clair Bros. Custom Consoles on tour, the classic folding consoles designed by Bruce Jackson (the J in Jands!) back in 1975. "They work great", David said, adding if he had the choice of consoles in a perfect world, without ties to anyone, "I'd just ask Clair if I could buy two of these!"

Reflecting the era, the 'classic' has a 3 band parametric EQ, and just 4 auxiliary sends. Ask how David gets around this, and as I turn to his two effects racks I realise. He only uses four effects per console, these being Yamaha Rev 5's. Just six Rev 5's do the job- "I defy anyone to tell the difference if it's a Rev 5 or not- in the studio it's a different story, out here I like to keep things as simple as possible. If one Rev 5 blows out, I use another."

"The only effect that gets changed is the echo for the main vocal during four or five songs! I have one unit for each effect, a chorus, a pitch change and a couple of reverbs." A DBX 900 rack of limiters keeps the lid on the vocal channels and the bass channel.

David Natale is a breath of fresh air in this technically competitive business. His motto is keep it simple, and without feeling pressure to use a lot of effects he amply demonstrates just what can be achieved with less hardware. For example, there are just 4 noisegates, 1 on the kick drum, and 3 on tom toms. "It's a really active mix - I like to keep busy! I've seen so many shows with too much technology."

"This is what I've used for different bands for the past 5 or 6 years without really changing anything. I'm happy with what I've got, I don't really sit around waiting for anything new to come along- the only thing that might change next time is I might have three of these desks!"

The business end of the system is Clair Brothers S4 II system, 48 flown cabinets are all that is required in Sydney's Entertainment Centre. Along the barricade at stage front are 12 Jands Concord bins, which do the dual role of front fill and bass reinforcement. "Prince likes a disco sort of sound, not sub bottoms, rather 80-100hz". David didn't bother time aligning the ConCORDs to the S4's, he says there is no point, the flown array and floor boxes being within 10 feet of one another.

If it all sounds a bit easy, bear in mind there are 63 stage lines, plus 1 spare, 6 effects returns on each console, and 6 stereo groups on each desk. From the stage there are a sum total of 31 oper. microphone channels. "It's a straight show, he (Prince) has some loops he made in the studio that the drummer turns on and off."

The mix is loud, clear and punchy, David Natale sits hunched forward over the front console mixing the main vocal inputs and submixing the wing board. I close my eyes and ponder the sanity of reducing a complex, high tech show, to simpler techniques that were pioneered sometime last decade. While my eyes



are closed, I realise David Natale doesn't need to justify anything. The sound is as good as it could be!  
-Julius Grafton

## Late confirmation, Jands deliver Prince at the S.C.G.

Because of ridiculous circumstances, the last Prince show in the country was only confirmed a few days beforehand. The outdoor show at the Sydney Cricket Ground had already sold out, but legal action threatened to force the concert to a race-track 50k out of town. Late on the Wednesday prior to the Sunday concert, the matter was settled, the show could go on.

Frantic stage erection and contingency planning always ensured the show would proceed but some hurdles had to be overcome. The second last performance was at Sydney's Entertainment Centre on the Friday night. By 3am, most of the gear had been struck by the 67 Prince crew, assisted by 90 local loaders.

At the Cricket Ground, difficult access ruled out using 13 semi's to transport the Entertainment Centre rig, which was to be supplemented by another 150 speaker cabinets and extra lighting. A fleet of over 30 8 tonners was utilised to shuttle all the equipment required into the rear of the Cricket Ground, where a makeshift loading dock allowed four trucks at once to unload.

The stage roof was 58 feet wide, meaning the lighting grid was one complete 8' truss section narrower than the usual 60', which lengthened the set-up time and required some re-programming.

The setup was truly underway at midday on Saturday, with the lighting crew finishing focussing at 4am Sunday. Heavy and menacing black clouds dogged the crew all Sunday, but by showtime at 7pm no drop had fallen despite heavy falls elsewhere in the city.

Atop each PA wing, Justin Collie had rigged 12 x 8 Mole-Phay banks as crowd lighting. 12 V-2b's were sat along the front of the PA wings, shooting colour up the plain dressed stacks. Extra pyrotechnics were used, perhaps to remind the residents the show was well and truly on.

Prince's Sound Engineer David Natale ordered very speaker box he could get his hands on, "I called Eric and said I don't care what it is, get it down there!"

The system comprised about 48 S4's, 48 TMS-3's, 36 ConCORDs and a stack of JBL Modular boxes. "I'll EQ each type separately, then listen to them all together. It should be enough", Natale told me. His mixing riser was beneath a tarpred roof with tarp sidewalls, making a slightly tricky environment, and crowded out with the two Clair classic consoles, effects racks, and four complete system drive racks, one for each type of speaker system.  
-Julius Grafton

**Q.** What do these leading case and cabinet manufacturers have in common?

ABBEY SOUND  
 ACOUSTIC TECHNOLOGIES  
 AEROLYTE INDUSTRIES  
 ALUMAYNE INDUSTRIES  
 ALUMINIUM ROADCASE CO  
 ARX SYSTEMS  
 AUDIO ASSEMBLERS  
 AUSTRALIAN MONITOR  
 BEYMA ACOUSTICS  
 BLUEBERRY ASH  
 CADILLAC CASE CO  
 CAPITOL TRANSIT CASES  
 CRETEC INDUSTRIES  
 CUSTOM CASES  
 CUSTOM CUBICLES  
 DAVIS ARMOUR CASES  
 DB CONCERT SOUND  
 DON JOHNSTON CASECRAFT  
 ELECTRO-VOICE  
 FITZGERALD FLIGHTCASES  
 FREEDMAN ELECTRONICS  
 HUNTER MOULDINGS  
 JADE SOUND SYSTEMS  
 LIX CASEWORKS  
 MEIKO CASES  
 NESSEL AUDIO  
 NOVA-FORGE CASE CO  
 NUTCASES  
 PRO AUDIO  
 PROTECTA-CASE  
 QLD PROTECTIVE CASES  
 QUOKKA CASES  
 RAGONE CASES  
 ROADBOX INDUSTRIES  
 ROADWORX  
 SAMUELSON CASES  
 SESSION CASES  
 SPYDER DISPLAYS  
 STAGECASE  
 STAMFORD INDUSTRIES  
 STOCKADE CASE CO  
 TRANSIT PAK CASES  
 TRIMCAST  
 TURNER AUDIO

**A.** That's right - they all use Penn Hardware

It's no surprise that Australia's leading case and cabinet manufacturers use the World's No.1 range of hardware.

Join the leaders...get on the case and call us today for a comprehensive catalogue.

Phone (03) 563 1477  
 Fax (03) 563 1465  
**Penn Fabrication  
 Australia Pty Ltd.**

# BACKSTAGE at Movie World!

*So you have a day off in Brisbane or on the Gold Coast. Get to Movie World. It's easy to cruise through a half day there without giving much thought to the technology behind what is entertaining you. Entertained you will be. Discover the technology and chances are you'll be pretty impressed, like your Editor was on a recent visit. Read on .....*

**M**ovie World is a theme park between Brisbane and the Gold Coast, and like the Universal Studios theme park in Hollywood, a treat for big kids and small. Like a septuagenarian at a strip show, this big kid had trouble containing (restraining?) himself during a technical tour of the facility.

What most impresses is the quality of the attractions, which clearly satisfy the paying punters. It sure gives value, you get plenty of bang for your buck. In fact the first attraction we visited backstage featured pyro aplenty, the Police Academy show was dynamite!

Behind the scenes you find an AV department that is slick and efficient- after all, the park is mostly automated, so the AV team concentrate on keeping the big wheel turning.

Sitting in the audience at the Police Academy show you observe the P.A. system slung up in the eaves of the grandstand, the Vega Wireless Microphones on each actor, the sound effects, gunshots, stunt actions, explosions and the finale, where a helicopter rises from behind the academy walls and is shot down, exploding in a huge ball of fire that almost singes your eyebrows. The technical crew ... numbers one person.

Automating various moving effects, live sound and sound effects, pyro and lighting where required is challenging, especially so one person can run a show in cue sequence with complete confidence something won't goof up. The AV team thrive on the knowledge the park runs at peak technical efficiency, and have various strategies to overcome any glitches.

The affable "Mr. X" took us through the park, and explained how it works. "Everything is driven by programmed logic control (PLC) - that is, computerised. Edwards Technologies Incorporated bought the entire control system from the states and installed it".

We went through the Loony Tunes ride, where up to 14 river boats wind through a cave, the theme is Bugs Bunny has escaped and we are chasing him down through the centre of the earth! There is a different tableau around each corner, like Bugs Bunny teasing Elmer Fudd from atop a cliff, while Fudd raises his blunderbuss and blasts the pesky wrabbit- but misses!

Every tableau has multiple characters, most of who talk on cue, their lovable furry snouts mimicking the words which come from hidden speakers nearby. So here you have a sequence of events - the boat has triggered an infra-red beam, starting the character movements, the audio, and the effects. With background sound effects like birds tweeting, crickets at night and the characters themselves, you have multiple audio tracks, amplifiers and speakers.

Each audio track is burnt into one of four available audio tracks in a solid state Eprom module, built by

ASI, and American company. "X" person again: "I record the audio tracks here, and can choose different sampling rates to suit. The duration of each audio sequence depends on the rate, which can be 32 bit down to 4 bit, and the number of Eprom's I install in the module".

In practice, this is a non-volatile replay medium that is possibly the most durable means of endlessly replaying the same audio track again and again. A tape cartridge would degrade over time, and of course the best option is to have no moving parts - enter the ASI system.

"Mr Y" looks after the Alan Bradley Programmed Logic Controllers (PLC's), the heart of the complex. As mentioned earlier, each ride, show or attraction is controlled by a PLC, which is in essence a rack of switchgear driven by a computer. The chassis is leaded with the controller, and whichever I/O (input/output) cards are needed to run the various parts of each show.



Here's the 'Police Academy Show' from the operators perspective. See the 'one touch' control panel.

For example, a typical Movie World attraction would have a PLC running multiple Pioneer Laser Disc



Rob Manego (Mr 'X') with his EPROM recording outfit



players, heaps of ASI audio cards (of which many are run with up to 4 tracks on each), effects pneumatics, pyrotechnic triggering, light dimming, audio levels and virtually anything else that can be addressed with voltage.

"Y" person picks up the story: "Input cards are wired to things like limit switches, proximity switches, buttons - then the output cards might deliver 24 volts to turn things on and off. We've got analogue cards to address VCA's, intelligent cards- you name it". Interestingly enough, each controller reads its software from EPROMS, with just 4kb required to work the system!

The controller is programmed initially with a PC running the Alan Bradley software, "Y" can write any sequence required, with timed delays and cues that need an operator to trigger. Once the software is prepared on the PC it is dumped to the individual controller, where it is again non-volatile, because it's burnt into EPROMS rather than run on a disc.

**Editors note:** \*Crestron (from New Jersey) offer a similar system that offers the same sort of control optics, from a touch screen or from a customised control panel. The Crestron controller drives remote switching and protocol racks which can switch or drive almost anything, not unlike the Alan Bradley system detailed above. Similarly, you 'create' your stack of commands, what differs is the user interface. Movie World has dedicated operators panels for each attraction, Crestron allow you to 'make' an operators panel on a touch screen display that emulates buttons, sliders and controls according to your wishes.

Crestron has found favour in the AV and contractor market, where an integrated installation might comprise many different elements, like slide projectors, video cameras and projectors, audio, communication links, even curtain motors.

-It may strike you as different the references above to Mr. X and Mr. Y. Well, this came about because when we arranged our visit to Movie World, we agreed to give the marketing people the chance to read the story when written. In fact, this was conditional on the visit. Lo and behold they then came back to us with the request we remove the real names of Mr. X and Mr. Y, "the park is run as a team effort", they said. Well yes, OK, so done, but here at Channels we like to put a human touch on these things, so the names are removed with the greatest reluctance. From the body of the story. As agreed. But they didn't say anything about the photo captions.....

# NSCA '92 Report

Brought to you by a Peter Blackmore, CTS, a survivor of the LA earthquake and riots

Well the '92 Contractors Conference and Expo held at the Anaheim Convention Centre was a hot show in more ways than one! The week at Anaheim started with a small earthquake (did the earth move for you too?) and finished with the L.A. Riots.

On the Friday (the morning after the unfortunate King verdict) I left Anaheim for the 75 minute shuttle trip to LAX airport. The traffic on the massive freeway system just got thicker and thicker and slower the closer we got to LAX. On the way we noticed two ominous clouds of smoke a few minutes out of Anaheim. As we progressed, new palls of smoke just kept appearing. After a while, I lost count. Eventually the shuttle reached LAX two hours late. By this time LAX had been

closed to incoming flights because rioters were shooting at any plane that landed over the city. A curfew was in place. The terminal seemed to become the last refuge for a crowd of stunned people!

When the Qantas 747 took off over the water (thanks!), we all felt as though we had just escaped goodness knows what. Oh for the quiet life.

After all that, was it worth it? Absolutely!

NSCA is the acronym for the National Sound & Communications Association, which started out as an organisation for Contractors and Suppliers. This organisation is now quite international with the 5,700 show attendees coming from 27 countries.

The exhibition, or Expo, has grown to be quite large. This year there were over 380 stands - and believe me, that's a lot of walking! If your interest is in the professional audio field, this show is a must. The list of companies that take part is the who's who of the industry.

One quite unique feature of the Expo is that it is a 'table top' show. All booths consist of a standard height backdrop and a small display. The real action takes place in the demo rooms at the adjacent Hilton and Marriot Hotels. There you will find room after room (the entire fourth floor at the Hilton) with demonstrations of loudspeakers, computer control systems, audio mix-

ers, power amps ad infinitum. Many of the demo rooms operate on a timed admission basis, so careful planning is vital to make sure that you see everything that you wish to. Somehow I didn't manage to do it all.

On top of this there were the Seminar sessions. Industry guru Don Davis gave one session at which he demonstrated a prototype auralization system. For those of you who don't know, auralization is the term for

computer prediction and demonstration of how a room will sound before it is built.

This was demonstrated by playing back a hard disk recording of a speaker voice and a small orchestral group which were recorded in an anechoic chamber and then using the computer to 'place' the sounds in various rooms. You actually hear what the room will sound like and how it affects the sounds. This may seem like a variation of the presets that you have used in

your Rev 7, and it is, with a whole lot more. Now when the architects and engineers design Entertainment centres, hotels and the like, there will be no excuse for some of the "nasties" that we have tried in vain to EQ out of the system! (You optimist, Blackmore, just because they CAN see how stuffed their design is, what racks you think they'll do anything about it? -EC)

**ANAHEIM STADIUM TOUR** - At the end of the convention there was a tour of the recently completed Anaheim Stadium. The Joiner Consulting Group designed this quite astonishing system. Listening to a CD quality PA in a 78,000 seat stadium was certainly a first for me.

There are 24 custom EAW 3 way enclosures (fitted with JBL components) sitting on top of the stands facing down to the front row seats and a mix of 294 other EAW custom enclosures - and 15 JBL Control 1's. This is driven by 75 Crown amps running on Crown's proprietary IQ data bus. Configuration of the system to accommodate zoning is handled by an AMX touch screen system which is interfaced to the IQ bus.

The system cost just under A\$2,000,000 and sounded like it!

**NEW PRODUCTS - LOUDSPEAKERS.** I can not cover the incredible range of new loudspeakers in the space available, so I will concentrate on those that will be available in Australia.

**CLAIR BROS.** released their new P-4 known



as 'the Piston'. This is a three way trapezoid shaped full range enclosure designed for really tight arrays. The front is just wide enough to fit the speakers, and the rear is just 2.75" wide - this was determined by the need to accommodate the EP-8 connector! I am told that the performance is excellent and am looking forward to hearing them in a large venue. They also released the R-2T, a full range two way arrayable bi-amped enclosure for nearfield and medium throw applications.

**TANNOY** nearly stole the show by hiring the carpark outside the Marriot to demonstrate their new dual concentric midrange driver. This 10" driver covers the range from 200Hz to 20kHz. For the demo, two midrange units were augmented by eight double 18" direct radiating sub woofers! The midrange drivers have a 90° polar response to allow for precise aiming and this was quite dramatically demonstrated.

**COMMUNITY** showed their new VBS412 - a trapezoid electronically controlled sub woofer designed for arraying, having a 2000 watt power rating and going down to 25Hz. They also released the CSX58M, a low profile stage monitor, which is a three way bass reflex enclosure. It incorporates two 12" LF speakers, a 1" pattern control compression horn/driver combination, and a PZT super tweeter.

**JBL** demonstrated their new Array Series 4892 - the first model in the Array Series. It features a new 14" LF unit and a new 1.5" exit Neodymium HF driver on a 45° Optimised Aperture Flat Front Bi-Radial horn. It incorporates SAFE - Secure Array Flying Ergonomics rigging hardware. The 4892 is designed to work with the new ES-52000 Digital Controller which provides active crossover system EQ, time delay, and transducer protection limiting.

**MEYER SOUND LABS** announced the new JPA-1B and UM-1B enclosures which both feature a new 1.4" throat HF driver and network. This takes the frequency response up to 20kHz and provides flatter response in the 500 to 8K region. In addition to this, they showed the SIM-11 source Independent Measurement analysis



The Tannoy Mid-Range demo outside

## NCSA '92 Report

system which is now available for purchase. Meyer has also set up a training program for those who wish to be certified operators without purchasing the system.

**PIONEER** had a new range of CSL weather-proof garden speakers which incorporate lights and are housed in a synthetic enclosure. HiFi in the garden!

**INTERSONICS** had a demo room to show their latest incarnation of the Servodrive Sub Woofer. This utilises a servo motor to drive two loudspeaker cones via an oscillating rubber belt. The end result is lots of deep bass with very little distortion. To prove this, the demo used a Videodisc of Terminator II and ran at 132dB. Yes sir, it was loud, but there was no bleeding. What did you say, I can't hear you?

enable more inputs without increasing console size. The console has many more features than previous units but is configured in such a way as to appear less complex.

**SOUNDCRAFT** introduced the Venue II, Delta DLX and Delta SR consoles. The Delta consoles will allow a choice of input modules. The Venue II is featured for sound reinforcement, with another console - the Venue THEATRE offering matrix outputs. Venue consoles come in 16 to 40 input frame sizes.

**TOA** is known in Australia for mid-range mixer/amplifiers and wireless mics. They have some top-end products, including the SAORI System. Recently the Vienna Opera House was the site for the first TOA iX-9000 Digital Mixing System. This is a fully digital console operating at 2,500 MIPS (Million instructions per second). By comparison, an IBM 486 operates at about 8.5 MIPS. The iX-9000 is fully configurable and has a 64/48 matrix system and a 256 channel full digital I/O patch system. Its digital encoding is 18 bits linear PCM.

**MISCELLANEOUS** - Crown unveiled their new SYS-CONFIG software for use with the PC Compatible Crown IQ system 2000 through a menu driven package. TC Electronics and White Instruments have both recently been licensed to the IQ-2000 system.

Crown also have the SMX-6 multiplexer which can be likened to a 6 x 2 stereo mixer with computer controlled switching and routing capabilities. It can be reconfigured using "Algo Packs" downloadable software modules.



Custom EAW/JBL enclosure at Anaheim Stadium

**MIXERS** - **YAMAHA** unveiled the PM-4000, the fourth generation of their high-end sound reinforcement consoles. It features a number of incremental improvements in controls and electronics. For the first time the PM series offers four stereo inputs instead of Aux inputs, which



Ian Park of the Australian Company, ARX.



Craig Jensen (seated centre) discussing the Anaheim Stadium install. Clair Bros. new P-2 'Piston' box



This is a subwoofer.

Finally, they have the PIP-EDC module, a 2 channel compressor designed to plug into any PIP compatible amplifier.

**WHITE INSTRUMENTS** introduced the DSP-5000 Digital Audio Signal Processor, a 1 in, 4 out device which includes crossover, equaliser and delay functions. It also has a companion DSP5001 expansion module for twice as many filters and additional adjustable delay. The DSP5000 has ten memories which can be recalled via the front panel, PA 422, MIDI or contact closures.

**YAMAHA** released the D2040 Digital Channel Divider and the DEQ5/EE Digital Equaliser.

If you get the impression that DSP driven system controllers are the future, I think that you are on the right track.

**COUSTIC** released the RTA 33, a Real Time Analyser which is also DSP based. It has a bevy of features including print-out capabilities. But talk about 'toys for boys', this unit comes with a DIN package to fit in a standard car radio slot! It is also provided with a soft carrying case for use at the gig.

**JL COOPER** released the AVSIX Audio for Video mixer. This is a 6 input, dual channel system that allows rapid editing of video via editor control. Compatible with GVG-100, RS-422 GPI and ESAM protocols, it is extremely cost effective.

**EXTRON ELECTRONICS** released the VTG50, a compact Video Test Generator featuring high resolution and wide bandwidth format.

They also released the RGB 108 PLUS - a two input analogue switcher and interface in one unit.

**TECHRON** released a new domestic product - the HDC450 NoiseGuard Mobile Headphone system. This utilises an active system to cancel noise in the 100Hz to 8000Hz range. It was originally developed for Lufthansa to help preserve the hearing of its cockpit crew. Active anti-noise systems will boom in the next few years, so it's worth keeping an ear open to keep up with developments.

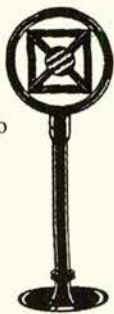
This article has just skimmed the surface on an interesting and exhausting three days. I highly recommend the NCSA Expo to anybody interested in the Pro-Audio field.

*\*Peter Blackmore is Principal of AVDEC Audio Visual Design & Consultancy, based in Melbourne.*



**damien  
gerard**  
SOUND STUDIOS

64-80 Wattle Street Ultimo  
(02) 692 9915  
(02) 6608776



## Professional Recording & Rehearsal

*Recent credits include:*

NOISEWORKS  
PETE WELLS  
CHOSEN FEW  
DIED PRETTY  
TROY NEWMAN

# Channels DIRECTORY

## Sydney Posters

ENTERTAINMENT & ARTS PROMOTION SERVICE

- Phone Booth & Railway Run
- Itinerary & Bio Production
- Record Sales Analysis
- Handbill Distribution
- Design & layout
- Offset Printing
- Pole Posters
- Mailouts



Ph: 360 1714 Fax: 360 5624

Your Exposure Is Our Business

PA & Hi Fi Speaker  
REPAIRS  
SALES  
EXCHANGE

24 hour turn  
around on recones,  
subject to parts  
availability  
PERISHED  
FOAM  
SURROUNDS

replaced for less  
than half the price  
of a recone.

Enquiries ring  
JEFF TAIT

PH (02) 873-1426

AH (02) 655-1722

FAX (02) 868-1377

**SPEAKAFIX**

## Caption Contest: Devine's Donkey

Last issue, or course, we had a nice photo of Canberra's Steve Devine, sitting down for dinner with a Donkey. Some notable captions are:

An interesting snap guys, I have it on good authority that the DONKEY was heard to say: " ... it started out as a wart on my neck!"

-Don Coletta, N.S.W.

'Ow much for the leedle gell?'

'Ooh, I want her, she's simply Devine!'

'Did anyone ever tell you, you've got the cutest ass??' -Geoff Haines, NSW.

'Oh, Waiter - there's a donkey in my soup! Sorry sire, that's no donkey, it's Steve Devine, trying to get a bite of your carrot!!'

"We haven't seen each other for such a long time- waiter: a bottle of your best champaign for my brother and I".

Steve: "With your brains and my money we'll be the best Jands dealer in the country!"

Donkey: "Heehaaaaw!!"

-Pat Tapper, South Australia. Pat wins the T-Shirt

## Lighting & Sound Hire



**HirePoint  
Software**

Go ahead, give your competitor's an unfair advantage, don't use HirePoint software!

HirePoint is so good, your competitors don't want you to have it!

It's the only computer system fast enough to assist with phone service while the customer is still on the phone, and comprehensive enough to handle those large production jobs.

### Features Include:

- Fast accurate pricing
- Reservation system for equipment, replaces plot sheets
- Accounts receivable
- Invoices & delivery sheets
- Sub (or cross) Hires
- Statistical analysis
- Gross turnover report
- Quote/confirmation printing

The software is also 100% Australian, tried and proven at 25 sites since 1986.

You can RENT, BUY or RENT/BUY HirePoint!

"It's a great program & superb value for money"  
- Hay Communications

"Don't know how I ever ran a rental dept without it- all my clients have quotes or confirmations faxed to them within 10 minutes of their enquiry"- Blackmore Audiovision

So phone now-

The Programmers Shop (02) 876-2745

## ADVERTISE

Channels is unique - mailed free to professionals in the Sound & Lighting industry 8 times a year. Talk to a Channels advertiser and discover how effective Channels can be! Then call Dayle on (02) 516-3622, or Julius on (02) 876-2612.

**No other magazine comes close!**

## CENTRESTATE SOUND & LIGHTING

Touring production  
transport and crew

32:8:2 Soundtracs

FOH 6,400w

Australian Monitor

Yamaha 2408 F/B

Instinct 48 LX console

24-72 Cans to order

3m trussing

all gear like new

Risers. Fog. Blacks



**DAILY-WEEKLY-ANYWHERE**

**Allan Brown (063) 620587**

**ORANGE, N.S.W.**

## WHEN THESE PEOPLE

ICEHOUSE THE CHURCH MENTAL AS ANYTHING MIDNIGHT OIL ROXETTE THE MODELS GANGGAJANG DIVINYLS NOISEWORKS JENNY MORRIS GLEN SHORROCK JANDS RENEE GEYER SANDI & THE SUNSETS MACHINATIONS ELECTRIC SUNSHINE SYDNEY DANCE COMPANY TONI CHILDS COLD CHISEL OSMONDS KATE CEBRANO BEATNIX SYDNEY THEATRE COMPANY GAY MARDI GRAS Q THEATRE KINSELAS CROWDED HOUSE TOE TRUCK THEATRE KLUB KAKADU GONDWANALAND

...wanted a unique special effect they all chose a Biactis show.

For Slide Shows,  
Production & Presentation  
Phone: (018) 222-018  
and find out how easy it can be.

## Music Capital Productions

Supplying professional  
Sound & Lighting  
equipment to organisers  
and entertainers in  
the country\*.

5000 watt horn-loaded P.A.

JBL/Martin components.

24 channel Soundcraft desk.

6 send, 3000 watt FB.

24 channel lighting.

Pro crew & transport.

PO Box 930, Tamworth 2340



067 658 381

or 067 671 148.

\*Tamworth based.

## YES! At ELECTRIC SUNSHINE

In this day and age when everyone tries to sell you lights that move it's nice to know there is an alternative. At Electric Sunshine none of our lights move. In fact nothing much moves at Electric Sunshine. We do things the old fashioned way, like in years gone by. We can still remember in the "good old days" when our phone number was GLEBE 60 and the operator had to connect all the calls. We still keep lighting equipment from that era like our now famous rheostat operated carbon arc follow spot-still working after first being used at the Berlin Olympics.

Call in for an unhurried  
cup of coffee or phone  
Sydney

**660 6000**

(Or ask the operator to connect you)

## BANDANNA PRODUCTIONS



We use and recommend ARX Systems, we have the LARGEST ARX Systems outside Melbourne.

We have supplied systems to:

**The Black Sorrows**  
**Choir Boys**  
**Mark Williamms**  
**James Blundell**  
**Buddy Guy Oz tour**  
**Celibate Rifles**

We can put a P.A. together to suit your needs.

- Up to date equipment
- Yamaha 32 ch. F.O.H.
- 8 foldback sends
- Lighting to your spce
- Pro crew & Transport

Phone Rick Doolan on  
Sydney (045) 725-461

## agent audio AA

Authorised Victorian service agent and dealer for Jands, JBL and RCF. Specialising in magnet assembly repairs and rebuilds. Feel free to call Andy for advice or just a chat.



91 Cochranes Road, Moorabbin 3189.  
Fax (03) 532-1971, Ph. (03) 532-0458.  
Mobile (018) 395-062.

## Channels DIRECTORY

Be in it, or miss out! Space  
LIMITED. Call Dayle  
(02) 516-3622

# Channels

**STUDIO and  
BROADCAST  
Supplement**

The professional Sound and Lighting magazine

Issue 14

## Fairlight debut MFX-2



Aussie firm show Digital Audio Production System at AES Vienna

Fairlight ESP of Sydney, Australia, introduced their new MFX2 Digital Audio Production System to the European market at the 92nd AES Convention in Vienna. Fairlight's new MFX2 follows on the success of the popular MFX Digital Audio Workstation, now installed in fifteen countries.

MFX2 is a powerful 24 track digital multitrack disk-based recording and editing system, designed primarily for audio post production applications in film and video. MFX2 features a

dedicated control surface with hard and soft keys for all control functions and provides fast, non-destructive multitrack editing functions, now displaying Clip and Track names plus Audio Waveforms and Fades on the new, double resolution colour display. A new Edit Decision List feature will be previewed at this AES, developed in conjunction with DigitEyes, the creators of ShotLister EDL.

ShotLister runs under Microsoft Windows to capture offline video edit  
*(Continued on next page)*

### NEWS

PA People's latest Pro Notes details the "Get the hell out of Analogue" move towards digital trend, a mouthful, but we quoted verbatim.

"The penetration of digital recording equipment into the studio/broadcast industry in Australia is staggering compared with what it was 12 months ago. For two tracks, RDAT holds a strong lead, with purchases of HARD DISK, MO DISK and CD RECORDERS increasing rapidly. Digital multi-tracks are predominantly tape based, but a great deal of interest is now being shown in HARD DISK multi-tracks".

To this end, Pro Notes editor Allistair Dewar goes on to profile the DSP Digital Workstation. He offers a DSP Cooks Tour Seminar soon, with limited places. If interested, call him on (02) 642-5344, and tell him you heard about it here in Channels.

Likewise from the aforementioned publication comes the word that East Coast Audio have appointed PA People as exclusive N.S.W. and Queensland agents for Apex Systems products. Also noteworthy is the Denon DN970FA Production CD Player, which has everything the audio production professional needs, including a multi-function cue wheel. PA People have this on offer at less than \$3,900 including tax.

Soundcraft have been crunching SAC 100 & 200 sales, recent sales by Tasmanian distributor KW McCulloch and the PA People include a second SAC 200 to 2CBA and a first to 2MBS.

Meanwhile Soundcraft DELTA consoles have found their way into the ABC at Gore Hill (Delta AVE) and an example sold to ABC Adelaide by G.U.V.T. Other Delta AVE sales have been to the Australian (ahem) Taxation Office, by Topstage Productions (any deal to avoid a field audit, eh Devine?) and TCN 9 by the PA People.

Need vinyl? All Music Manufacturing offers the manufacture of genuine vinyl records, with a complete record pressing plant in Sydney. The facility's Marie Fernando told Channels that "All Music Manufacturing has revived the vinyl industry and will continue to manufacture records for as long as the public demand them. It is a relief for those who like to work with vinyl, such as the thousands of DJ's around Australia, many independent bands still want to reproduce their music on vinyl".

"There is a generation who prefer vinyl, and then there are those who simply can't afford to update!"

The firm also handles Cassette and CD dupe work, and can be contacted on (02) 557-1169, or you can Fax them on (02) 516-2474.

### ◆ Yamaha Digital recorder (inside)

### PRODUCTS PRODUCTS PRODUCTS

### New Urei Compressor Limiters debut



A long established prestige studio name, UREI has returned to industry acclaim with a new line of Compressor/Limiters. Three models are offered, top of the line is the LA-22, (pictured above) which is a dual channel frequency selective compressor - limiter - expander.

The selective bandwidth sensing allows band centre selection, on main program or side chain, enabling selection of difficult frequencies as threshold trigger points. This is useful for eliminating explosive 'pop' and allows the LA-22 to act as a ducker. Furthermore the full dual channel parametric EQ assists limiting and compression 'effects' where a part of a kick drum sound - for example - is selected as the trigger point.

XLR input and output connectors,

along with a barrier strip are supplied, and the unit is fully balanced.

Urei's Smart-Slope™ soft knee gain control, along with Peak and/or Average gain reduction or expansion make for versatile operation. Everything is variable, and a simple automatic set-up feature is available. The LA-22 has a retail price of \$2,295.

Offering the same features minus the dual EQ section, the LA-12 (pictured below) is a one rack unit dual Compressor/Limiter. Like the LA-22, it has separate LED ramps to indicate gain reduction AND signal level, it also can be run in independent mode, or dual linked, or even linked to other LA Compressor/Limiter units. Retail price is \$1,995. A single channel version, the LA-10 sells for \$1,395. More info from Jands, (02) 516-3622.



## NEVE ANNOUNCE VR LEGEND SERIES CONSOLE



The new Neve VR Legend Series console is claimed to be the apotheosis of traditional analogue console design for applications in professional recording, broadcast and post production.

The Neve VR Legend utilises analogue circuitry throughout. The full dynamic range of an analogue signal is handled cleanly, transparently and with confidence. The control surface offers an environment in which thinking is one step away from hearing. As discrete rather than assignable console, each function on every channel has its own dedicated control.

The VR Legend assembles every feature and each technique to achieve the very best audio and operational performance, according to Amber's publicist. The console is available with optional Flying Faders and Recall, while the Post Production version offers facilities to bring Neve sonic quality to the film and video environment.

Microphone input circuitry has been redesigned to reduce the already exceptional distortion figures to a new low, particularly at high input levels. A new low noise mix amp card has been installed which improves the main console bus noise performance to 6dB. Neve Super Conductive oxygen free copper cable is used for all screened wiring.

The acoustic profile of the VR Legend has been reduced significantly by introducing open areas in the front and rear of the console.

The Post Production version of the

VR Legend adds sophisticated facilities for film and video post production. For audio production for film, the Post Production version offers instant reconfiguration of the monitor from stereo to four channel left-centre-right-surround. A Dolby Stereo processor may be switched to automatically encode the mix into Dolby Stereo while simultaneously decoding it for monitoring.

In Multi rack and Film modes, the Post Production version of the Neve VR Legend uses four buses: A, B, C, D or L, C, R, S. In Video/TV mode these buses all become stereo buses without repatching. Eight channel operation, for stereo dialogue, effects and audience, for example, is instantly available. These eight channels can themselves be mixed into a single stereo output for producing a stereo master.

Using only the finest components and manufacturing techniques, the Neve VR Legend is designed to be a long lasting, reliable console. Each channel module is constructed from six submodules, any of which can be removed completely, including their front panel controls. Entire modules can be withdrawn and replaced while the console is powered up and in operation with no adverse effects. Modules locate precisely and positively in the console's mainframe.

For further information call the distributor, Amber Technology, on (02) 975-1211.

-Amber publicity release.

## BVE - compact Soundcraft

The largest single console order in the company's history - for 70 consoles from Italy's RAI - paved the way to develop the BVE-100, according to Soundcraft. The 8 channel rackmounted 100 BVE editing consoles are designed to interface directly with SONY BVE series editors.

While RAI liked the Delta AVE, they were too large. "The 100 BVE incorporates all the essential elements in a more compact space, such as a depth fader to allow partial crossfades

at the users' control, and manual as well as computer control of independent left and right monitoring and VCAs. We have added an expanded monitor selection system, bringing in 6 stereo sources, and fitted a built in cue speaker", Soundcraft's Graham Blyth told us.

"Instead of mono effects returns, we fitted 2 stereo effects returns", he said. 100 BVE has three band EQ with a mid sweep, 2 aux sends & phase reverse. Details: Jands (02) 516-3622.



## Fairlight

(Continued from page 1)

information, removing the need for manual list writing and allowing the editor to concentrate on the creative aspects of the editing process. EDLs are loaded into ShotLister from diskette and sorted into reels, and then in chronological order. They can then be loaded and conformed simultaneously by driving the MFX2 system through the relevant recordings and edits. MFX2 INTERFACES TO THE PC running ShotLister via a 9-pin serial port.

EDLs can be output in any of the industry standard formats for use in the online facility. All edits can be captured and conformed automatically, after which only the changing of source reels is necessary.

MFX2 included a new, double resolution colour display and the proprietary "Turbo SCSI" disk drive interface bus. Fairlight's "Turbo SCSI" provides up to 16 tracks of continuous audio from a single hard disk drive. Up to six 1200 MByte hard disk drives may be connected to the system,

providing over twenty track hours of on-line storage. System backup and archiving is performed five times faster than real time to an Exabyte 5GByte tape cartridge drive using inexpensive 8mm data tape cartridges.

Fairlight offer an optional rewritable optical disk drive which enables simultaneous stereo recording and playback from the removable disk. The rewritable optical drive also provides instant access sound archiving.

MFX2's integrated video transport control, combined with Fairlight's innovative "Audio Freeze Frame" feature, offers effortless synchronisation of sound effects to picture. "Audio Freeze Frame" plays one frame of audio at normal pitch, right down to zero speed.

For sound design applications, MFX2 is also available with Fairlight's integrated sampling, cue list and music sequencing facilities.

For further information contact: David Hudson at Fairlight ESP on (02) 212-6111.

# Winter Collection



## 3000 watts!

### **JANDS** SR-3000 Amplifier

The SR-3000 utilises Split Rail Technology™ to deliver over 1,500 watts RMP per channel into 4 ohms. Two separate output rails per channel ensure huge musical transients are faithfully reproduced. Forget huge and heavy Mosfet designs - the SR-3000 is engineered for today's music - tomorrow! **Australian Made**

- FEATURES:** ✓ Full output protection  
 ✓ Bridge mode ✓ Parallel mode  
 ✓ 2 rack units tall ✓ Less weight

**Around \$1 a watt!**

### INSIDE

- Amplifiers
- Mixers
- Speaker Boxes
- P.A. Systems
- Crossovers
- Noisegates
- Equalisers
- Compressors
- Limiters
- Lighting Desks
- Colour Filters
- Fog Juice
- .... and more!

**JBL** Noisegates, Compressors and Crossovers, from-

**\$995**

New ESP II Lighting Console

**JANDS**

Lighting Consoles - see Page 5

Build a P.A. System!

Find out **HOW** inside!

Superior Intercom Systems

- see Page 4

Complete **Soundcraft** range & prices - See Pages 6 & 7

# Professional Sound & Lighting

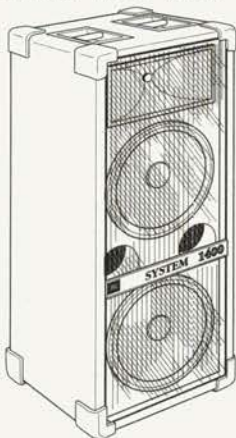
# JBL SYSTEM

Designed & built  
by Jands, JBL  
loaded

## System 1400

The complete composite PA-JBL loaded, featuring:

- ❑ 2 x 15" 2226 VGC woofers (600w each)
- ❑ 2445 high frequency compression driver
- ❑ 60° Bi-Radial horn
- ❑ Ultra heavy duty crossover network with H/F EQ
- ❑ Road-ready reinforced carpeted cabinet with castors, internal crossover
- ❑ Massive 1,400 watts

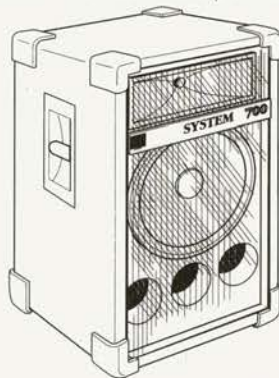


System 1400 \$3995 **4Ω**  
(See options list)

## System 700

Full frequency response & high power for professional applications

- ❑ 1 x 15" 2226 VGC woofers (600w each)
- ❑ 2426 high frequency compression driver
- ❑ 90° Bi-Radial horn
- ❑ Ultra heavy duty crossover network with H/F EQ
- ❑ Road-ready internally reinforced carpeted cabinet, internal crossover
- ❑ Massive 700 watts power



System 700 \$2095 **8Ω**  
(See options list)

## System SUBWOOFERS

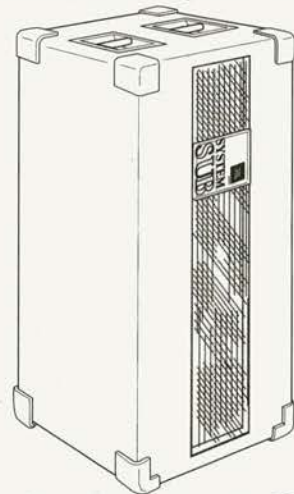
For bone-crunching bottom end, add a System Sub-Woofer to any composite PA cabinet.

Especially effective with System 700 and 1400, and JBL MR Series.

## System 1200

- ❑ 2 x 15" 2226 VGC woofers (600w each)
- ❑ Road-ready reinforced carpeted cabinet with castors
- ❑ Massive 1,200 watts
- ❑ Bandpass loaded

\*For best results use JBL M552 or Rane AC22 stereo 2 way active crossover with System 1200.



System 1200 \$2295 **4Ω**  
(See options list)

## Packages

Jands SR-3000 amplifier is ideal for System packages!

**2 x System 1400 with 1 x SR-3000 amp:**  
Price \$10,995 or \*\$75 p/w

**2 x System 1400, 2 x System 1200, 1 x M-522 crossover, 2 x SR-3000 amps:**  
Price: \$19,995 or \$135 p/w  
(\*See page 3 for details)

## System Options

Canvas Covers	
Sys 700	\$245
Sys 1400	\$395
Sys 1200	\$385
Sys 80	\$355

**More from us:** Jands offer a wide range of JBL loaded speaker systems, including **SOUND POWER & JBL ARRAY SERIES**. Ask your Jands Dealer!

## HOW MUCH System for you?

The **depends** on your application, but the System range is designed to handle a full band mix, including kick drum and digital inputs with wide transients. Your Jands Dealer can access JBL's **CADP-2** software when a detailed acoustic analysis is required for an installation.

## System 80

Loaded with 2 x 2241 18" woofers. \$3995 **4Ω**  
(See options list)

All prices are Recommended Retail, INCLUDE sales tax, and freight to your dealers premises. For details regarding EX-TAX purchases, see Page 4. Dealers are under no obligation to comply with the recommendations

Amounts shown as Lease figures or a figure quoted as 'Per Week', are only guidelines and not offers. See Page 3 for details.

## JBL MR Series

100% JBL speaker cabinets



Perfectly matched top notch components, designed into cost effective, ready-to-use loudspeaker cabinets by JBL. Cabinets finished in ESB with Lexan interlocking corner protectors and complete carrying hardware.

### Foldback



**MR-802**

2 way  
300mm (12")  
woofer & h/f  
horn

**\$1199**

**MR-805**

2 way  
380mm (15")  
woofer & h/f  
horn

**\$1499**



### Full range speaker systems

**MR-822**

2 way  
300mm (12")  
woofer & h/f  
horn.

Trapezoidal

**\$1199**

(with stand socket)



**MR-825**

2 way  
380mm (15")  
woofer & h/f  
horn.

Trapezoidal

**\$1499**

(with stand socket)



**MR-835**

3 way  
380mm (15")  
woofer 8"  
mid & h/f  
horn

**\$1799**



**MR-838**

3 way 460mm (18") woofer,  
10" mid & h/f horn **\$1995**



**MR-818**

460mm (18") sub woofer  
system **\$1599**

### Backline



**MR-812**

12" 300mm  
**\$599**

**MR-815**

15" 380mm  
**\$799**

#### Finance

**LEASING:** Your Jands Dealer can introduce you to an industry accepted Lease Broker or Finance Company. Lease rates do vary, the weekly rates shown in this catalogue are a typical indication only, based on a 4 year Lease with 20% residual. Actual rates will vary. Consult your Jands Dealer for finance details.

**HIREASSIST:** If you run a Production or Hire business you may qualify for a Jands Hire-Assist 12 month finance plan. Ask your Jands Dealer.

Finance availability subject to acceptance of approved applicants at participating Dealers, rates on application.

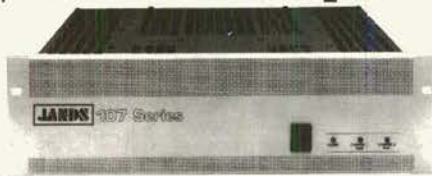
#### Tech Explains

**Active:** This has the same meaning as 'Bi-Amp'ed' or 'Tri-amp'ed'. The separate components like the woofers and high frequency drivers, are fed separate signals that originate from an electronic crossover and are amplified individually. 2 amplifier channels per speaker cabinet required.

**Passive:** Where an internal 'passive' crossover is located within the speaker cabinet, there is no external electronic crossover, and the amplifier drives full frequency response into the cabinet. 1 amplifier channel per speaker cabinet required.

**Ω:** This means OHMS. Your Jands amp handles 4 ohms per channel, so TWO 8Ω speaker cabinets may be run together on each channel, or ONE 4Ω cabinet.

### Jands Amps- MR ready!



**107 : 700 watts**

(pictured) 3 r/u tall **\$1795**

**104 : 400 watt**

2 rack units tall **\$1295**

All prices are Recommended Retail, INCLUDE sales tax, and freight to your dealers premises. For details regarding EX-TAX purchases, see Page 4. Dealers are under no obligation to comply with the recommendations. Amounts shown as Lease figures or a figure quoted as 'Per Week', are only guidelines and not offers. See Page 3 for details.

## Processing Gear

for  
**New!**  
'92

### Noise Gates **JBL**



4 noise gates- one rack unit! Each gate with Threshold, Attenuation, Attack and Release controls, Key inputs, Gate indication.

**JBL M644 \$995**

### Gating Compressor Limiter



2 channels, with complete control over Threshold, Attenuation, Attack & Release, Gate function with independent Threshold for each channel, balanced XLR in & out, link

**JBL M712 \$995**



### **EZICOM**



Talkback Systems by Jands.  
Ezicom Master Stations:  
**E200:** 2 channel, supports a total of 20 sub-stations \$895  
**E400:** 4 channel, with Littlelite socket & buzzer \$1195  
**Sub-Station** (Beltpack) \$395  
Ask your Dealer about Headsets

### 2 way Stereo

2 way Stereo, 3 way Mono, Balanced XLR in & out, variable freq. centres, 24dB slopes, JBL horn EQ & L/F sum-output

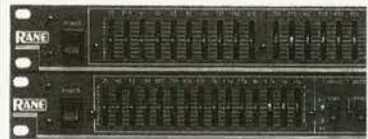
**JBL M512 \$995**

### 3 way Stereo

3 way Stereo, 4 way Mono, Balanced XLR in & out, variable freq. centres, 24dB slopes, JBL horn EQ & L/F sum-output

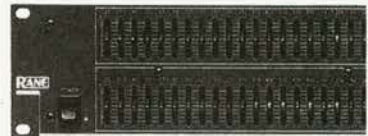
**JBL M553 \$1295**

### **RANE**



### ME Series Equalisers

ME 15: Stereo 15 band equaliser, 12 or 6dB boost and cut, Balanced input..... **\$995**  
ME 30: Mono 30 band... **\$995**  
ME 60: Stereo 30 band, adjustable hi and lo pass, XLR in & out, with jacks & RCA's. Balanced..... **\$1795**



## Tax Free Purchases

**Schools and Government Institutions, and those holding a Sales Tax Number can purchase any item herein free of sales Tax.**

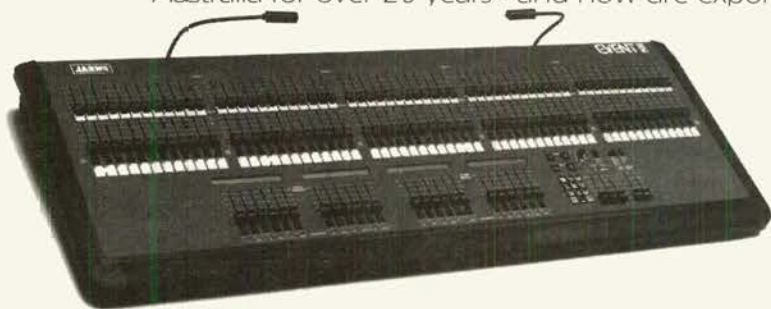
To calculate the pre-sales tax price, simply divide the price shown by 1.2, which gives you the figure before 20% Sales Tax has been added. The only exceptions to this are the Control 1, Control 5, and 4200 Series Studio Monitors herein, which attract a 30% Sales Tax rate. Divide these prices by 1.3. In any case, your Jands Dealer can calculate an attractive, ex-tax price on any line herein.

All prices are Recommended Retail, INCLUDE sales tax, and freight to your dealers premises. For details regarding EX-TAX purchases, see Page 4. Dealers are under no obligation to comply with the recommendations

Amounts shown as Lease figures or a figure quoted as 'Per Week', are only guidelines and not offers. See Page 3 for details.

# Lighting Control

Jands have been building sophisticated lighting control equipment in Australia for over 20 years - and now are exporting to over 30 countries



## EVENT and EVENT PLUS

Our most powerful consoles yet, offering standard DMX-512 Digital output (Analogue optional) for easy one-cable daisy chain connection to Digital Dimmer Racks and DMX-512 based Moving Lights. Our unique Assign & File<sup>®</sup> interface allows Events Assign Masters to be configured with any Memory, Crossfade Stack or Chase - Event works the way you want to work. Wide Preset mode doubles the number of channels, and Softpatch allows you to repatch channels.

**EVENT** (With MIDI input)  
 \*500 memories & 12 Assign Masters  
**# Channels (wide mode) Lease @**  
**24 ch (48 ch) \$ 6,995 \$46 p/w**  
**36 ch (72 ch) \$ 8,995 \$59 p/w**  
**48 ch (96 ch) \$10,995 \$72 p/w**

**EVENT PLUS** (With MIDI input)  
 \*With 24 Assign Masters, 68030  
 Microprocessor & one touch recording.  
**48 ch (96 ch) \$11,995 \$79 p/w**  
**60 ch (120 ch) \$14,950 \$98 p/w**

**OPTIONS:** Memory Card, Analogue output, Desk Linking, VDU facility.

## ESP II POWER & SIMPLICITY

**24 channels**  
 (48 ch wide) \$4,995  
 Lease @ \$33 p/w

**48 channels**  
 (96 ch wide) \$3,995  
 Lease @ \$59 p/w

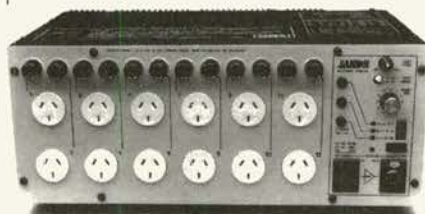


ESP II has all the features you need - **Wide Mode** - doubles the number of channels; **Softpatch** - change channel & dimmer assignments; **Multiple Chases** - flexible! **9 Cue Stacks** **Program timed cross-fades** **MIDI input** **DMX-512 Digital XLR out**

### Tech Explaino

**Watts and Amps:** People get unnecessarily confused about this, so we will avoid the scientific formula involved. **All you need to remember** is that 10 amps = 2,400 watts, therefore 1 amp = 240 watts, and 20 amps = 4,800 watts. The expression KVA is simply figured, 2.4kva = 10 amps! Check your fuses!

## Roadpak Dimmer Rack DEALS



12 x 2400 watt dimmer channels in a reliable and recognisable format. Jands Digital Roadpak Dimmer Racks are fully featured with individual channel test facility, power status and DMX input and output 5 pin XLR connectors. Dependable and accurate!

\*Package deal prices:  
 Roadpak **Digital** \$2,195  
 Roadpak **Analogue** \$1,995

\*To buy at these prices, Roadpak must be bought with Event, Event Plus or ESP II. Only as many Roadpaks as required for control channels may be purchased. IE: Buy ESP II 24, and you are entitled to 2 Roadpaks. Buy Event Plus 60 - you are entitled to 5 Roadpaks. Roadpak normal retail prices: Analogue \$2,495. Roadpak Digital \$2,795

## Fourpak plug-in dimmer board



Where simple lighting control is required, use Fourpak. Up to 2,400 watts (10 amps) can be connected and dimmed at any one time, each channel will handle up to the entire 2400 watts if required. Fourpak has a Master fader and variable chaser, along with a control link feature that enables a second Fourpak to be slaved, with Master control from the first.

Fourpak Dimmer System: \$895

**All prices are Recommended Retail, INCLUDE sales tax, and freight to your dealers premises. For details regarding EX-TAX purchases, see Page 4. Dealers are under no obligation to comply with the recommendations**

Amounts shown as Lease figures or a figure quoted as 'Per Week', are only guidelines and not offers. See Page 3 for details.

## Soundcraft

*Family of fine mixing consoles*

### Spirit LIVE

The affordable alternative-Soundcraft Spirit LIVE is built in the U.K. from quality components, and comes in 8-3, 16-3 and 24-3 sizes. An 8 channel expander can be added to the 8 or 16 channel models. Each input features 4 auxiliary sends, 3 band EQ with sweep low and midrange, insert point, line in, and choice of assignment to three outputs- Left, Right



and Soundcraft's Mono output. These allow three subgroups or Mono mode or Stereo output with a Mono Subwoofer or Centre-Cluster output. 4 Stereo effects returns, external power supply.

Spirit LIVE 8 channel: \$2,495  
 Spirit LIVE, 16 channel: \$4,495  
 Spirit LIVE, 24 channel: \$6,495  
 Spirit 8 channel expander: \$1,995

### Spirit MONITOR

16-8 \$7,995  
 24-8 \$10,995  
 Spirit MONITOR allows 8 sends, plus a Monitor output. Each channel has POST fade master. Outputs have DIM.



### Delta SR

Where 4 sub-groups are needed for P.A. mixing, Delta SR excels.

**Mono** input modules feature sweep midrange and low frequencies. 4 auxiliary sends and phase reverse.

**Stereo** input modules (optional) feature 3 band EQ, 4 auxiliary sends, phase reverse on left channel and RIAA facility as standard.

**Master Section** has four groups in one module, with a 4 x 4 matrix output section. Each group has a dedicated effects return. Full metering facilities.

**Available in these sizes:**

**8-4-2:** \$7750 (\$50 p/w), **16-4-2:** \$10,750 (\$71 p/w), **24-4-2:** \$13,950 (\$92 p/w), and **32-4-2:** \$19,450 (\$127 p/w).

Also comes in 8 channel rack mount.



### Venue II

Venue set the scene as the eight subgroup PA Mixer for touring bands and permanent installations alike. Now Venue II increases the versatility of this console with extra features like 4 standard mute groups, Direct out on the 6th auxiliary send, and optional individual channel bargraph metering (with meter overbridge).

**Venue II features:** Standard input module: 4 band EQ with 2 mid sweeps. Phase reverse. 6 Aux. sends (with direct out on number 6), assignment to any of 8 groups and/or main outputs. 4 mutes. Stereo input module: Line A & Line B stereo inputs, width control, 3 band EQ, 6 aux. sends, full routing, 4 mutes. Group Module: Choice of dual returns with EQ (Dual Group Module), or effects return with fader (Stereo Return Module). Master module features 6 auxiliary masters with AFL, Mute masters, Oscillator, talkback and monitor level. Venue II available in 16-8-2, 24-8-2, 32-8-2, or 40-8-2 (with central master modules). From \$23,850.



### Delta Deluxe

Delta Deluxe offers extra facilities, with full four way EQ and 2 sweep midranges. 6 auxiliary sends are standard, with optional dual line or stereo input modules. Master section features two returns above each subgroup, enabling a full extra 8 inputs.

**8-4-2:** \$11,450 (\$75 p/w), **16-4-2:** \$16,450 (\$108 p/w), **24-4-2:** \$21,950 (\$144 p/w) and **32-4-2:** \$27,950 (\$183 p/w). Also available in 8 channel rack mount.

Delta consoles feature fully modular construction, with extensive channel patch and insert facilities.

### Vienna

Replaces the famous 8000 series. Vienna offers 8 auxiliary sends with one direct-out, full four band EQ with adjustable 3rd feature, 8 mute groups, and 8 subgroups. The Master section has eight stereo effects returns, and eight optional VCA groups. The 40 channel version has the Master section in the centre. An optional 'auto switch' dual power supply is available. Other Vienna or Europa consoles can be linked as Slave or Master. From \$49,500

### More!

Venue Theatre with Matrix Output.  
 Delta AVE,  
 SAC 100,  
 SAC 200,  
 BVE 100.

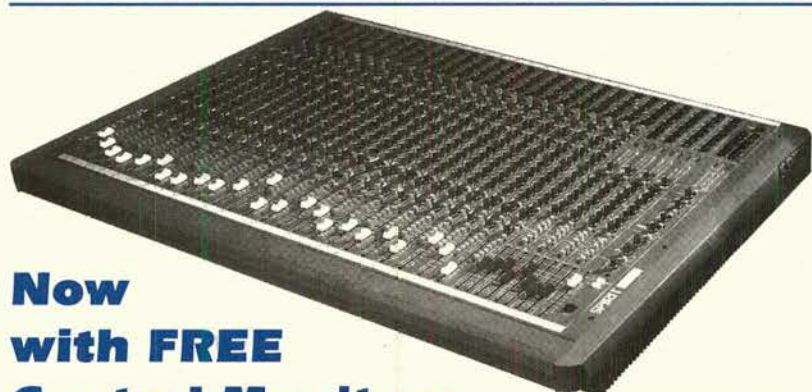
### Europa

Top of the line House Console for Sound Reinforcement, Europa has the features the World's leading sound engineers asked for. Eight VCA groups can be mastered, 12 auxiliary sends can be globally selected pre or post, and individually switched. Full four band parametric EQ and a fully featured noise gate on every mono input channel give unprecedented control. Alt-PA and extensive Mute and Solo-In-Place facilities. From \$98,100

All prices are Recommended Retail, INCLUDE sales tax, and freight to your dealers premises. For details regarding EX-TAX purchases, see Page 4. Dealers are under no obligation to comply with the recommendations. Amounts shown as Lease figures or a figure quoted as 'Per Week', are only guidelines and not offers. See Page 3 for details.

## Soundcraft

*Family of fine mixing consoles*



**Now  
with FREE  
Control Monitors**



**Control Monitors** - for Professional applications and Home Listening alike.

Control 1: \$549 pair. Packaged with a Control SB-1 subwoofer: \$995 total. (Pictured above)

Control 5: \$895 pair. Packaged with a Control SB-5 subwoofer: \$1,499 total.

**Options:** Control 1 MTC-2 wall or ceiling brackets, \$229 pair. (Control 5 brackets available)

**4200 Series Nearfield Monitors** (right)

Optimised acoustic centres for hi and lo frequency elements, new 25mm Titanium tweeter with special filter lens for great 1.5-3 metre dispersion.  
4206 Nearfield Monitors (6" woofer) \$795 pair.  
4208 Nearfield Monitors (8" woofer) \$1099 pair.



**Studio 16:**

\$7,495 Lease \$49 P/W  
with **FREE** pair Control 1

**Studio 24:**

\$10,995 Lease \$72 P/W  
with **FREE** pair Control 5

## SPIRIT Studio

In line design means no shortage of inputs with Spirit Studio. In fact, as many as 56! (On 24 channel model) Mixdown is easy, you needn't patch again. Eight subgroups, 6 auxiliary sends, and Soundcraft's famous 4 band EQ (with 2 mid-sweeps) make Spirit Studio irresistible! Four stereo effects returns with EQ, Phantom power, External power supply, 100mm long throw faders, and quality throughout. Insert points, talkback facility, and split EQ on each input. Spirit Studio offers more facilities, more flexibility and certain Soundcraft performance and reliability. What more could you ask for? IDEAL FOR multitrack studio's, from 8 to 24 track, and Post-Production Suites. Audition today!

**SPECIFICATIONS:**

Height 88mm, Depth 771.5mm, Length 894mm (16 channels) or 1174mm (24 channels).  
Bus Noise (Masters Down) Mix Left & Right -98dBu  
Bus Noise (Masters Down) Mono or Group -98dBu  
Mix Noise: -80dBu. Frequency response +/- 0.5dB  
CMRR (Measured at 1kHz) mic input maximum gain -90dB. Line input unity gain -55dB.  
Distortion (THD 1kHz at +20dBu) line in to Mix out, Aux out or Group out: <0.006%. Crosstalk >100dB.

## Sapphyre



Soundcraft's new in-line professional console offers 32 track capability with 5 frame sizes - from 20 to 52 input channels. Input module options include: (a) In/out dual path module, (b) Dual line input module, (c) Dual Stereo input module.

A comprehensive Noise Gate is featured on mic/line input channels, with 4 band EQ (2 mid sweeps) that can be split to channel or monitor path in 2 sections. 6 aux. sends, 4 mute groups, Solo-in-place, Optional patchbay & OPTIFILE Automation. Sapphyre prices start at \$43,200 inc tax.

## Delta Eight

Soundcraft's award winning Delta range includes the Delta 8- for 8 and 16 track recording. Delta is a modular series of mixing consoles offering Mono, Stereo, or Dual input channel module options, allowing you to partially configure any of Delta 3's frame sizes, which come in 20, 28 and 36 channels. Prices start at \$25,950 inc tax. **Sizes:** 675mm deep, 215mm hi, 1043mm wide (20ch), 1298mm (28 ch), 1611mm (36 ch)

**FEATURES:**

Mono Input Module: 4 band EQ with 2 mid sweeps, 6 auxiliary sends, routing to any group or mix out.  
Stereo Input Module: dual line inputs, stereo width control, 3 band EQ with mid-sweep, 6 auxiliary sends.  
Dual Line Input Module: 2 separate mono line channels with 3 band EQ.  
Group Module: (8 fitted standard) two returns (A & B) each with EQ, Aux 1 send, Pan and Volume control.  
Master Module: 6 auxiliary masters with AFL, Oscillator, Talkback, 2TRA, and 2TRE returns. Group & Master module metering.

**All prices are Recommended Retail, INCLUDE sales tax, and freight to your dealers premises. For details regarding EX-TAX purchases, see Page 4 Dealers are under no obligation to comply with the recommendations**

Amounts shown as Lease figures or a figure quoted as 'Per Week', are only guidelines and not offers. See Page 3 for details.

# Winter Collection

## Essentials for your pantry!

### Pro Colour Gel

Was \$9  
now -

**\$7.50**  
per sheet

The affordable alternative that lasts and lasts ....

Pro Colour is conveniently numbered the same as LEE, and comes in 20 x 24" sheets.

**These colours are always ex-stock:**

- ✓ 101: Yellow
- ✓ 102: Light Amber
- ✓ 103: Straw
- ✓ 104: Deep Amber
- ✓ 105: Orange
- ✓ 106: Primary Red
- ✓ 107: Light Rose
- ✓ 109: Light Salmon
- ✓ 110: Middle Rose
- ✓ 111: Dark Rose
- ✓ 113: Magenta
- ✓ 115: Peacock Blue
- ✓ 117: Steel Blue
- ✓ 118: Light Blue
- ✓ 119: Dark Blue
- ✓ 120: Deep Blue
- ✓ 124: Dark Green
- ✓ 126: Mauve
- ✓ 128: Bright Pink
- ✓ 132: Medium Blue
- ✓ 134: Golden Amber
- ✓ 136: Pale Lavender
- ✓ 137: Special Lavender
- ✓ 139: Primary Green
- ✓ 141: Bright Blue
- ✓ 142: Pale Violet
- ✓ 147: Apricot
- ✓ 148: Bright Rose
- ✓ 151: Gold Tint
- ✓ 152: Pale Gold
- ✓ 158: Deep Orange
- ✓ 161: Slate Blue
- ✓ 162: Bastard Amber
- ✓ 164: Flame Red
- ✓ 165: Daylight
- ✓ 166: Flame Red
- ✓ 170: Deep Lavender
- ✓ 174: Dark Steel Blue
- ✓ 179: Chrome Orange
- ✓ 180: Dark Lavender
- ✓ 181: Congo Blue
- ✓ 182: Light Red
- ✓ 183: Moonlight Blue

### Jands 100% legal FOG JUICE **Reduced**

Can you afford the consequences of using suspect fog juice? **Jands offer 100% quality Fog Juice**, available in plain or scented varieties, in 1 litre bottles or 5 litre containers.

- ✓ 1 Litre plain: was \$15, **NOW \$12**
- ✓ 5 Litre plain: **reduced to \$56**
- ✓ 1 Litre Scented: was \$18 **NOW \$15**
- ✓ 5 Litre Scented: **reduced to \$70**

**Available in 5 tasty scents.  
Also in 15 litre drums.**

### Little Gooseneck Lamps

The dependable flexible lamp for your lighting or sound console, or anywhere a discreet but directional worklight is needed! 2 types available, Lo and Hi Intensity, with BNC or XLR connectors.

- ✓ 12G, Lo, with BNC **\$59**
- ✓ 12G, Hi, with BNC **\$79**
- ✓ 12X, Lo, with XLR **\$69**
- ✓ 12X, Hi, with XLR **\$89**
- ✓ 12XRHi, with right-angle XLR **\$109**

### Warranty & Service

Jands fully support all the products detailed in this catalogue. JBL Loudspeakers come complete with 5 years limited manufacturers warranty, Jands Electronics manufactured products are warranted for two years. All other products are offered with standard manufacturers warranty. Each product is subject to standard warranty terms and conditions as outlined in manufacturers warranty statement.

### Your Jands Dealer

Jands have been supplying the Professional Sound & Lighting market in Australia for over 20 years, under the same 100% Australian ownership. We are truly committed to the products we sell, and offer our Dealers 100% support.

# JANDS

**Jands Electronics Pty Ltd**, ACN 001187837  
578 Princes Hwy, St. Peters NSW 2044  
Phone (02) 516-3622, Fax (02) 517-1045

Confirming the DRU-8 is to Pro Users what the Adat is to Home Studios - Yamaha tell us about the RC24

## Yamaha 24 Channel Digital Recording System

**Y**amaha Music Australia announce their Modular Digital Audio Recording System, offering up to 24 channels of 20-bit, all-digital recording in a powerful, cost effective package. Incorporating three Yamaha DRU8 Digital Audio Recorders and the new RC24 Remote Controller/Locator, the system is ideally suited to professional applications in music recording studios, broadcast, film and video post production and mobile recording.

Priced well below conventional digital multitrack recorders, the Modular Digital Audio Recording System is said to offer unprecedented flexibility in a compact and space efficient design. The architecture of the system supports several operational configurations - the system may be operated as a single recorder, or simultaneously as two or three discrete recorders for added flexibility in a multi-studio environment.

The heart of the system is Yamaha's new RC24 Remote Controller/Locator. Designed specifically for use with the DRU8 recorder modules, the RC24 provides complete control of up to three DRU8 recorders from the one central control surface. Using the DRU8's chase mode function, the three DRU8 modules are synchronised to sample accuracy and work together as one 24 track digital recorder. The three recorders may be offset to sample accuracy and can also be controlled individually by the RC24, or by additional RC8 Remote Controllers.

The RC24's control surface resembles a conventional multitrack remote control/autolocator and features individual controls for track arming, auxiliary track arming and monitor source selection, with record status indicators for all 24 tracks.

Tape position and locate position timecode values are displayed on large, easy-to-read 7 segment LED displays. A 24x2 LCD displays command menus for adjusting timecode, record mode

and system control parameters. LED indicators are provided for system status, individual recorder status, and setup parameters. Dedicated keys are provided for multi-function procedures, including pre/post roll, punch in/out times, timecode trim up/down and return to zero.

The RC24 will store up to four complete system status "snapshots" in non-volatile memory, especially useful for complex recording setups. Up to 100 timecode values may also be stored, entered via the numeric keypad or "on-the-fly" during recording or playback. With one key press, tape position timecode values can be copied to the locate timecode display, then edited, stored or used for locate points. Stored timecode values may be recalled and used for punch in/out, pre/post roll, cue points and the start and end points of a repeat loop. A handy timecode calculator is also provided. The RC24 requires only one serial connecting cable and may be rack mounted or operated free standing.

The system will chase and lock to external timecode without the need for a separate synchroniser. Full synchronisation

facilities support SMPTE (all formats), V Sync and MIDI formats. The internal timecode generator can be jamsynced to external code and an offset can be specified. Full remote control is available through an integral 9-pin serial interface, conforming to Yamaha, Sony, CMX or Ampex controller protocol.

Yamaha's DRU8 is an 8 channel, rack mounting digital audio recorder using a convenient cassette format giving 22 minutes of continuous 20-bit recording at 44.1 kHz sampling frequency, or with Yamaha's new extended play cassettes, 33 minutes at 44.1 kHz. The DRU8 boasts a frequency response of 20 Hz to 20 kHz (at 44.1 kHz and 48 kHz sampling frequencies), a dynamic range of over

120dB and immeasurable wow and flutter.

The DRU8 supports all the standard digital sampling frequencies (32 kHz, 44.1 kHz and 48 kHz), all with +/- 10% varispeed, for digital transfers to and from other professional equipment. Yamaha offer a range of A/D and D/A converters, a digital format converter and 8 channel microphone preamplifiers for interface to the analogue domain. Using Yamaha's DMC1000 Digital Mixing Console together with the modular recording system provides a complete, all-digital audio recording and mixing system.

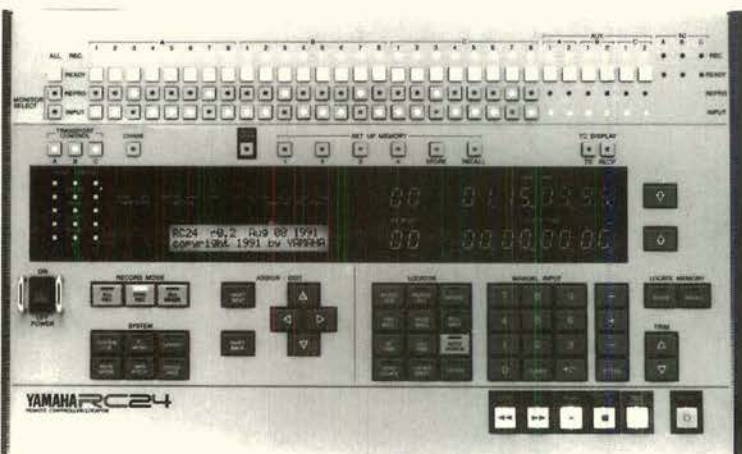
According to Yamaha, the system offers a better utilisation of resources for the professional user than conventional multitrack recorders. The recorder modules can be delegated to different tasks as required, for example, as a 16 track for Studio A and 8 track for Studio B simultaneously. Recorder modules may be centrally located within a facility and accessed by RC24 and RC8 remote control units in each studio.

Downtime of the system in the event of a fault is minimised due to its modular architecture. Employing three 8 track recorder modules means that the system can still function should a fault develop in one module. Extensive on-board diagnostics provide rapid identification of a fault, enabling Yamaha's national network of qualified Service Agents to

perform fast "on-site" repairs. Yamaha Music Australia stock a complete range of spare parts and exchange circuit boards for all their digital audio products.

Further information, contact Steve Leonard or Geoffrey Crane, Yamaha Pro Digital Group, by telephone on (03) 699-2388, or facsimile on (03) 699-2332.

**Yamaha publicity**



Apogee's 'new wave' Digital Tape Machine fixit technology - detailed

## Analog to Digital- and Digital to Analog

**B**efore we go any further we should first look at some of the reasons why independent engineers go out and design, develop, and market alternatives to the major manufacturers.

With the introduction of new technologies and as time passes, more information is gathered. When the N.T.S.C. (never twice the same color) television system was introduced a great many people jumped at the chance to have colour pictures on their tubes. Thank God Australia waited for the release of the relatively advanced PAL-D system.

The same scenario is currently being played out with H.D.T.V.. Both Europe and Japan have current systems broadcasting in the analog domain. Both are battling for consumer manufacturers to align themselves with their individual systems. The United States FCC is aggressively funding a number of developmental systems that support a full digital broadcasting system.....obviously the way to go. You see however the dilemma? Do we wait or go with what is initially presented?

The same is true for digital audio. In a way we all went for the quality of digital audio when it was first released, all of us except for the audio purists who until now remained sceptical. The discoveries that have been made over the past few years have given us the criteria to precisely convert audio signals in and out of the digital domain. Engineers have learnt a great deal about both the manipulation advantages of digital processing and about the sonic short falls of some systems. This was the main reason why the audiophile / classic ears of the World did not readily accept the "new" technology of digital recording.

It was this inspiration that Bruce Jackson of Apogee, whose sound engineering credits include Stevie Nicks, Fleetwood Mac and Bruce Springsteen, decided to develop his own analog to digital and digital to analog converter system. Coming from an audio mixing back ground

intertwined with electronic design credentials he recognised that the harsh sounds of digital recording was it's major set back.

The first product released to the market place, following the overwhelming acceptance of the linear anti aliasing filters, was the DA1000E stereo digital to analog converter system. This unit has become the professional recording industry reference for digital to analog



conversion. Whilst there are a multitude of consumer type audiophile converters it is the Apogee which, by choice, is used in the recording and mastering process allowing the engineer to precisely hear what is going to the recorders.

The standard interfaces available on this unit leave nothing to be desired and include AES/EBU, SPDIF (Sony Phillips Digital Interface Format), Sony SDIF, Optical, and Sony SDIF 2. JVC and Yamaha interfaces are also available as options. All digital signals are processed by a custom configured high speed gate array which extracts the maximum performance from the D/A converters. Internally 8 times over sampled data drives two 20 bit dual digital to analog converters.

The converters employ the latest segmented technology to overcome the problem of large transitions around zero. Low level accuracy and performance is assured along with the inherent high level performance. This

kind of performance is typically missing from present day 1 bit D/A converters.

The most important part of any D/A conversion is the accuracy of the current to voltage conversion following the DAC. When Apogee investigated this they found that even the highest speed / low distortion op amps could not truly represent the signal as it was originally recorded. The design of an ultra fast discrete current to voltage stage that

did not require feedback was completed. The result of this very accurate circuit is an extremely transparent sound. Following this circuit is the most advanced version of

Apogee's filter technologies. This is used to completely eliminate all of the supersonic frequencies that can produce distortion products. Apogee also developed a Low Jitter Clock, accurate to 10PPM, for the precise timing of the digital information to the D/A converters, eliminating another area of concern for the correct conversion of digital signals.

All variations of output configuration can be achieved by way of a gold pin jumper matrix internal to the unit and the final connections to other equipment is made via a pair of gold pin XLR connectors. Front panel multi turn potentiometers allow any output configuration to be calibrated for correct interfacing. Front panel indicators are utilised for the display of sample rates, emphasis, mute and error conditions.

The companion analog to digital conversion system was released last year and in the Apogee tradition offers innovation along with a no compromise

philosophy towards signal integrity. The AD500 stereo analog to digital converter system has a discrete front end that delivers better than .001% THD+N and can accept levels from below consumer (-10dBV) to +27dBu with a CMRR typically of 100dB.

Independent gain controls on the front panel or recessed multi turn trim pots may be used to set the desired level. The input select switch allows the user to set digital out conditions such as "digital black" that may be used in many mastering and video applications. Rotating the switch counterclockwise (Pre-Emphasis OFF), MUTE /CAL mutes the input and automatically calibrates the A/D converter. Next, ON is the normal straight through analog to digital converter. When less head room is required SOFT LIMIT can be used as a peak limiter. This peak limiter gently rounds off the peaks with the result being a hotter sounding programme material. The next switch position SOFT SATURATE starts a progressive compression of the signal from the 12dB point below converter clip. This resembles the tape saturation compression experienced with analog tape machines. These features which are not found on standard machine converters give the engineer / producer an edge and may be the difference between a hit or a lost album.

The internal clock provides sampling rates of 32, 44.056, 44.1, and 48 kHz. Sync source inputs allow the AD500 to provide continuous sampling between 30kHz and 56kHz. It also has the ability to divide incoming sync by 1.001. (1.001 is the ratio between CD's and NTSC video).

The sync capabilities of the unit are versatile in deed. Provided is a fully isolated BNC connector (with loop through) and a sync selector switch which allows the selection of the internal crystal, WORD CLOCK, SPDIF and VIDEO (NTSC 60Hz monochrome, PAL Video and sync). The AD500 also generates the exact

*(continued over)*



# Winter Collection Catalogue

Have you got yours yet? Available at these fine outlets

**Queensland- Brisbane & Gold Coast:** Aulos **Albion** (07) 262-8422, Laser Light & Sound Productions **West End** (07) 846-3500, Musicians Pro Shop **Brisbane** (07) 854-1577, The PA People **Brisbane** (07) 857-6855, East Coast Lighting **Newstead** (07) 252-9583, Entertainment Lighting Supplies **Burleigh Heads** (075) 56-0585, Musicians Pro Shop **Gold Coast** (075) 55-3955.

**Queensland- Country:** Fernandez Music **Cairns** (070) 51-8519, Kennedy Amplifier Hire **Mackay** (079) 57-3904, Stage & Audio **Rockhampton** (079) 22-2646, Wild Gravity **Townsville** (077) 21-3540, Disco Stereo Supplies **Townsville** (077) 72-6226

**Northern Territory:** Capricorn Industries **Darwin** (089) 41-1128, Top End Sounds **Darwin** (089) 81-7744

**West Australia:** Audex **Perth** (09) 328-3188, Cosmic Sound & Lighting **Perth** (09) 242-3844, Stagecraft **Perth** (09) 227-9000

**Tasmania:** K.W. McCulloch **Hobart** (002) 28-6373, K.W. McCulloch **Launceston** (003) 43-1034

**A.C.T.:** Topstage Productions **Canberra** (06) 280-5710

**N.S.W.- Sydney region:** Australian Audio Brokers **Sydney City** (02) 552-3340, Austrasound **Carlingford** (02) 872-6244, Bandanna Entertainment **Londonderry** (045) 72-5461, Chameleon Touring Systems **Marrickville** (02) 550-5444, dB Sound **Rydalmere**

(02) 638-0777, G.U.V.T. **Camperdown** (02) 550-5488, Electric Sunshine Lighting **Ultimo** (02) 660-6000, Harmony Music **Liverpool** (02) 601-3610, Les Jones Designs **Arncliffe** (018) 64-2351, Lots Of Watts **Rydalmere** (02) 638-0302, The PA People **Enfield**

(02) 642-5344, Rock & Roll Music **Manly** (02) 977-3177, Sound On Stage **Sydney City** (02) 318-0046, Studio Supplies **Crows Nest** (02) 957-5389, Total Concept Productions **Guildford** (02) 681-5880, Turramurra Music **Turramurra** (02) 449-8487

**N.S.W.- Country:** Bega Magpie Music **Bega** (064) 92-3533, Belingen Valley Sound **Bellingen** (066) 55-1488, Black Dot Music **Armidale** (067) 72-6325, Broken Hill Music **Broken Hill** (080) 88-4840, Centrestate Sound & Lighting **Orange** (063) 62-0587, Coffs Drums & Guitars **Coffs Harbour** (066) 513-522, Landers Music Centre **Orange** (063) 62-6588, Music Headquarters **Newcastle** (049) 52-9222, Scion Audio **Newcastle** (049) 69-5563, Sound Components **Tamworth** (067) 65-4477, Taree Music Centre **Taree** (065) 52-4330, Yamaha Living Music

**Lismore** (066) 21-7784

**Victoria- Melbourne region:** Abbey Sound **Seaford** (03) 736-4211, Agent Audio **Moorabbin** (03) 532-0458, C.C. Light & Sound **Moorabbin** (03) 532-0488, Clearlight Shows **Moorabbin** (03) 553-1688, Concert Lighting Services **Prahran** (03) 529-5019, GUVT **Hawthorne East**

(03) 822-3386, Lighting Lab **Box Hill** (03) 898-7064, McLearn Audio **Richmond** (03) 429-5381, Music Junction **Blackburn** (03) 878-8777, Nova Sound **Highbett** (03) 555-4766, The PA People **Burwood** (03) 808-2111, Soundcore **Collingwood** (03) 419-8111, Showcase Productions

**Moorabbin** (03) 555-1997, Troy Balance Corporation **South Melbourne** (03) 599-3844, Warehouse Sound Systems **Fitzroy** (03) 417-4274

**Victoria- Country:** dB Concert Sound **Newtown** (052) 21-1688, Tattersall's Sound Service **Shepparton** (058) 21-2892,

Tony Boon **Wodonga** (060) 59-1652

**South Australia:** Derringers Music Centre **Forestville** (08) 371-1884, GUVT **Kent Town** (08) 363-0454, Network Hire **Eastwood** (08) 272-1222, Trev Jenke Audio Video **Tanunda** (085) 63-0052

*Not all lines available at all outlets. Further information call Jands (02) 516-3622, Fax (02) 517-1045*

**Mixing Consoles . Effects . Processing gear . Talkback  
Lighting Control . Accessories . Speaker systems . Amps**

## PRODUCTS PRODUCTS PRODUCTS



### K1000 AKG HEADPHONES

AKG reckon the solution to true three dimensional hearing- i.e.: the localisation of sound sources outside your head - depends on more than just a pair of headphones. The K1000 are OPEN, they float in front of the ears, without cushions or un-natural reflections. At \$1400 a pair, they come in a nice case, and are personally numbered. It is a concept that probably does result in the acoustic transparency the firm promises. In any case, it is worthwhile examining the publicity material, which rates 9.5 out of 10! Call AWA for a brochure or a listen.

### M-M-More

These Mogami Cables were invented to make magazine editors' lives hard. Every time we think we've finished listing one, another comes along. Cables make boring reading, but Pat Tapper from GUVT is so nice about it, we feel obligated to mention these two. The RS-422 Balanced Digital Interface Cable is designed to meet EIA standard RS-422 general applications. Right? Then the SCSI-2 Single Ended Cable meets the requirements of the SCSI standard. They must be good. Call Pat on (08) 363-0454, Watch this space, he will find more.\*

### War stuffs it

Despite a civil war, a struggling economy and £45,000 of prepaid equipment which never reached its destination, a brand new recording facility in Slovenia has just opened with a Soundcraft 32ch TS12. Although the war has affected studio traffic, the facility is offering itself at £20 per hour, attracting flak jacketed traffic from Italy and Austria. Some people like the scent of danger maybe. Myself, I'd rather stay at home.

### Otari DTR-90

DTR-90 R-DAT is a four header designed for editing in post production and broadcast facilities, as well as mastering and production in recording studios.

It does the usual four sampling frequencies, and offers read after write monitoring and punch-in/out overdubbing. Punch-in/out time crossfade time is adjustable from 5 milliseconds to 1.5 seconds for customised overdubbing, with both linear and logarithmic crossfade curves available.



### Phoenix is new!

Tony Webb, formerly of VTC and Broadcom, has defied the recession and opened a studio to cater to "a broad market base of commercial and corporate music production, and post production for video". Mouthful.

Having done it before, Tony decided to buy an Otari MTR90 series III multitrack recorder, which is now installed in his Willoughby (Sydney) facility. "It was logical for our requirements, the machine locks to timecode in under 1.5 seconds, and works extremely well with our synchroniser. It's mechanically very quiet, it handles tape very well, and performs critical drop-ins without a glitch".

The distributors say the most salient feature of the new MTR90 Series III is an increase of about 50% in its winding speed. Automatic reel size detection



Tony Webb of Phoenix Audio with his new Otari 24 track MTR90 III

on the series III to electronically conform its tensioning and ballistics to any reel size from 14 inch to the 7 inch 'spot' reels used in advertising. We wish Tony Webb well!

APOGEE. (Cont. from prev. page) ratio for perfectly locked sampling referenced to VIDEO and SPDIF OPTICAL.

Metering is provided and shows 12dB and 2dB below converter clipping and is designed to be used with the host's metering.

Digital output is supplied via a transformer isolated AES/EBU output, fibre optic output, SPDIF and WORD CLOCK outputs.

Both the AD500 and the DA1000E are portable and are used by engineers as their standard when travelling to different studios around the World. Bob Clearmountain has a system and relies on the accuracy of the units to give him a standard to work from in the varied studios he engineers in.

Product information edited by Shane Morris from previously published material available from: Betty Bennett Apogee Electronics Corporation Ph. 310-399-2991 Fax 310-399-7665

## Audio Technician Required

Freedmans have been Designing and Installing Professional Sound Systems since 1966, and now, due to massive increases in contracts won, they need a further REAL AUDIO TECH. The company's areas of work are mainly-

Public Address  
Small Vocal PA's  
Concert Sound

Background & Foreground Music Systems  
Disco Sound

The person required is a FULLY QUALIFIED ELECTRONIC TECHNICIAN with at least 5 years (preferably 10) experience in design, installation and maintenance of professional sound systems.

Other necessary qualities are Reliability, Punctuality, Honesty and a genuine desire to work hard. These qualities, together with good communication skills and a true love of audio (and a vast collection of hens teeth) would be desirable.

The job is 'hands-on', where duties are both installation and service of systems as well as some design work. 100% commitment is needed and the same will be given in return.

Remuneration package negotiable.

Send CV/Resume to: Peter Freedman, FREEDMAN, 89-91 Liverpool Rd, Summer Hill, 2130 NSW, or Fax (02) 798-8259 Please note- Applicants will be required to sit a written test prior to interview.

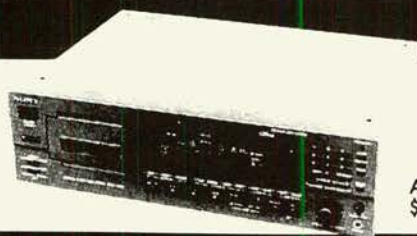
## SEND INFORMATION

The Studio & Broadcast Supplement welcomes news and editorial items for consideration. Freelance contributors are sought, please contact the Editor on (02) 876-2612, Fax (02) 876-5715, or write: P.O. Box 439, Epping NSW 2121.

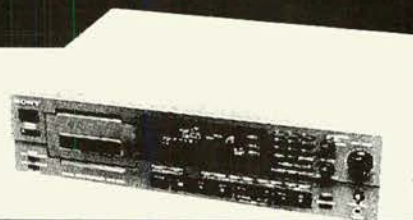
# the **PRO** range

## Sony's range of real cost effective Pro Audio Equipment

This range is for Serious Professionals. Designed and built, by Sony with innovative technology and an application awareness that provides you with the Professional advantage.



Around  
\$2,790 + Tcx



Around  
\$1,690 + Tax

### PCM-2700 - DAT Studio Master Recorder

4-Head, Record Monitoring and Absolute-Time, Auto-locate functions. Superb, linear 1-bit A/D and D/A for professional dynamic reproduction. Supplied with Remote and Rack Mount. A reliable (4DD Motor) Studio performer.

### PCM-2300 - PRO DAT Recorder

Balanced XLR's and selectable 44.1kHz sampling frequency. IEC-958 pro-use digital I/O. Supplied with Remote and Rack-Mount. Professional performance at an economical price.



Around  
\$1,450 - Tax



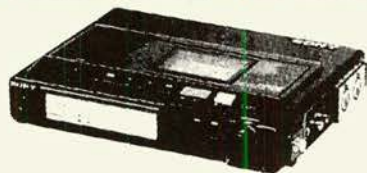
Around  
DPS-M7  
\$1,995 - Tax  
DPS-D7  
\$1,495 + Tax  
DPS-R7  
\$1,695 + Tax

### CDP-2700 - Pro CD Player

Auto cue, vari-speed and balanced outputs, plus a unique anti-vibration mechanism. Exceptional value for on-air or post.

### DPS-D7 DPS-R7 DPS-M7

The DPS range of effectors have the latest developments in Sony audio technology. 32 bit stereo processing, with editable pre-set algorithms provide easily controlled, crystal clear effects. The D7 delay, R7 reverb and M7 modifier can be MIDI controlled or serially controlled by a 15 machine remote.



### TCD-D10 Pro II

With excellence sonic performance and rugged reliability the D10Pro II is the latest upgrade of the series and sets the standard for location DAT recording.

Around  
\$3,200 + Tax

# SONY

#### SYDNEY

BRE Comm,  
Macray Spec. Serv.  
Image Devices  
Composite Video  
AVE Comm

Ph (02) 949 2133  
Ph (02) 439 4755  
Ph (02) 888 9411  
Ph (02) 888 6911  
Ph (049) 62 3535

#### CANBERRA

Canb Prof Equip

Ph: (06) 280 5576

#### BRISBANE

Videoora

Ph: (07) 236 2933

#### ADELAIDE

Adelaide Tape Dupl.  
Network Nomis  
Thomas Elect. Sys.

Ph: (08) 212 7111  
Ph: (08) 239 0077  
Ph: (08) 231 6955

#### NORTHERN TERRITORY

Complete Sound

Ph: (089) 47 1585

#### TASMANIA

K.W. McCulloch  
K.W. McCulloch

Ph: (002) 28 6373  
Ph: (003) 43 1034

#### MELBOURNE

Soundcorp  
Lemac Film & Video  
Tasman Audio & Vision  
Video Craft

Ph: (03) 416 1066  
Ph: (03) 429 8588  
Ph: (03) 347 9011  
Ph: (03) 803 6959

#### PERTH

Tanby Aud. Vis.

(09) 328 2366

#### NEW ZEALAND

PH: (9) 415 7777



## FOR THE ARTIST IN EVERY ENGINEER

If you've ever tried putting together a studio, you know the big problem: the console. What you want is too big- for your room and for the bank. The console you can afford lacks the important facilities you need. Too few inputs. Not enough outputs. And audio quality that just isn't up to your standards.

Soundcraft's SAPPHYRE gives you 32 track performance worth many times the price- better than a digital system. A noise gate on every channel. Great sounding 4 band EQ. A variety of modules to suit the way you record. And five frame sizes.

Sapphyre. It's a brilliant way to work.

**JANDS**

For more information, Contact  
W. Peter Twartz on (02) 516-3622.

Sa **pp** hyre

# Duncan Fry

**D**o you ever wonder about security at gigs? Not at concerts, but the average pub gig? Have a think about this situation: There you are, at a gig, mixing away on your brand new Gigmaster Mark III or whatever, and a fight breaks out on the dance floor. All of a sudden, the fight moves over towards you, and before you know it the effects rack has crashed to the floor, and 4 or 5 struggling connoisseurs of fine music are slugging it out on your new desk.

The question is this - who is responsible for the damage caused to your equipment. The drunks? The band? The venue? Or you? It's a question that has often bothered me, especially on some country gigs where drinking/driving/fighting has been elevated to something of an art form.

So, I put these questions to one of Australia's leading experts in this field, Phillip Bing, from Doyle and Kerr solicitors, Queen Street, Melbourne, and we'll get to his answers shortly.

One of the first things to realise is that what may seem logical and correct to you is very often not the way things are seen legally. Want an example? Here's one that cost me several thousand dollars.

I was supplying the sound for a 2 day open air street festival. The council had closed off the street, and we were mixing from the back of the truck on one side of the street to the stage on the other. It was a neat set up, and to keep the multicore cable out of harm's way we slung it in the air from two lighting trees, one each side of the road. It sagged a little in the middle, but was still out of the reach of the exuberant crowd.

Band after band after band came on that afternoon, some good, some bad, some appalling, but all playing "Summer of '69" - I still flinch when I hear it today!

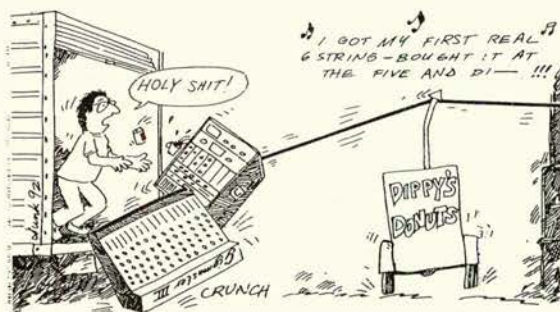
All went well until the evening, when a man in a donut van decided that he'd had enough of the festival, so he upped and drove home. Straight down the street, straight through the crowd and past the stage. As he drew level with the stage his doughnut oven exhaust hooked itself into the multicore, and dragged the desk and effects rack out of the truck, crashing down onto the road. He then proceeded to drag the whole lot along the street until the sound of the crowd's pounding on his door made him stop. I thought they were going to lynch him, but after unhooking the

cable he managed to scramble back into the doughnut van, and then drove off.

When we got everything back together again, I assessed the damage. Eight lines in the multicore dead, the subgroup section of the desk crushed and not working, and several effects with their front panels pushed in.

An open and shut case against the doughnut van man, you might think. So did I, so I took him to court to pay for the damage, which came to a couple of thousand dollars. But, despite evidence from the council that the road was closed to all traffic, I lost the case. The reason? The multicore cable was slung too low. That was it. Nothing else mattered legally.

The cost? A few thousand dollars, plus leaving me a lot sadder and wiser. Now, I'll admit that this was not your average gig. So, what's the legal situation in a pub? I mean, the odd beer down a wedge's horn is really normal wear and tear in this industry, but what about wilful violence?



For the answers, let's go back to Phillip Bing. His comments are in inverted commas.

1. Even though you are operating, the band is the hirer, since they are hiring the system and you, and "the hirer is under a duty to take reasonable care of the equipment. However, if the venue is a known trouble spot, it may be that the mere act of taking the equipment to the venue is evidence of negligence". So, if you know the venue is a bloodbath and you still do the gig, it could be shown that it's your own fault as well as the bands. Keep clear of footy club celebrations!

2. If you have a properly drawn up hiring agreement, it should contain "an undertaking by the hirer (the band) to return the equipment to the owner in **identical condition to that at the time of hire irrespective of whether or not he has been at fault in allowing it to fall below that condition.** If such an agreement is in force, the owner will have a right to recovery from the hirer

regardless of whether or not he (the hirer) has been negligent. The hirer will effectively become the 'insurer' of the equipment".

This means that you can chase the band for the money. Good luck!

3. "The venue operator may also find himself liable in these circumstances. Whilst there are surprisingly few reported cases dealing with this point, the current state of the law seems to be that **an occupant** (the licensee, in this case) **owes a duty of care towards the owner of the equipment whilst that equipment is on his premises.** On the facts of our hypothetical case, the equipment owner would appear to have a right of recovery against the venue operator."

So the pub could be at fault, for not having enough bouncers? Perhaps, but very often the pub has rented the venue to a promoter, a breed of person frequently known to be extremely slippery where financial matters are concerned. Once again, good luck!

4. "Of course, it goes without saying that the owner has a right of recovery against the yobboes who actually damaged the equipment". For this one you'll need more than luck! Try the others first. Phillip sums up for us with this important note. "These are the basic principles of law applicable to this situation. Of course, it must be remembered that each fact/situation is different, which may affect the rights of the parties".

There you have it. So, next time the promoter complains about the Front-of-House bunker you have built with roadcases, show him this article. If he doesn't see it your way, make sure you have his address, phone and fax numbers. (His Visa card number might also be handy!)

I suppose I should look on the bright side regarding the festival damage. It could have been worse. The previous year vandals had cut through the multicore and all the mic leads on stage overnight (luckily not mine).

And at another festival, a Christmas one, a fellow PA operator ran the multicore along the ground. While he was off having a quick snooze, Santa and all his helpers rode down the street in a parade of McDonald road rollers! Luckily the 3 out of 24 remaining lines in the multicore worked quite well for the rest of the day, but keep an eye out in the Trading Post for any multicore advertised as 'new thin design, ideal to run under carpet!' He's still trying to sell it!

# Travel & Leisure

*Tips, trips and transportation for the working professional*

Welcome to our very first Travel & Leisure page! Like all new Channels Features, it has a high danger of extinction due to neglect .... it takes about three consecutive appearances before any column, page or section of this magazine can be thought of as 'regular'!

But because our industry is so mobile, this is definitely a section I'd like to see continue. To get things rolling I've asked a couple of Industry Travel people to send us a list of Hot Deals- like which local airfare is a hottie (this probably won't stay current long!) and which Hotel package is a goer.

I also had an industry agent promise to do some packages for travel to next month's Singapore Show. They didn't, so obviously things are OK in the travel biz!

## Short Hops

No, this isn't about a dwarf who brews beer!

Some Airliner news for those of you who notice the difference. McDonnell Douglas have gone to serious feasibility phase with their mooted MD-12, a future competitor to the 747 Jumbo jet. The latest proposal (pictured) calls for a double deck machine, to carry about 650 passengers. The best news is the proposed seating layout, which offers three aisles on the lower deck, and two up top. However, to make this fly, McDonnell Douglas need a partnership with a Taiwanese Aerospace firm, so I wouldn't put money on it.

More likely is a 100% new machine from Airbus Industries, who already have the 340 flying. The 340 will fly non-stop from London to Perth, with 290 passengers. Virgin would desperately like to fly London-Perth-Sydney with this classy four engined aircraft, which amongst other things, offers a shower module option for first class passengers, located down in the hold and accessed by a stairway. Imagine - a hot shower!

Expect better availability of discount airfares next month- Compass is back. Compass MkII flies MD-82 aircraft, which look like a stretched DC-9, the type recently retired by Australian. Naturally as a new generation machine, you won't endure the less than perfect pressurisation (8000' cabin at 30,000') that the DC-9 featured. Incidentally, expect a late start for Compass- I tip September 1st, not July 1.

When the weather cools, the deals start. Thrifty offer a Barina for just \$30 in Sydney, probably to get up Bayswater Rent-a-car's nose. The \$30 is for 75 clicks, pay \$50 and get more. Still, it's a bargain!

Sheraton have thrown away the rack rate with a new line of discount rates, allied with further advance booking discounts. Now watch Hilton!



MD-12, proposed 650 seat 747 beater.

## When in Tokyo, you should use the Happy Fun Map!

**1. Leave hotel via taxi.** Simply say "Roppongi". Make rude remarks about taxi driver if he doesn't quite understand. You will be let out in the heart of the Happy Fun Map area most likely anyway.

**2. Start at t-bar.** Enjoy wings, potatoes, edomamy, beer. Get something in your stomach.

**3. Proceed to Hard Rock.** Enjoy your favourite home style adult beverage. Let the local babes know you're in town. Ignore other foreigners. Maximise your use of colourful metaphors to highlight your country of origin. This will help stimulate the ladies who are generally speaking, easily impressed.

**4. Move to O's Shot Bar.** Proceed up the stairs to the bar. Begin consuming more adult beverages. Come close to making a complete ass of yourself but just stop short of it. Save it for later.

**5. Now that your sails are full, proceed to Lexington Queen.** Show your laminate, tell em who you are and enter with an attitude. You'll need it. Please be advised the bartenders will hate you. They hate everybody, always have always will. Deal with it, enjoy it, be the ball. Continue consumption. This is your first opportunity to be a total retard. Dance with girls who hate you etc, insult the Class B and C American models who couldn't get work modelling groucho glasses in New York but are convinced of their divine beauty in Japan.

**6. After you have ruined it for everyone at the Lexington Queen proceed to Henry Africa's.** The best part is that the people who left the Queen because of you will be headed there as well. Here you will find an interesting and stimulating mix of losers, con artists, drug dealers, fatal attraction type women, basketball players, stock brokers, artists, rowing teams, pilots etc, etc. Blend in as best you can.

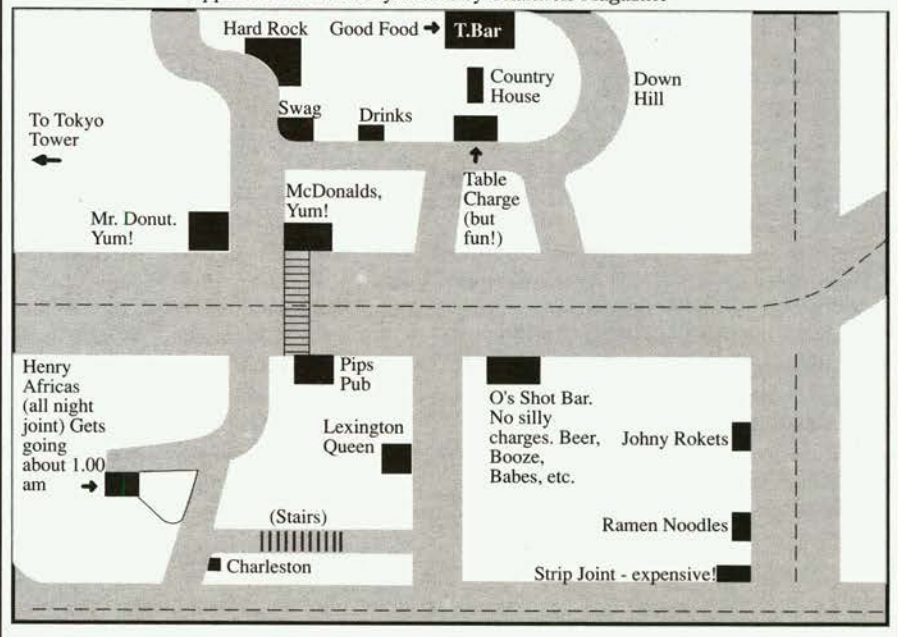
**7. Finally, if you can still walk proceed to MacDonalds.** Order far too much food. Try to hail a cab. The cabs will take great pleasure in passing you by. When and if you get a cab, go back to the hotel, eat the greasy stinking MacDonalds and try to sleep. You will wake up one or two hours later, still drunk, and enjoy some hearty vomiting, perhaps followed by the ever popular dry heaves and go back to your small bed with the really bad pillows. When you wake up again you will have nothing to do and no money left at all. Have a great time!

**Please be advised the makers of the Happy Fun Map accept no responsibility for loss of wages, getting lost, getting really lost, spending all per diem, not getting laid, getting beat up and or thrown in jail, losing your passport, forgetting which hotel you're in, forgetting which country you're in etc.**

*The makers of Happy Fun Map recommend and have experienced this itinerary but do not enforce it. Please proceed at your own pace.*

## The Happy Fun Map™

Supplied as an industry service by Channels Magazine



# FOR THE LIGHTING PROFESSIONAL...

THICKER ALUMINIUM  
FOR ADDED STRENGTH

SUPPORTS COLOUR CHANGERS  
YET ALLOWS EASY FOCUSING

POLISHED ALUMINIUM  
OR MATT BLACK FINISH

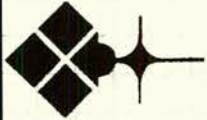
INNOVATIVE YOKE LOCK

SPRING LOADED  
4TH COLOUR RUNNER

AIRCRAFT QUALITY RIVETS

CONTACT US FOR YOUR  
NEAREST AUTHORISED DEALER

AVAILABLE IN PAR 56 AND PAR 64



## KUPO

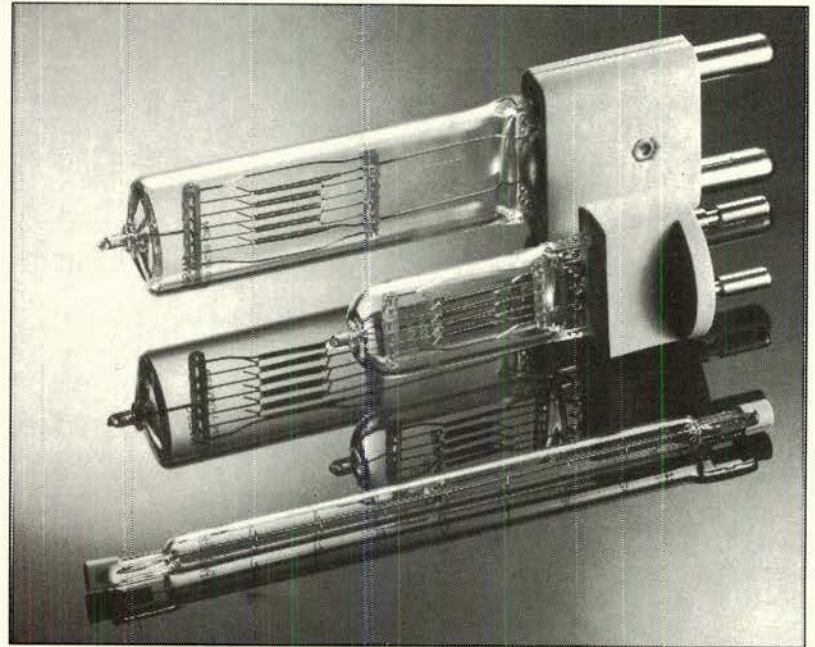
124 PARRY STREET NEWCASTLE N.S.W. 2300 PHONE 049 291102 FACSIMILE 049 291184

# OSRAM STAGE LIGHTING LAMPS

Theatre lamps must not only satisfy very high requirements for luminous flux, luminous efficacy and constant colour temperature, but also in regard to efficiency and lamp life.

Due to our most modern lamp technology, the combination of quartz science with the tungsten-halogen cycle makes it possible to manufacture lamps with long life, constant high luminous efficacy, and uniform colour temperature.

We have developed a complete range of these progressive tungsten-halogen lamps for all tasks of theatre lighting and stagecraft.



## OSRAM TECHNOLOGY BROUGHT TO LIGHT



For More Information and Prices ...

SYD: Ph: (02) 439 6955

MELB: Ph: (03) 646 4088

PERTH: Ph: (09) 242 2944

Fax: 439 2375

Fax: 646 4636

Fax: 242 2490

## Wave Propagation

### Wavelength, Frequency, and Velocity of Sound

Sound waves travel approximately 344 m/sec (1130 ft/sec) in air. There is a relatively small velocity dependence on temperature, and under normal indoor conditions we can ignore it. Audible sound covers the frequency range from about 20 Hz to 20 kHz. The wavelength of sound of a given frequency is the distance between successive repetitions of the waveform as the sound travels through air, or any other medium. It is given by the following equation:

Wavelength = Velocity/Frequency  
 or, using the common abbreviations of  $c$  for velocity,  $f$  for frequency, and  $\lambda$  for wavelength:

$$\lambda = c/f$$

Period is defined as the time required for one cycle of the waveform.  $T = 1/f$ .

For  $f = 1 \text{ kHz}$ ,  $T = 1/1000$ , or 0.001 sec.  $\lambda = 344/1000$ , or .344m (1.13 ft.)

The lowest audible sounds have wavelengths on the order of 10-to-20 m (30-to-60 ft), and the highest sounds have wavelengths as short as 20 mm (0.8 in). The range is quite large, and, as we will see, it has great bearing on the behaviour of sound.

The waves we have been discussing are of course sine waves, those basic building blocks of all speech and music signals. Figure 1-1 shows some of the basic aspects of sine waves. Note that waves of the same frequency can differ in both amplitude and in phase angle. The amplitude and phase angle relationships between sine waves determine how they combine, either acoustically or electrically.

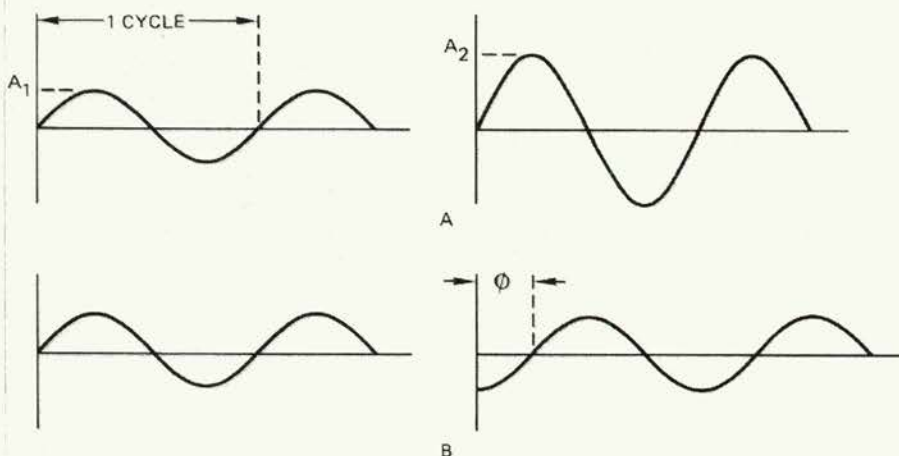


Fig 1-1

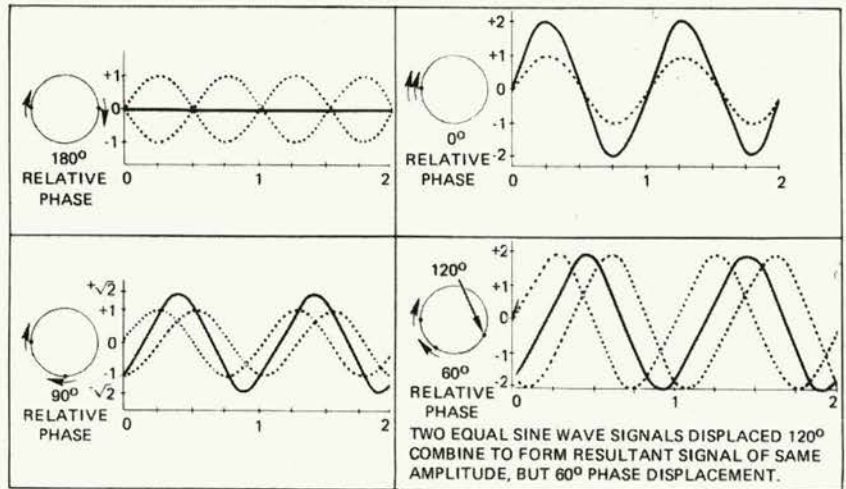


Fig 1-2

### Combining Sine Waves

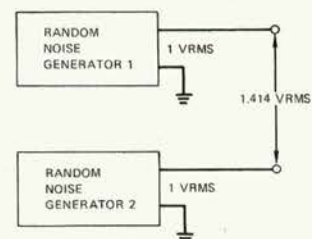
Referring to Figure 1-2, if two or more sine wave signals having the same frequency and amplitude are added, we find that the resulting signal also has the same frequency and that its amplitude depends upon the phase relationship of the original signals. If there is a phase difference of 120°, the resultant has exactly the same amplitude as either of the original signals. If they are combined in phase, the resulting signal is twice that of either original. For phase differences between 120° and 240°, the resultant signal always has an amplitude less than that of either of the original signals. If the two signals are exactly 180° out of phase, there will be total cancellation.

In electrical circuits it is difficult to maintain identical phase relationships between all of the sine components of more complex signals, except of the special cases where the signals are

combined with 0 or 180-degree phase relationship. Circuits which maintain some specific phase relationship (45°, for example) over a wide range of frequencies are fairly complex. Such wide range phase-shifting networks are used in acoustical signal processing.

When dealing with complex signals such as music or speech, one must understand the concept of coherence. Suppose we feed an electrical signal through a high quality amplifier. Apart from very small amounts of distortion, the output signal is an exact replica of the input signal, except for its amplitude. The two signals, although not identical, are said to be highly coherent. If the signal is passed through a poor amplifier, we can expect substantial difference between input and outputs, and coherence will not be as great. If we compare totally different signals, any similarities occur purely at random, and the two are said to be non-coherent.

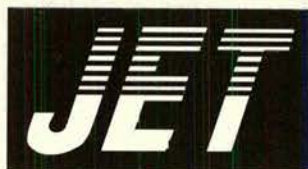
When two non-coherent signals are added, the RMS (Root Mean Square) value of the resulting signal can be calculated by adding the relative powers of the two signals rather than their voltages. For example, if we combine the outputs of two independent noise generators, each producing an RMS output of 1 volt, the resulting signal measures 1.414 volts RMS, as shown in Figure 1-3.



(Continues next issue)

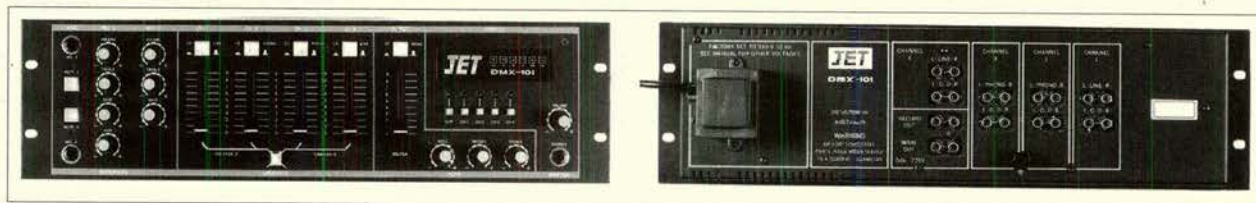
# GET IN THE FAST LANE

WITH



The JET Concept: Professional Audio Products at Affordable Prices. Computer Aided Design and top quality components assure the Jet user of ultimate performance and reliability. Each product in the Jet range, is designed by industry professionals to satisfy specific requests from Musicians, DJ's, and Installation Companies around the world.

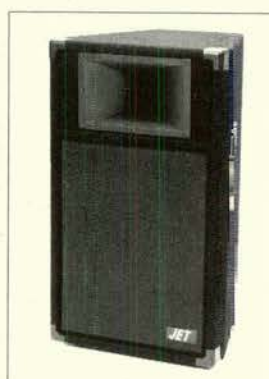
## JET DMX101 Mixer



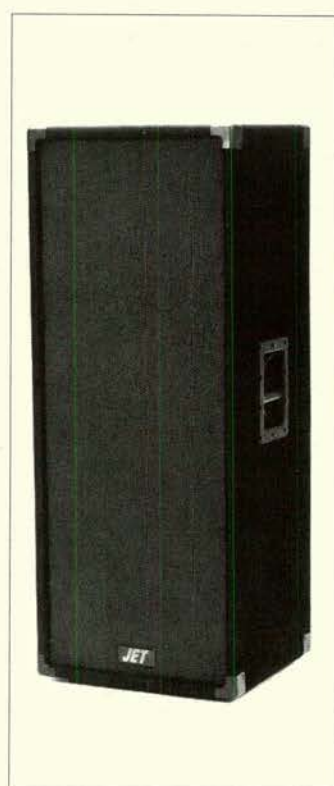
JET 112 200w  
RMS, 8 ohm



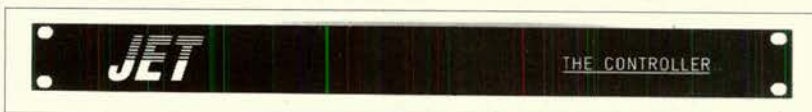
JET 12SB 400w  
8 ohm Sub Bass



JET 115 200w  
RMS, 8 ohm



JET 215CD  
1000w 4 ohm



## THE CONTROLLER

Jet is a **Freedman** designed and registered product, and further information may be obtained from **Freedman**, 89-91 Liverpool Road, Summer Hill, NSW 2130, Australia. Tel: (02) 797-9999, Fax (02) 798-8259.

# Colour Changers Compared

Colour Changers are part of the new face of stage lighting, which in the last few years has undergone something of a major transformation. DMX-512 has become the default protocol for control systems and moving lights alike, and now it seems for colour changers also.

'Scrollers' is a better name for colour changers, the concept seemingly simple, with a motor and a scroll of colour in front of a lantern, enabling selection of colour relatively quickly by remote control.

Like moving lights, colour changers have come of age this year, both technologies having 'bedded down', so to speak, after initial excitement and wild claims from distributors. Also like the moving light business, colour changer manufacturers and distributors are finding their place in the pecking order, which here in Australia at least, is based more on industry acceptance than marketing hype and distribution muscle.

On a really horribly cold June evening, Sydney lighting outlet Lots Of Watts hosted a colour changer night, where the distributors of same were invited to demonstrate their wares. As always, this proved an abject lesson

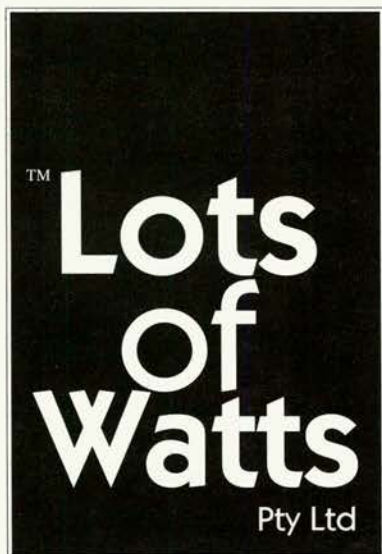
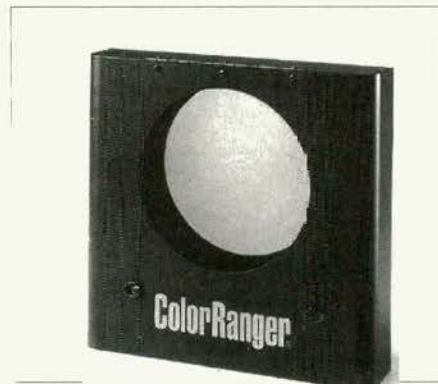
in side stepping, politics and fringe requests from distributors who wanted to show more product than just their colour changers!

The distributors were Rosco Australia, who pulled out citing difficulties, Herkes Electrical - as NSW distributors for Selecon, who in turn distribute Rainbow Colour Changers from Europe. Then there was the Australian distributor for Pan Command, Concert Lighting Systems of Melbourne, L.S.D.'s Colourmag was shown by Arena Technical services who stock this type for hire only, it is not represented for sale. Finally the Australian made Colourset scrollers were represented by their maker, Lee Conlon from Showcraft, which is an offshoot of Revolver Audio.

With Rosco pulling out, and L.S.D.'s Colourmag available only on a hire basis for the time being, it becomes a three way race if you ignore Strand's latest offering, just announced in the U.K.

Our trio now comprises Pan Command's Colour Fader and Colour Ranger, Rainbows range, and Showcraft's Colourset. All three types come in different sizes, typically made to fit Par 64, 5k fresnel, and 8-lite (a fitting with 4 Mole Phay inside). There are other sizes, these three seem to be main choice, possibly the 8-lite is a little unnecessary if you consider a 5k fresnel is a more versatile light source in terms of similar output lumens, but variable spread and barndoor option.

First consideration is potential number of colours, and here we refer only to the mainstream Par 64 size. Pan Command's Colour Fader (the type shown) is different here, insofar it uses three rolls of colours (or 'dicromics' as they put it) each of which represents a primary colour, and each of which has a



## Moving Light Specialists

We've got them, we Hire them, we sell them. For common sense prices and the right DMX-512 controlled programmable fixture for your application, call us.

**Sound & Lighting  
Hire & Wholesale**

Lots Of Watts Pty Ltd  
47 Brodie Street  
Rydalmere 2116 NSW  
Call (02) 638-0302

progressively larger series of holes in each frame, rather than a different colour. The idea is simple, you 'mix' colour from different percentages of each primary. This creates about 99 colour choices that your controller can handle.

Rainbow's Par 64 scroller accepts from 2 to 16 colours, Showcraft's Colourset up to 24 colours. For interest, L.S.D.'s Colourmag will handle 32. It is a rare show that would use all these, most L.D.'s (the thinking ones) tend to order their gel-strings with some repeats, for example darker colours may appear twice, to avoid over-heating, common colours might turn up at different places to avoid 'bumping' through unwanted colours where a snap change (as opposed to a blind one) is called for.

A.T.S. told me they package a common string of ten colours when they hire their Colourmags, they provide: O.W., (Open White), 111, 27, 22, 179, 139, 116, 49, 174, 132, 119, 180 and 181. A gel string is made on a template by cutting gel to size, then laboriously splicing each colour into a string, or stream. Then in the case of the Colourmag and Colourset, a foil tab is situated on each frame, or colour, to let the scroller know

when it's time to stop! An infra-red detector watches for the foil strips, and the 'smarts' in the scroller keep count of how many foil tabs have passed by.

What if you need a mixture of two colours? "We make you one", said Lee Conlon. "Ycu should know what you want in advance!" Lee charges about \$4 per colour to make a string.

Then there is control, which in every case (except L.S.D.'s Colourmag) can be from a DMX-512 lighting console, or a dedicated controller. All the users agree, if you've got about 8 scrollers, the lighting desk is OK, more than that, use a dedicated controller. The reason is set up. To accurately set your lighting desk fader (with a 60mm travel) to send the right signal for one of 24 colours, and then to actually go and check is a slow process, whereas a dedicated controller will almost certainly snap to the chosen colour, on the chosen scroller, on command.

Colour Fader, in keeping with it's 'Dichromic' colour system, offers a laptop computer (pictured) which is in keeping with it's upmarket nature. Colourset has a 16 channel controller that will handle any number of scrollers, while Rainbow have a smaller 'spct operators controller', and also a couple of splitter boxes as options.

All colour scrollers need power plus control signal, and to get this some kind of powersupply is required, usually running power (24 or 32 volts) to the scroller down the same 5 pin cable as the control signal.

Colourset have a powersupply that will feed 20 units, it is into this power supply that your control protocol is connected, whereupon conversion to analogue voltage occurs inside. This means you can run standard fourcore flex to each scroller, a better option, according to Lee Conlon.

Two motors are better than one, Lee Conlon points out various reasons why his scrollers are better than the others, including that "a single motor unit needs a roller blind spring.

He goes on to talk about closed loop servos, and things like this, of which your writer knows nothing, nor will pretend to.

Money talks, so let's cut to the chase, and as you'd hope, the only Australian Made device does come in cheaper. Colourset will sell you a Par 64 scroller for \$1470 + tax, while a Rainbow Par 64 scroller will set you back \$1778 + tax. The Colour Fader sells for \$2588, which reflects the fact it is upmarket in terms of colour mixing. Pan Command have a cheaper model, the Colour Ranger.

The going hire price is anything for \$30 to \$50 a night, and \$60 - \$100 per week.

Ask questions, examine carefully, and spend wisely!

For more details, call these people:

**C.L.S.:** (03) 529-5019,

**Showcraft:** (02) 698-3288,

**Herkes:** (02) 319-3133, any Selecon Dealer, or **Lots Of Watts** (who kindly arranged the function for this review) on (02) 638-0302.



# Megatone Enterprises Pty Ltd.

ACN 003 174 605

## THE COMPLETE FAMILY OF ROBOSCAN by Martin

**SALES SERVICE HIRE**  
566 Parramatta Rd  
Petersham. 2049  
Ph (02) 564 2277  
Fax (02) 569 7030

### EENY

- 5 colours
- 8 manual gobos
- 150W Halogen
- 4 motorised gobos

804  
805

### MIGHTY

- 16 colour
- 16 gobo
- 400W HTI
- Strobe

1016

### MEANY

- 5 colours
- 4 gobos
- Strobe
- 250W Halogen
- 400W HTI

1004  
1005

### MO!

- 18 colours
- 18 gobos
- 700/1200MSR
- Multiplying prisms
- Motorised Focus

1020

- Motorised Iris
- Motorised Dimming
- Colour Mixing
- Gobo Mixing
- Strobe

### Moving Light Story corrections

I have just seen a copy of Channels (issue 13) and believe the Moving Light Comparison has been put together well, without showing any bias. However there are a couple of points in the article that are incorrect. I refer to:

Page 36- you say the Coemar Jupiter will only run with it's dedicated controller, however as we have had numerous requests, we can supply a black box converter to allow them to operate with either DMX-512 or Analogue 0-10v.

Page 38- you say the Coemar Microscan 400MSR needs 5 channels- it uses 6, with the sixth channel being lamp control.

Page 40- Jupiter pan should be 180°, not 150°, also as for the Golden Scan & Super Scan, the mirror head is removable and rotatable on the Jupiter, in fact the colour/gobo assembly is also removable when transporting.

The price shown for the Jupiter is incorrect, it is \$8,260 excluding tax, but with a lamp. The Jupiter 700 (not shown) is \$7,598.

In the section detailing light output & lamps you have shown the Miniscan measurement taken on the edge of the beam at 2060lm, but the centre at 1960lm, and yet the Microscan is shown as edge 3060lm and centre 3200lm (Microscan 650) and edge 6000lm, centre 6600lm (Microscan 400).

I realise doing such a story is extremely difficult but as mentioned believe you have done well with this one.

-Peter Kemp, Coemar DeSisti Australia, Melbourne.

*\*We stand corrected re. Jupiter. The light output measurements are correct, the Miniscan was slightly darker in beam centre, but where do you want it- centre or edge? It's not a visible criteria. Optics being optics all the fixtures were reasonably consistent. However, read on .....*

### DMX- Moving Light Comparison

The big blooper was my line: "DMX control is digital, running down a shielded microphone cable". Try a four core shielded cable instead!

## Shirt Alert



## GLOSSARY

Biz talk **A B C**

**Octave:** The numerical interval, for example, between 440Hz and 880Hz or 220Hz is an octave.


**Ohm:** The ohm is the electric resistance between two points of a conductor when a constant difference of potential of 1 volt, applied between these two points, produces in this conductor a current of 1 amp. Always applied to loudspeakers, two 8 ohm speakers in parallel produce 4 ohms, in series 16 ohms. Figure used for ohms is:  $\Omega$

**Off Stage & On stage:** Isn't this silly?

**Omnidirectional:** Sensitive in all directions.

**Oscillator:** A device to produce a tone.

**Opera:** A loud medium, hard to light.

 If you'd like one of these white Jands/JBL T-Shirts in full cotton, send \$16.90 (includes postage) to:  
**T-Shirt Person,**  
P.O. Box 171,  
St. Peters 2044 NSW.  
Remember: include ADDRESS & SIZE!  
You can also order by **PHONE**, have a creditcard **handy**, and call (02) 516-3622 in business hours.

# D.I. Blues?

Got them "Hut-two-three-four, the battery's flat in the DI Blues?" Well, not any more - now there's the DI-1, from ARX. The first major advance in Direct Box technology in years.

An active DI with sophisticated power management to prolong battery life; a rotary Gain control - up to +20 dB, for enormous headroom, and great signal to noise ratio down the longest cable; and an external DC power connector.

So when your batteries are flat, you've got no Phantom power, and the 7-11 is closed, you can run it from the guitarist's foot pedal power pack. You may only do it once in a while, but it's a great comfort to know that you can!

What else? Recessed controls, so the switches can't snap off; ultra heavy duty case, to stand up to use



and abuse on the road; automatic Phantom/ Battery switching, with indicator LED, and the easiest battery compartment access ever! The simple 'twist and slide action makes battery changing a breeze, even on the darkest stages. No tools required, no screws to lose. Production crew heaven!

And, as an *extra* bonus, the whole unit is just a little bit too big to fit in someone's pocket!

If you're a Studio or Live Sound engineer, installation contractor, or broadcast engineer, you want all the punch and clarity of the original sound transferred to the mixing console.

If you're a musician directly connected to the PA system, your sound is only as good as your DI. And if your sound isn't important, why bother playing.

How much is it? Well, it's not cheap. Quality never is. But it *is* pretty damn good. And let's face it, if all you cared about was money, you'd sell life insurance, right?

So now there really is a choice in DI Boxes. The DI-1. Ask for it by name. If your normal dealer doesn't sell it, call us for the name of one who does.

We've worked very hard to stop those DI Blues!



ARX Systems, 33 Advantage Road, Highett, Vic 3190, Australia  
Phone (03) 555 7859 Fax (03) 555 6747  
ARX Audio Sales NSW, 276 Victoria Road, Gladesville, NSW 2111  
Phone (02) 879 6788 Fax (02) 817 1049  
Dealers in all states and overseas. Call us for details of the one nearest you.

Made in Australia, sold around the world™

# Paul Mulholland talks about Jands and Australia

*In November of 1991, Jands of Australia turned 21. Since its inception, Jands has grown into a multi-million dollar lighting and sound business with manufacturing and rental divisions that pervade all aspects of the entertainment industry. In honour of the "anniversary", Lighting Dimensions speaks with Paul Mulholland, co-founder of Jands, about the company's evolution and the growth of the international entertainment market. Interviews were conducted by former LD managing editor Laura Scholes and technical editor Karl Ruling.*

## The Lighting Dimensions Interview

**I**t all started basically in the psychedelic sort of era, where everyone wanted the neon lights and the ultra-violet tubes and spinning lights and all that. So that's really how we began, around dances and parties and that sort of thing in Sydney, acquiring equipment. Then, almost immediately, we figured that to get special effects and to get something different, we'd start manufacturing it as well."

"From there, the company gradually grew in two directions, in terms of rental and in terms of manufacturing. About ten years ago, we started to become an importer. So we would see equipment that we needed for our own use, and we would bring it in for our own use - things like Altman Spotlights and PAR cans and Session case hardware. I guess we would see what other people were doing, because of the groups that were touring Australia.

"As we grew, the rental grew quite considerably, until '85, when Samuelson's bought it out. And they really bought it out in a period where everything was booming. And then Australia went fairly quiet after that."

Jands bought back the rental business in 1989. "We have the largest rental company in Australia, which includes the Vari-Lite agency."

"Jands in Australia is fairly diversified in that we are a fairly large importer of products, so we represent quite a deal of prestige American product, including companies like ETC and Lycian. Then we have a contracting division, so we're a major contractor, where we actually go out and do the whole project. Contracting work would represent about 40% of our business."

"To put it in perspective, the company is about a \$12 million [Australian] a year company. A million of that is exporting lighting consoles, 5 million is earned in the contracting business - and that's very diversified. We make curtains, we do curtain tracking, and we do mechanical work. The other 6 million making up the 12 is done through just straight sales to our dealers around Australia, and we sell product to our dealers consisting of the imported product and our own manufactured product."

Jands got into exporting to diversify, says Mulholland. "We've been very conscious of opportunities, and typical of that is that we've just picked up a contract to build audio amplifiers for passenger trains."

"It's (for) the SRA, which is the State Rail Authority, the New South Wales railway. And we're being commissioned to design, manufacture and deliver half a million dollars of audio amplifiers so guards can make announcements throughout the train."

Other Jands contracts include a quarter million dollar contract with the ABC, which is the Australian Broadcasting Commission, to do electronics for their new radio installations. "They built a huge new complex to house about six new radio stations,

and we did (much of) the electronics there."

The Burswood Casino in Perth offered another interesting and lucrative project. Jands put 16 motorised battens in, 750 kilogram capacity each. "That's where we utilised Knut Skjonberg's (of Skjonberg Controls in Ventura, California) expertise to provide all the computerised controls. So we managed all the mechanical side of things - the brute-force stuff: the winches, the cabling, the pulleys and all the switch gear - and Knut designed all the control electronics. Together we packaged the whole system for them."

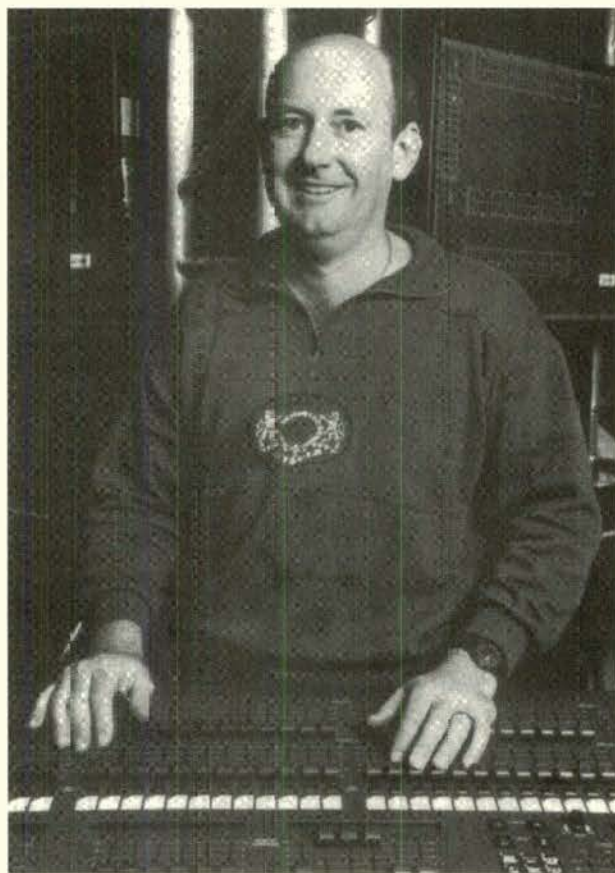
Skjonberg also worked on the restoration of the Sydney Town Hall. "It's the 150th anniversary of the city of Sydney. As part of the celebration they renovated the Sydney Town Hall. Over the years it's been in excess of a million, but this specific one was half a million dollars of sound system and lifting equipment: so they could move the lighting battens up and down and the chandeliers up and down so they could re-configure the hall. And when that was all finished the Queen opened the thing."

Mulholland acknowledges that the recession has had an impact on Jands. "Our business has contracted in terms of turnover - in other words we were a \$15 million a year company - and secondly, our margins have shrunk so we've had to become a lot more efficient."

"We've had to shed staff and shed excesses in a lot of areas. So our business is down about 20% from the peak, and we've had to become a lot more efficient. Our export has remained pretty much constant. It hasn't grown in the last couple of years, but it hasn't shrunk."

The reason for initially selling the rental division in 1985, says Mulholland, was simple: "A good offer. It was definitely a good offer. And the belief that we were struggling financially ... to develop both aspects of the company to the degree we wanted to. In terms of how much equipment we had to buy for rental, it was a good price."

"And in terms of manufacturing and importing, we had to make the investment to keep current, to keep modern. By selling out the rental, we could reinvest some of our money back into manufacturing. We've always been a strong force in Australia in terms of equipment we build. So I guess that seeing some of the problems that were going to start



developing in Australia economically, we decided to take that manufacturing expertise and try to develop it to a stage where we could sell something overseas.

"We build a number of products in Australia, audio products and lighting products. But in looking around at everything we did, we felt that we were most competitive and our biggest advantage was in lighting consoles.

The Event, Jands' primary lighting console, brought Jands onto the international scene. Especially for this product, "Europe is a very strong and growing market. We've been there two years. Japan has been a really strong growing market. And we're now over here, trying to come to America. The Event, I think, in time will establish itself as definitely a major step forward in that concept lighting console."

"The true rock and roll console has evolved over a period of ten years from a fairly simple technology. In other words, ten years ago, a technology evolved that allowed you to do some automated functions with lighting consoles. And the technology was very primitive, and in a lot of instances, and you still see them today, it was a pin matrix arrangement. And I think from that simple breakthrough - programmable consoles, if you like - everyone's thinking kept developing that concept, although computers and technology were suddenly miles ahead of that."

"We sat down and tried to look at what you could

## Paul Mulholland- the Lighting Dimensions Interview

-from previous page

actually do with a computer, what people wanted in terms of rates, and forgot about how it evolved, and started from fresh. The console is extremely flexible. It allows the operator really to set all the parameters. To prioritise the functions and the parameters that he sees, so he can put more emphasis on one performance area and less on another."

"So, when you switch the console on, you have a multitude of set-up procedures, where you can make a choice of how you will be ... a multi-choice decision on how you want the console to operate, and how it's going to control itself. We have a centralised control, which we call 'Assign-Masters', and you can tell those 'Assign-Masters' to be any of three functions - scenes, chases, cross-fades - in any proportion you like. And having set it up, you can memorise that setting, and then go to a new setting."

"So to take it to its extreme, if you were lighting a rock group, for one song you could have 12 scene masters; the next song you could have 12 chases; and the next song you could have six cue stacks - or you could have any combination in between, all resettable by the push of a button."

"At PLASA [1991] we introduced the Event Plus, which just takes the number of channels and the number of scene masters and enlarges them. It's got more channels and scene masters. It will go up to 60 channels in two-preset mode, or 120 channels in the wide mode, and 24 scenemasters."

At LDI '91, Jands released the new ESP, though they haven't started shipping yet. "What the ESPs do is use the Event technology - and therefore power - and package it in a more simplistic control format."

"What was done, unbeknownst to me, was when we sat down and designed all of the parameters and worked out what it had to do, the people doing the R & D came up with a processor that I wanted to use, which is a Motorola 68000. The people I've mentioned it to who know say 'Wow, perfect choice. That's definitely the processor you should have used.'

"And what it means is that as we develop software ... there's three main uses of software in the product so far, that can be moved into larger consoles and smaller consoles as blocks, so we don't have to keep redeveloping it. It will be refined; the operating system is bound to get more and more refined. Even now, we're still getting comments, 'We would prefer to do this' or 'Could it do this?' And again, that becomes another choice that people can make."

"We make no claim to making memory consoles, which is the ETC market, the Strand market, Great American Access. We certainly wouldn't ever suggest that someone in the market for that console consider ours. But we figure our market is mostly definitely the live entertainment market. The disco market. The industrials, which seem to be growing. The multi-purpose hall, where school is going to do theatre for a week, and then three one-night events over the next two weeks."

"The most common comment about our console was that it can do a wide variety of applications, so a rental company doesn't have to buy two or three consoles anymore - they can buy one."

"There is no question (and I think it's true about anything) that the more powerful a thing becomes, the more you have to read a manual. And in half an hour you can be operating our console. But don't

try to do everything all at once. Try and grow with it. I guess if I've got one fear, it's the fear that people won't grow with the console; they'll try to do everything as soon as they turn it on. And that could be a danger."

"And again, we are very careful, and we are still sort of developing the default status, so that it defaults to where it would be logical for it to go. A lot of the controlling is moving a cursor around and entering information. We've gone to great lengths to make sure the cursor goes to where one would logically expect it to go. And there are always several ways of doing one thing."

Mulholland acknowledges that spreading the Jands word outside of Australia is a Promethean task. "There's no question, we were fortunate to find a very aggressive marketer in England, who looked after Europe, who marketed throughout Europe, in the very early days. He gave us a good start very quickly. We seem to have some good people in Japan, and basically I think it works for us. I've certainly yet to understand the American market. America is very introverted. It's always been such a big market, they've always been able to sell to themselves, build it themselves."

"In Australia, also, we've had 20 years. It's real easy when you've been doing it for 20 years. We do have a lot of competition in Australia. But we've had 20 years to establish ourselves. We've only seriously been exporting for three years, and we always said it would set a five-year plan to get three markets ... to be making adequate business in three markets in the first five years, the markets being

### "I don't think it's any more expensive to build in Australia than it is in America or Europe these days"

Europe, Japan, and America."

Nonetheless, Mulholland feels that Jands has broken the seal on the international markets. "Now I'm getting really encouraged in America. People know me now. After a few years, people definitely know the name Jands, and they know we're an Australian manufacturer of consoles. I feel very positive about the end user reaction I'm getting to my product. So I feel that there are customers out there who are really considering favourably our console. Now I've got to try to convince the dealers that there's money to be made from handling our product."

In courting the international market, Mulholland cites the advice of JBL: "You need two things to succeed internationally. You need good distribution and good product.' And unless you've got both of those, it won't work. I think in the Event, we've now got a good product, and the other two consoles are good, honest, value-for-money products."

Rather than go it alone, Jands has set up a sales office within the company structure of E. and E. Exports Inc., in Laguna Beach, California. "The American customers are now about as close to the Australian factory as you can get."

"The task ahead of us, quite honestly, is to get our product out there and start being used. We have a limited number of converts there who swear by the product. But in a country as big as America in terms of population and geographically, half a dozen converts takes a while to build on. It's exponential.

Our job is now to get that console out into applicable people's hands. You know, the rental company that's got two systems that does the fair in Kansas City and those sort of places.

"I think with Event we've made a breakthrough. We've got a console that virtually performs the same as those English Celcos and Avos, albeit with fewer control channels, that costs a quarter the price - or less. And we need people who say 'Gee, I'd love to have a Celco, but I'd never justify the cost.' If we get a little bit of momentum up, I think we can be quite successful in America."

In fact, the Event played a large role in Jands' leap into foreign markets. "When we sat down and decided we would like to become an exporter, the first thing we did was design. We figured lighting consoles were where we had the most chance of success. So we designed a console with export in mind and international business in mind - and that was ESP. And it's a good, honest console. And we've done well with it, because we've got some good distributors who push the line. Having done that, we came up a year later with 'Instinct', because we wanted something bigger and slightly better. And Instinct certainly offers better value for the money than its competitors."

"Having done those two, and having seen business quadruple in two years (we did four times as much business the second year as the first) we were sufficiently encouraged to try and make that major step of coming up with something special, something better than anything else around. So we were just determined that we would do everything within our power to make it work."

"I guess it's a challenge, and I guess its something that we see important for our long-term growth, is to get into the world business. And I think there's room for companies specialising in niche markets."

Mulholland maintains that although manufacturing in Australia involved considerable expense ten years ago, the present situation is quite different. "I don't think it's any more expensive to build in Australia than it is in America or Europe these days."

"We've spent a lot of effort in clearing one-off costs, to change on-going costs. In other words, if we can save money in the hardware side of the console by spending money on software, we'll take that option, because software we do once, and hardware we do every kind of console, so ... we've chosen some really cost-effective electronics, which needs a lot more programming. Certainly, we're going to major lengths to tool it properly and make it economic to build."

Mulholland foresees Jands' continued immersion in the world markets. "We want to try to learn more about what the world wants, where the industry is going, what the LDs expect in product, to continue that development process. And, to try to learn a lot more about marketing."

*\*Reprinted with permission from Lighting Dimensions Magazine (New York), April 1992 issue, copyright Lighting Dimensions Associates 1992.*

# Topstage Productions

## Save the whale sale <sup>donkey</sup>

Topstage is clearing its entire Rental Inventory at bargain prices. Items include: Soundcraft Mixing Consoles, Golden Scans, Soundpower cabinets, Instinct lighting desks.

TOO MUCH TO MENTION.

Contact Topstage on (06) 280-5710 for listing

## Stage Outfitters

- ▶ Cycloramas
- ▶ Stage Curtains
- ▶ Stage Machinery
- ▶ Lighting Bars
- ▶ Stage Blacks
- ▶ ...and wherever

Ordinance 70

*(Fire regulations for curtains)*  
updates are required.

Call Fiona Blackett - (02) 516-3622

**JANDS**

### PUBLIC NOTICE

#### TCP GROUP

To all creditors, patrons, customers and business associates of TOTAL CONCEPT PRODUCTIONS (NSW) PTY. LTD. and related companies:

RICHARD BORYSIEWICZ has resigned as a director and is no longer associated with the special effects, lighting and audio business carried out by:

- a) TOTAL CONCEPT PRODUCTIONS (NSW) PTY LTD  
ACN 003 994 965
- b) TOTAL CONCEPT PRODUCTIONS PTY LTD  
ACN 002 659 270
- c) TOTAL CONCEPT HIRE (NSW) PTY LTD  
ACN 003 473 194
- d) TOTAL CONCEPT HIRE PTY LTD  
ACN 003 426 024
- e) FIRST LEISURE CORPORATION PTY LTD  
ACN 003 341 464

AS FROM 24 APRIL, 1992.

Mr Borysiewicz leaves with the companies' best wishes to pursue a career in another field. (His contribution as a founding director is much appreciated).

Creditors are hereby given notice that Richard Borysiewicz is not liable for any debts the said companies may have now or in the future.

The remaining directors ANTHONY MUSICO and RICHARD SKARZYNSKI continue to operate the businesses and wish to advise that

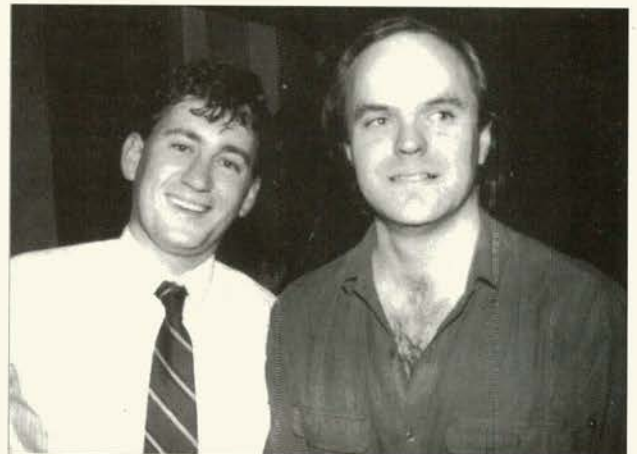
AT TOTAL CONCEPT IT IS BUSINESS AS USUAL.



Nu-Crew specimin, ready for anything. Well, you readers have asked for some flesh, here it is!



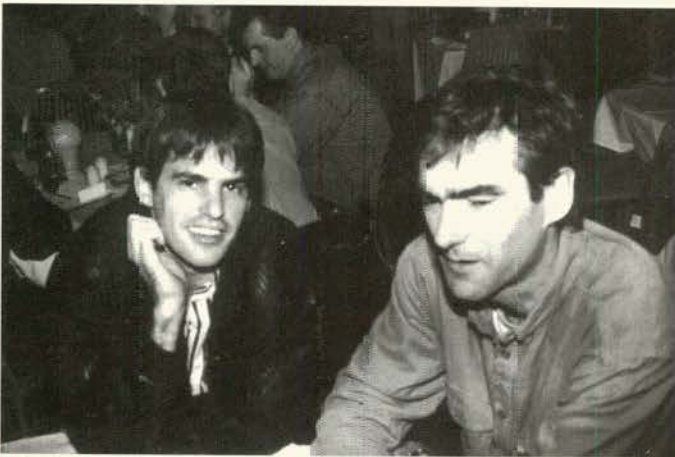
LSC supremo and fearless aviator, Gary Pritchard



It's Jeff Bolt (Jands Sales Rep) with Bruce Jacobson from Aulos in Brisbane. He's just spotted something.....could it be ..? No. Not Bruce!



This is Alexander Perov, Editor of Kommersant, the Soviet Business weekly. He was befriended by the Aussie delegation at Rimini, and endured his new nickname -Mr. Spock -with good grace. Here we try to beam him up!



David Timmins (left) and David Doyle aboard the Jands Dealer cruise on Sydney Harbour. Doyle contemplates how to get off the boat before 3am.



Phil Hansson at his desk at Laser Light & Sound Productions in Brisbane.



John McConnell caught at lunch with Steve Nano, who's pic is banned here!



Graham McGeorge of E.S.A. in Melbourne



Perth potential tycoon and aviator, John Goldsmith of Kosmic.

## By popular demand.....



# Dr. Light

Write to Mike  
Tanner P.O. Box 439, Epping 2121  
NSW Australia  
Fax (02) 876-5715



## Contest Results!

I sometimes wonder why audio people say we lighting people (illuminati) are illiterate? Perhaps they looked into my mail bag for competition answers. Really, one ONE response, come on - the questions weren't THAT hard.

Although somewhat rough, the consolation prize of an all expenses paid trip to your own lounge room goes to Mr. Rolf Greve of R & K Lighting, Bayswater Victoria.

His answers-

- 1) Zee very famous and outrageous Dr. Fresnel.
- 2) Parabolic Aluminized Reflector. (Or Pay Another Round).
- 3) Bloody Quick!
- 4) Just let me warm the tape up for you!

## The Mail

Also in my mail bag (apart from moths) was a letter from Peter Kemp from Coemar DeSisti Australia, who warns that Selecon aren't the only ones with neat small luminaires. He alerts Doctor to the plethora of Italian types his firm distributes.

To this I say, Peter- I would welcome the opportunity to check out your equipment. (I have serious doubts about Mike -Ed)

## A Warning!

On the subject of checking out equipment, please: if anybody out there is wiring up their own 3 phase tails onto dimmer racks, don't! If you really must, please follow the following-

- 1. Read the manual
- 2. Follow the labelling.
- 3. Hire an electrician and blame him/her when the rack blows up!

## That was the show that was(n't)

Trevor Lloyd of Concert Lighting Systems tells me of this great new way to make money- and you don't even have to do the show!

First you hire in every available Xebex 2kw followspot you can find. Ten will do at a pinch. Then add several Sky Trackers (large multi-headed searchlights), miles of truss, cans, looms, dimmers and control equipment.

Sprinkle liberally with a pyrotechnics show, and place in a large receptacle - (in this case, the Melbourne Cricket Ground) and viola! It's the AFL (aerial Ping Pong, AKA Aussie Rules) State Or Origin clash, between the Mexicans and the Crow Eaters. (Vic vs. S.A.)

Now for the secret. It seems all you need is a couple of AFL nervous nellies worried that the strong winds will cause the whole rig to

fall down (never, if I know Trevor) and that hail stones the size of footballs will somehow divert the pyrotechnics into the Grand Stands. (I DO believe some pyrotechnics have somehow strayed into grandstands in Melbourne in the past!)

Anyway, all set up and no show to go!

The real pisser is the weather cleared an hour before the match and stayed fine!

Not only that, the client was so impressed that they have invited C.L.S. not to do the same show later in the year in Adelaide!

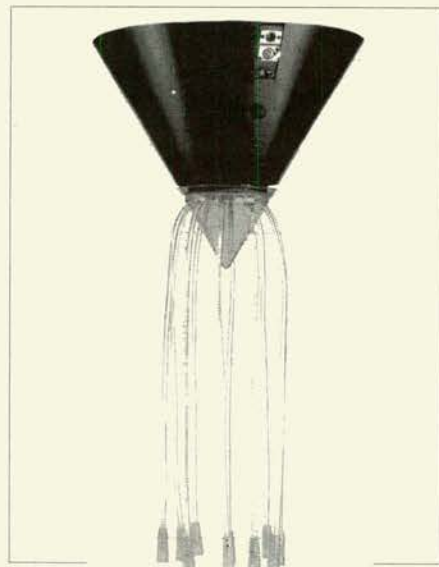
## Doctors News

GE-Thorn (or is it the other way around?) have released a new lamp in their range of Low Voltage Dichroic lamp types. The lamp base is similar to that used for fluro starters, which holds the lamp securely and will greatly simplify fixtures using this type of lamp source.

Also from GE-Thorn is a new range of discharge lamps of a single ended persuasion, called CSR, available in all popular ratings- 575, 1200 and 2500w. Unbelievable, three manufacturers all making similar lamps, Philips MSR, Sylvania Brite Beam, and GE-CSR.

► Excuse me, waiter- there's a FLY in my soup! I've just received my new FLY catalogue courtesy of Julius Grafton, collected during his recent trip to Rimini. Apart from the usual array of moving mirror, gobo and colour changing type lights, they have one really weird looking effect called the Hydra- a sort of fibre optic squid that rotates. Perhaps it should be called the Astrocalamari?

Another way to look at this effect is from the audience participation angle, just let this sucker rip, and watch the punter's leap up to play electro- may poles!



Mike Tanner is a long serving Jands person who has intimate LX knowledge

**MGA BATES** INSURANCE  
BROKERS

(Formerly H M BATES (AUST) PTY LTD since 1926)

# INSURANCE

COMPLETE & COMPETITIVE RANGE  
OF INSURANCE POLICIES FOR THE  
MUSIC & ENTERTAINMENT BUSINESS.

## (02) 957 3211

**Ken Killen** ANIBA  
MANAGER, MUSIC &  
ENTERTAINMENT  
INDUSTRY INSURANCES

**Ian Stack** - Assistant

11th Floor, 118 Alfred street, Milsors Point NSW 2061  
PO Box 1809, North Sydney 2059  
Phone (02) **957-3211** / (018) 448-641  
Fax (02) 929 4584

ACN 001 358578

# Great Mistakes

## Up North, the Sun has cooked their brains!

This story may seem hard to believe but I can swear on a stack of old Channels that it's true.

It was several years ago (or longer). I was doing an open air PA hire (gig) for the local Lions Club who were raising money to build a sound shell at the park at which we were working that night.

The stage we were using was made of wood covered in canvas with a large catwalk at the front and to make it all look nice and pretty, the stage and catwalk were trimmed from the top to the ground with the tar backed silver paper housing insulation that was used in buildings at that time.

Now the Lions people didn't want me to set my mixing tent in front of the stage, so since they were paying, I set up in front of one of the stacks of speakers. It was from this position that I saw one of the funniest things I have ever seen.

The band that was playing was well, yes I think you may have the idea. But their front man was good and is even better now. At the time of the incident he was doing his Divine impersonation or was it Elvis. Anyway they had their own lighting and effects man. "###@\*" says this expert on any matter on this earth "I forgot the black powder, no worries I can use some fuel from the Harley". Sitting at the mixer struggling to keep awake I was amused to see this effects person in the middle of a song stick a tray on the catwalk in front of the singer, run a lead out and come and join me in the tent. Then the music changes tempo, there's a flash, there's flames leaping from the tray on the stage onto the stage. The singer kicks the tray off the stage, fuel is now over the tar paper round the stage and its starting to burn. I scream "put it out!". The band's two roadies appear and start jumping in the fire, both their boots and one of their jeans are now on fire.

I yell again "there's water round the back". The roadie who only has his boots on fire runs round the back of the stage and appears with a disposable coffee cup with water splashing out of it, runs up to the fire, stops, looks at the fire, looks at the cup, then throws the half a mouthful of water in the cup on the fire. He repeated this exercise three times before the Lions guys appeared with fire extinguisher and put it all out with no one being burnt, without the singer stopping, mind you the band did, and me I was on the ground holding my sides laughing.

Looking back, it was bloody dangerous and it was stupid of me to yell "water" but if you could have seen it, one guy with his jeans and boots on fire jumping up and down in the fire and the other one with his boots still on fire and a foam coffee cup with water splashing out of it running round like an actor from an old black and white movie. Every time I think about it I still get a giggle.

**-Dale Kennedy, Kennedy Amplifier Hire Service, Mackay**

P.S. Congratulations Julius and crew on putting together a great read.

## More....

Most sound engineers can boast of destroying a pair of FOH horn diaphragms towards the end of a show, and performing the last bracket with particularly muddy vocals. I run a sound hire company, and some of my customers choose me to mix for them. (The fools!)

One show of note was to be held before 1000 or so loveable bikers, outdoors. The (un-named) headline band would actually supply the system,

and I would bring extras and myself to mix. Arriving at 3.30pm, the organisers greeted me by voicing concern, as they reckoned I was 3 hours late. This didn't stop me as I drove the truck slowly and steadily through the crowd towards the stage.

As I was setting up the stage, with the aid of a support band who came from 'down south', another organiser greeted me with \$800, which was my share of the production. I thought I was in a dream, being paid in advance, but the dream turned to nightmare when the main act arrived with what was supposed to be the rest of the sound system. They had overlooked a few things.

It was nothing important, just the mics, monitors and horns! Luckily the support band had some mics and no pride, as they were willing to do three brackets while two of the main act drove 200k back to town to collect horns and monitors! If someone tells you they think JBL 12" speakers are full range, laugh at them, because I think they roll out at 3kHz, which makes for a sound just like a telephone.

The sound out front was horrifying to say the least. There are three great lies in the industry, which are: (1) The cheque is in the mail; (2) The promotor is paying you; and (3) It sounds great out front. I lied a lot that night. The main act arrived back in time to perform, and with the aid of monitors and horns they sounded good too.

I wondered at the time if the bike rider types could really tell the difference, because by this time they had been drinking for at least 12 hours.

**-Tim Buckholtz, Stage & Audio, Rockhampton.**

Send your story to: PO Box 439, Epping  
2121 NSW, or FAX (02) 876-5715

## Caption this pic!

Shouldn't be too hard, it's just a trio of well remunerated industry professionals networking. Mail or fax your caption (and your address and T-Shirt size) to:

**Caption Contest,**  
P.O. Box 171,  
St. Peters 2044 NSW,  
or Fax: 02-517-1045.  
We'll award the T Shirt to the best caption provider.



## Channels

See Page 3 for qualified free distribution.

Subscriptions: \$9.90, 12 months

Overseas air mail: A\$49.00

name \_\_\_\_\_

organisation \_\_\_\_\_

address \_\_\_\_\_

postcode \_\_\_\_\_

*If applicable:*

card no: \_\_\_\_\_

expiry date: \_\_\_\_\_

signed: \_\_\_\_\_

Enclosed is a:

cheque ..or

moneyorder

**or: charge my creditcard**

bankcard

mastercard

visa

**Send to:**

**Channels,**  
P.O. Box 171,  
St. Peters NSW  
2044, or FAX:  
(02) 517-1045

**JANDS** **JBL** &

Soundcraft

invite *you* to attend the:

# Concert Sound Tour '92

The occasion is the Australian release of Soundcraft's new Europa and Vienna consoles, and JBL's new Array Series digitally controlled loudspeaker system.

These exciting new products will be demonstrated for the first time. If you work in the sound industry you'd be crazy to miss this! Admission is FREE!

Monday  
17th  
August,  
7pm

*Sydney*

*Brisbane*

Wednesday  
19th  
August,  
7pm

Monday  
14th  
September,  
7pm

*Melbourne*

*Adelaide*

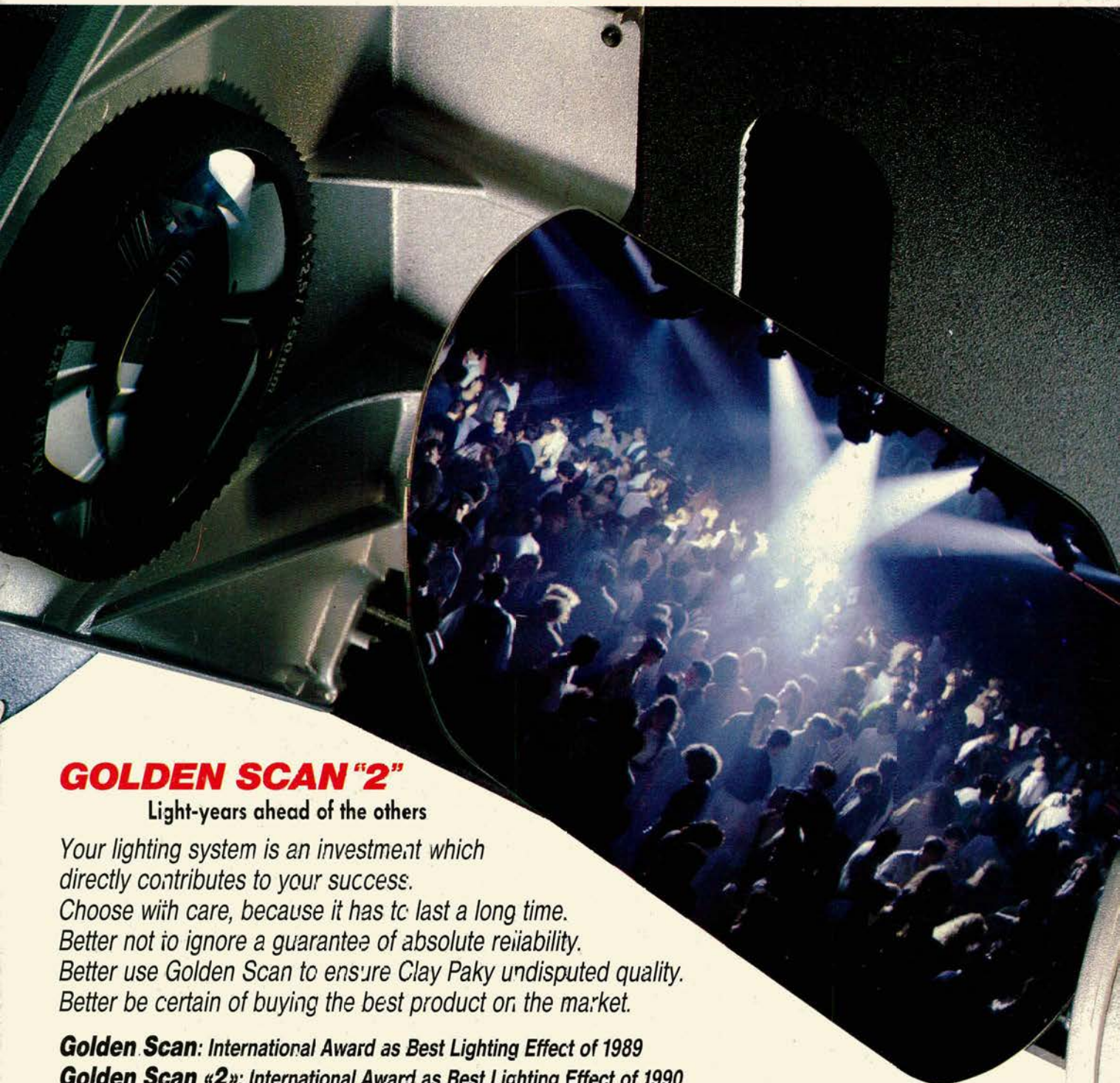
Wednesday  
16th  
September,  
7pm

Monday  
21st  
September,  
7pm

*Perth*

Venues & details in the **August** issue of **Channels**

# Your investment in the right light.



## **GOLDEN SCAN "2"**

Light-years ahead of the others

*Your lighting system is an investment which directly contributes to your success.*

*Choose with care, because it has to last a long time.*

*Better not to ignore a guarantee of absolute reliability.*

*Better use Golden Scan to ensure Clay Paky undisputed quality.*

*Better be certain of buying the best product on the market.*

**Golden Scan:** International Award as Best Lighting Effect of 1989

**Golden Scan «2»:** International Award as Best Lighting Effect of 1990



Distributor for Australia:

**LIGHT AUDIO VIDEO AUSTRALIA PTY LTD**

Postal Address: PO Box 551 GLADESVILLE NSW 2111 - Tel. (02) 816 4444 - Fax: (02) 879 7377  
MELBOURNE Office: 1<sup>st</sup> Floor - 265 Eurwood Road Hawthorn VIC 3122

Head Office

**CLAY PAKY SRL** Via G. Pascoli, 1

24056 PEDRENGO (Bergamo) - Italy - Tel. 035 / 66 39 65  
Fax 035 / 66 59 76 - Tlx. CLAYPA I



PROFESSIONAL SHOW LIGHTING