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MAY '94

Connections

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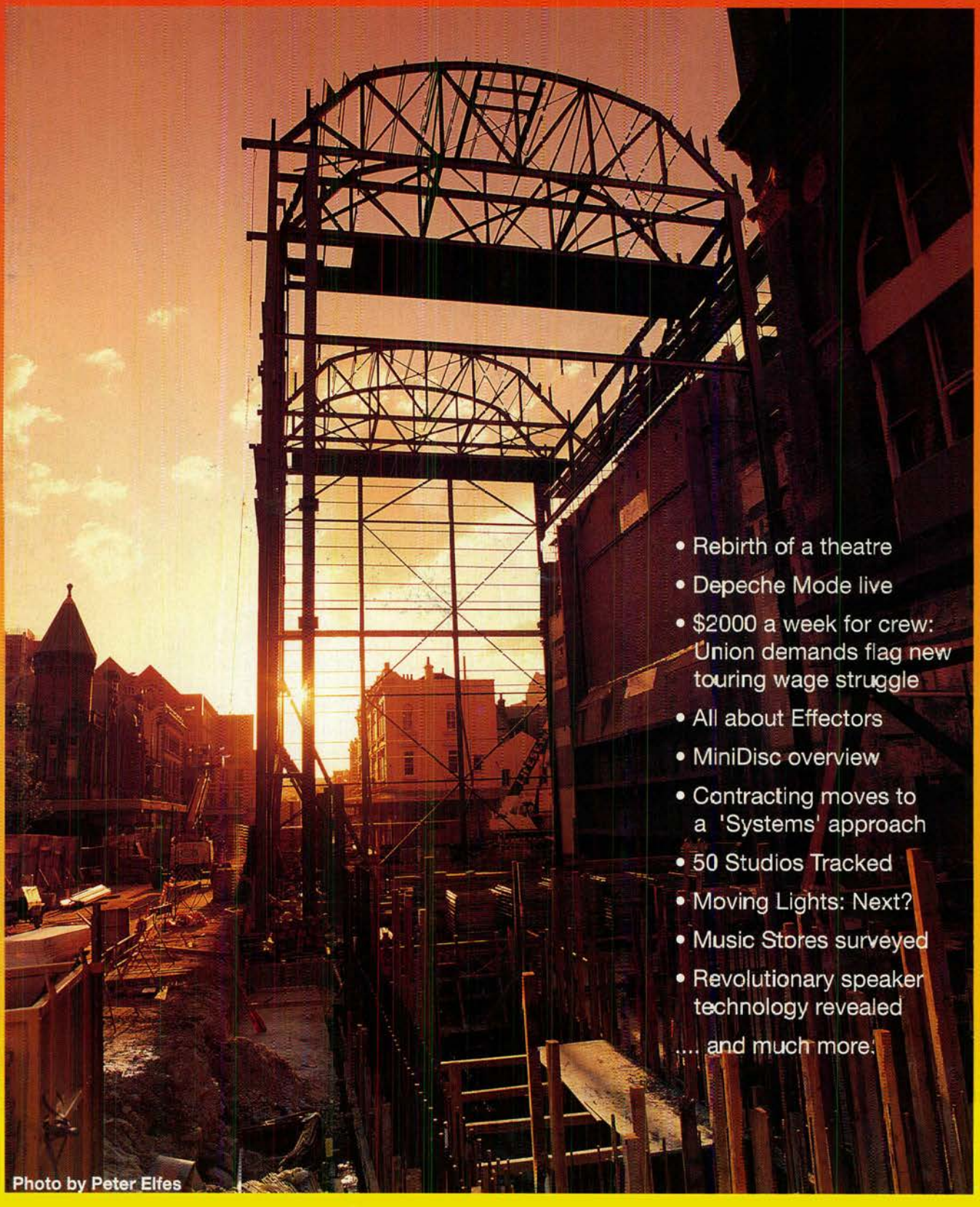

- Rebirth of a theatre
- Depeche Mode live
- $2000 a week for crew: Union demands flag new touring wage struggle
- All about Effectors
- MiniDisc overview
- Contracting moves to a 'Systems' approach
- 50 Studios Tracked
- Moving Lights: Next?
- Music Stores surveyed
- Revolutionary speaker technology revealed

.... and much more.

Photo by Peter Elfes

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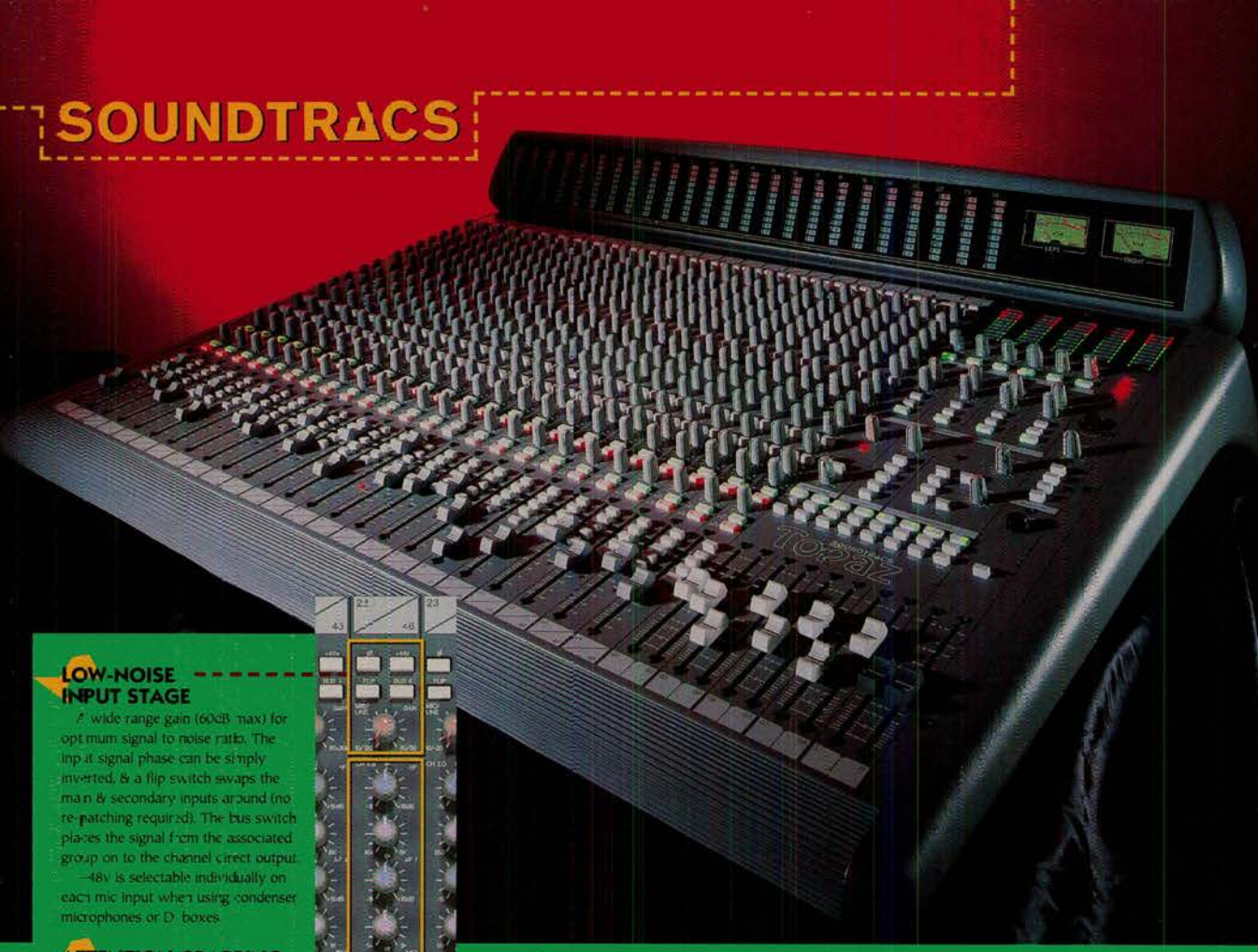

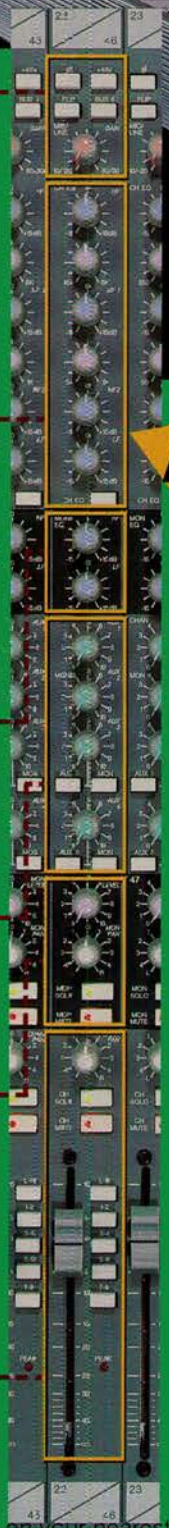

LOW-NOISE INPUT STAGE

A wide range gain (60dB max) for optimum signal to noise ratio. The input signal phase can be simply inverted, & a flip switch swaps the main & secondary inputs around (no re-patching required). The bus switch places the signal from the associated group on to the channel direct output.

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6 SWITCHABLE AUX SENDS

The 6 pre or post fade auxiliary sends can be split in almost any way. Both inputs have one dedicated pre-fade auxiliary each & can also access any of the remaining 4 (post fade).

THE SECONDARY INPUT STAGE

The secondary input has controls for pan, level, illuminated solo & mute in conjunction with a dedicated equaliser & access to the auxiliary sends. In addition, all secondary inputs may be fed to a stereo bus (monitor mix), separate from the main bus allowing you to create a totally independent stereo mix. - It's like having two mixers in one.

ROUTING & CHANNEL CONTROLS

You can route the main channel signal to any of the eight audio groups via the channel pan &/or direct to the main LR outputs using the 100mm long-throw fader, illuminated channel solo & channel mute.

A dedicated multitrack recording console must provide the following: Superb audio performance, exceptional equalisation, versatile monitoring, comprehensive patching and 1st class ergonomics.

- All are in abundance in the stunning new Topaz Project Studio Console from Soundtracs.

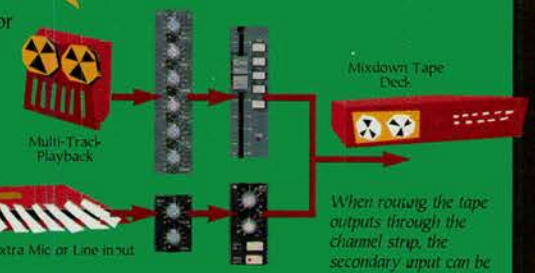
Unlike other 'budget mixers' Topaz is a dedicated multitrack console with the tools to make recording smooth and hassle free.

The dual input design means you have two independent inputs on each input channel strip. One for tape tracks or line sources (with rotary fader), and one for mic or line sources, (on long-throw fader). These can be easily swapped around at any time, particularly for the mix-down, without re-patching.

Add independent EQ sections for both inputs, 6 auxiliary sends accessible between both inputs, 8 groups with separate outputs as well as a send facility to the output of every channel, a comprehensive Master Module, the choice of 24 or 32 inputs with up to 72 inputs at mix-down, the ability to handle up to a 32-track tape recorder without re-patching and you have a console that is set to do more than just become the class leader.

It completely re-defines the term "budget".

DOUBLE INPUTS DURING MIXDOWN



When routing the tape outputs through the channel strip, the secondary input can be used for an additional mic/line source. - Giving an incredible 64 inputs with EQ in mixdown on the Topaz 32.

TOPAZ

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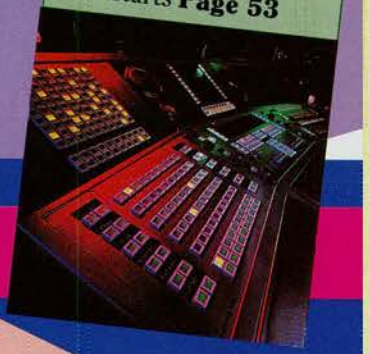

LIVE

Cowboys
Willy & Waylon bumble through town **Page 27**

Carnival of the animals
Sydney Theatre Co reinvent an open wharf space **Page 33**

Dead Heart Belvoir Street Theatre also work in new open space, this doesn't make life easy for the crew .... **Page 34**

Depeche Mode Page 29

Editors note

The feeling I've got is that the winds of change are picking up considerable velocity. Audio Contracting firms are now either getting up and running, multi tasking into communications, video and 'systems' - or they are doing it tough and losing market. Sound and Lighting production firms are facing up to the reality of a union award for their crew for the first time. And a note of desperation from Sony flags the reality that no matter what they would like, no matter how they often qualify the market position of MiniDisc, it will end up a professional tool of sorts.

Then there is the continued proliferation of the 'project' studio, which is a term sometimes disparaged as 'Tascams in bedrooms' by career endangered pro studio people. If you've any doubts about this new wave, just hook into Compuserve and have a look at the 'MIDI Music + topics' forum, dominated by Adat talk and hard disk recording tips.

Lighting doesn't escape the winds, which by now have picked up into a gale .... the Moving Light market is maturing, with this issue pointing to some expensive new product routes. Word we have is that the direction of the next wave of controllers will become evident at ENTECH '94.

One market undergoing (and in need of) some real self examination is what we call M.I. - Musical Instruments. Distributors and retailers in this sector must battle an increasingly fickle retail dollar, competing against 'GameBoy' type impulsive spending urges, and a slackening in the takeup rate of musical instruments. Increasingly equipment is becoming technology intensive, leading to greater need for knowledgable product support people, who are now very thin on the ground out there.

Coupled with shorter product cycles, there's trouble brewing for some established MI firms.

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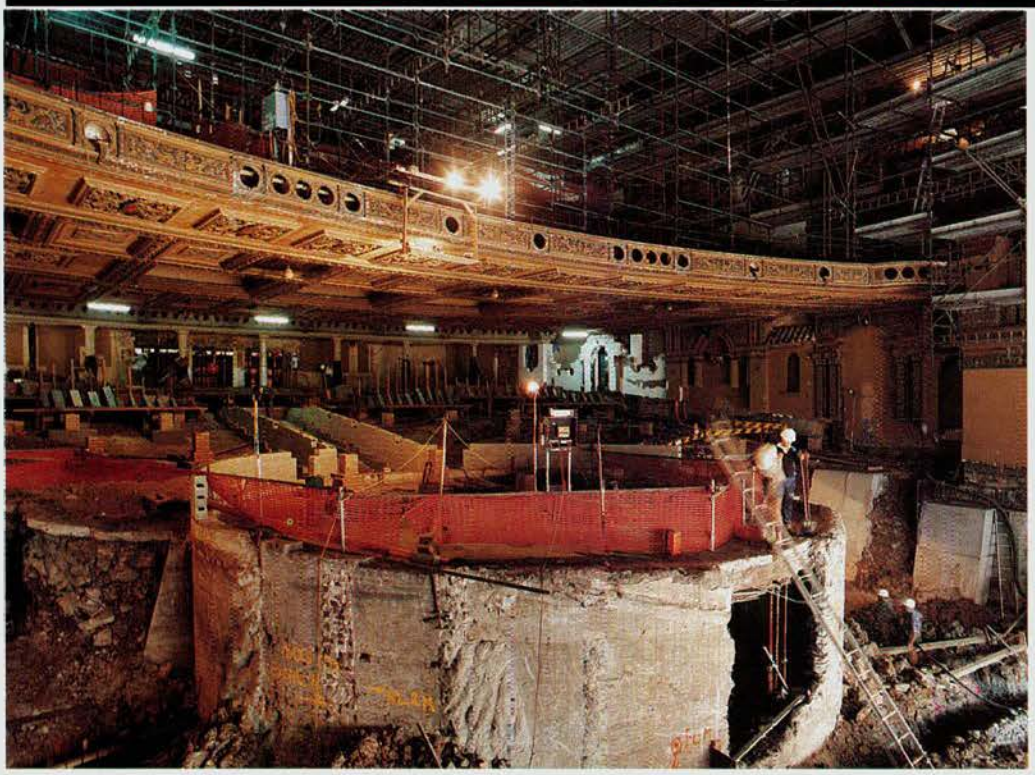

With the floor excavated, this picture of the Capitol Theatre interior shows the old seal pool - it was an indoor circus once. The renovation includes a semi-trailer lift into the loading dock, and lots of extra room.

Restored Capitol Set For Early '95

Sydney to get 2090 seat Lyric Theatre with new stage & fly tower

Our cover shows the new stage rising from the rear of the old Capitol Theatre in Sydney's Haymarket precinct– to feature 96 flying lines and much needed wing space for large productions.

The project is on schedule for opening early next year, ahead of the premiere of Miss Saigon in July. Project Manager for Ipoh Garden Developments, Tim Tait, showed Connections the plans for the venue, which includes a rehearsal space the same size as the new stage, and heaps of useful substage space.

The Capitol will bring a much needed large lyric theatre to Sydney, where the only comparable number of seats can be found in the classic but stage-size limited State Theatre uptown.

Dating back to the 1890's, the Capitol was transformed into an 'atmospheric cinema' complete with statues and a sky effect complete with twinkling stars. This style originated in the south-east of the United States, and is to be faithfully retained with fibre optics, according to Tim Tait.

Indeed the restoration looks better than a new theatre given the unique decor being retained and highlighted. The Seal Pool shown above, for example, will be retained as an orchestra dressing room. The new pit will accommodate up to a 110 piece orchestra.

The architect for the project is Peddle Thorp, the Theatre Consultant is Denis Irvine from Entertech, with Glantre Engineering of London responsible for the fitout. Frank Augusta's Installation Theatre Engineering are installing the flying systems.

Once open the venue will be managed by Ipoh Gradens in partnership with Arena Management, who also manage the Sydney Entertainment Centre. **-JG**

UNIONISED CREW

A log of claims has been served on sound and lighting production companies across Australia, in an attempt to impose an award wage structure on touring crew. A separate award is to be created covering loaders. The union aspiring to cover the industry is the Media Entertainment Arts Alliance, created from a merger of the Australian Theatrical and Amusement Employees Association, Actors Equity and the Journalists Association.

The log of claims is patently ridiculous, claiming a base wage of $2000 for a 30hr week.

(continued next page)

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YAMAHA

Our Singapore correspondent has THE big chore, Ray Bond visits about a dozen (12) trade shows each year. Here he reports on the largest of the Musical Fairs, where much pro audio is previewed ...

YO, HO: FRANKFURT

And so to Frankfurt for my annual pilgrimage to the world's largest music fair held in Europe's largest convention centre!

Well, the good news is that the world Music Scene shows a continued positive trend that was so obvious at the NAMM show. A record number of exhibitors, over 1200 from no fewer than 38 countries, with too many products to count. As usual the show had to compete with both the Rimini Disco Fair (late March) and European AES convention in Amsterdam, but one feels that these suffer at the hands of the ever increasing Musik Messe! Total crowds this year were close to an incredible 80,000 people for the 5 day show. Take heed now and if you decide to visit Messe in 95, only go on one of the Trade Days; the week-end Public Days are hell!!

WHAT'S NEW?

Not much to show from the U.S. Music Industry that was not previewed at NAMM, but for the Europeans— lots.....German giant (the Yamaha of Germany?) **Hughes and Kettner**, showed their continued growth into the Pro Audio field with a vast array of new speakers, live sound consoles and amplifiers. Formerly a MI company, they are one to watch as they market aggressively "today's" type products at value prices. They showed their new Target range of rack mount and free standing mixers, all at price points below their major competition.

Old friends of mine, **Solton**, last imported into Australia in the mid 80's, showed a new range of PA speakers and amplifiers, plus new additions to their powered mixer range, something that's still very popular in Germany and the rest of Europe.

A new low cost 8 Buss 32 Channel Audio console from **Behringer** that promises features similar to the Mackie at half the price, plus a microprocessor stereo dual third octave EQ and analyser for less than 1K Oz!! More later.

Also old friends of mine, **Vestax,** (remember Vesta Fire??) showed 4 and 6 Channel Digital Hard Disk Recording Systems at less than ADAT prices. Could be interesting! *(See photo, below).*

AUSSIE CONNECTIONS

Old faithful's **Australian Monitor** and **ARX** were there showing the flag, plus I noticed **Jands'** ESP consoles on the German distributors' stand and the first working European showing of **LSC's** new Axiom range, a product to watch. For ARX, they had their new UK designed amplifiers (I am still sceptical of the power ratings) and AM their Contractor and Opal amplifiers, plus the new Richard Priddle designed **Landmark** studio speakers. I am sure it is tough to sell speakers in Europe, but have heard that AM has had reasonable success with their QMX range, albeit built under licence in Spain.

(continued next page)

Unionisation *(continued)*

Unions say the law in Australia requires an eventual award package cannot exceed the original log of claims, which is why the log of claims is right off the planet.

Connections understands that The Claim was served on many firms nationally, ranging from the obvious major employers through to small regional outfits, many of whom were incredulous at the call for 10 weeks annual leave, 20% superannuation and the rest.

Matters like this are very sensitive, so I called the Union to establish their story. I was duly invited down, but denied an interview due to a comical misunderstanding as to my credentials.

I established that several major production firms had received a copy of the 'real' proposed award, the union refused to give me one.

I left a message requesting Greg Innes from the Entertainment Industry Employers Association call me, but he didn't.

Faced with a wall of silence I managed to get some people close to the action to talk on condition they remained anonymous. The proposed award apparently recognises levels of seniority ranging from a trainee wage of about $300 per week, through to a senior wage of about $700. In addition there is a 20% loading for long working days, and a perdium for touring.

The impression I gained is that the draft award is not totally unlike what is currently paid by the major employers, who are however insisting their competition be drawn into the award, one and all.

The MEAA is on something of an expansion drive, but are there benefits for employees/new members? The Union wouldn't tell me.

Indeed many senior touring crew say the MEAA has sat tight, collecting large scale temporary dues from visiting international crews who displace locals. There is not a very positive feeling out there, and the MEAA hasn't done much to correct that.

-Julius Grafton

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WHO? WHERE? WHEN?

The publishers of the Australasian Music Industry Directory utilise Connections to provide updates to entries in the previously published January '94 edition and also to track industry movements of executives, key personnel and contact changes. This is the place to be!

Please forward changes or updates to Alison Bruniges by fax on (02) 211 5938 or by mail at 3 Rose Street, Chippendale NSW 2008.

To get the most recent edition of the directory, it can be picked up at that address for $10 at the door or $15 prepaid by mail order.

Listings for July '94 issue have closed, but advertising closes May 15.

Vicious Vinyl gave us the wrong fax number and thus it is incorrect in the Record Companies section of the AMID and should read: (03) 783 4277.

Radio Skid Row have two new station co-ordinators: James Eade and Michelle Carey, who replace Danni Jumpertz.

Katie Yeowart has left her accountants' position at EntArt Accounting. Nicole Cameron, currently of EMI will be filling the position.

Deslie Bishop will be working with Christopher Rix at the Hills Centre and her position at Mick Mazzone's Mighty Management will be filled by Hellen Bobbotis, ex-EMI.

*$500(Vari*Lite clone!*

CLONE COMMANDERS

Sad to see is the growing number of OPI products — that is, Other People's Ideas, copied by companies who do not put the R & D time and substantial money in to developing new products. The King of these is undeniably **Behringer**. His latest copy product is the Mackie Clone 32-8, built in China but at a price that should see it on Australian shores for around $5,000 Australian retail. Very scary, but the quality on the show prototype was very poor.

It looks as if **Mackie's** success with the 1604 has been well and truly noticed by others, with no fewer than 2 very similar products now available. Korean giant, **Inkel**, have not only made their own similar version called MX-1242 but also OEM one for U.S. proaudio marketing giant **Sampson**. Also on the similar vein, was the Korean **Frontier** range of consoles that have a remarkable resemblance to **Soundcraft Spirit**. Maybe just a lucky coincidence!!! The strangest part about these products is that their prices are usually higher than the original. Good luck.

ONE TO WATCH

From the UK comes new EQ's and other audio bits from **XTA** who are the people originally behind **Klark Teknik**. Products look and sound very good, although the price is up there. Look for their new range of digital signal processing late this year or early next.

A typically good European show which grows every year and broadens to include most types of Audio and Lighting products.

Next year's Frankfurt Musik Messe will be held from the 8th to the 12th of March. See you there!

Bits

- Additional lines for **Studio Connections,** the new-ish Melbourne based distribution co. headed up by David Sloss. They now handle **Euphonix** digitally controlled mixing consoles - the 7 network have four - along with **C Audio** power amplifiers, and **ASL** intercom systems, said to be Clearcom compatible.
- **ARX** say Kate Cebrano & Friends on ABC TV features a complete ARX foldback rig.

Lindsay Cliff has been appointed as Business Affairs-Manager at BMG. Former Polydor promotions person, Frances Georgeson, ex-Polygram, has been appointed to National Promotions at BMG. BMG's Asia Pacific operation have appointed David Bland, formerly of Sony, to the position of Strategic Marketing Manager for the Pacific Rim. Russell McKean has been appointed Assistant A&R Manager, having worked for a year previously as Chris Gilbey's assistant at A.R.E. Rozanna Bozabalian has been appointed as Chris Gilbey's Personal Assistant and A&R Co-ordinator and joins BMG from Sony.

Christie Eliezer, former Editor of Juke Magazine has been appointed Melbourne correspondent for Billboard.

Karen Lee Herman who was assistant to Michelle Hunter and Mathew Medcraf at Warner Music has left the company.

Larrikin Entertainment have been appointed as Australian distributor for the Music Club label.

Former Publicity Manager at Palace Entertainment, Helen Fahey, has resigned from her position.

Frank Cremona's That's Bizarre Management has a new postal address: GPO Box 2967, Sydney NSW 2001. Phone and fax numbers remain the same.

After four and a half years, Mark Goodwin, Venue Manager at the Annandale is finishing up.

MORE >>

BUYERS GUIDES

Connections Buyers Guides bring you the latest, up to date products with prices EVERY issue! Now a **whole year** of BUYERS GUIDES ensures you get **more value from every issue!**

February: Wireless Mics, Studio Monitors, *Scrollers, Colour changers, PC Spots.*
March: Sequencers, Sound Modules, Test Gear, *Flood Lights, Colour Medium.*
April EQ's, Crossovers, Limiters, Signal Processors, Backline amps, *Rigging, Trussing, Flying Gear.*
May: Effectors, Reverbs, *Effects Lighting*
June/July: Live Mixing Consoles, *Profile Spotlights*
August: Studio Mixing Consoles, MIDI devices, *Moving Lights.*
September: Microphones, DAW, *Lighting Control*
Oct: Amplifiers, Samplers, *Dimmers*
November: PA speakers, boxes & components, *Fresnel spots*
December/January: Recorders, Powered Mixers, *Follow Spots, Fog Machines, Studio Luminaires.*

Distributors: DEADLINE is the **15th** of the month before publication. call **Caroline Grafton, (02)876-3530.**

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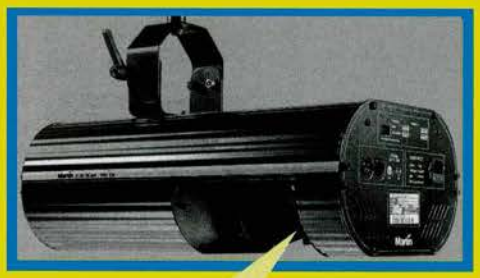

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- SL 1200 Turntables
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MiniDisc to prevail

MiniDisc is the recording technology of the future, here now. One 63mm (2.5") disc holds 74 minutes of digital audio, and costs $15 retail. Forget Digital Compact Cassette (DCC) - it's a turkey. Genial publicist George Sprague at Philips will now stick my voodoo with a long pin, but George - sorry. It's not your fault.

Sony company policy is that MiniDisc is a consumer product, although they do offer an MD 'Cart' machine for broadcast. The Audio Engineering Society Sydney Section held an introduction to the Sony MiniDisc in April, where industry professionals were left in no doubt where Sony would like to see the new format placed.

Sony place the MD below CD and DAT in quality, the question you need answered is just HOW much below. The AES MiniDisc session included an A/B comparison between CD and MD, and the difference is extremely marginal. How marginal? MD is compromised by the need to cram 74 minutes of digital audio onto a very small surface area.

Listen to MD and you hear clean, digital audio. Listen to it alone and you'll be hard pressed to determine a degradation compared to CD. Compare directly and you'll hear MD is somewhat slightly 'brighter' and 'bassier'. This is splitting hairs, because my view is that MD is Good Enough for most professional use. Professional use beyond the fine and solid Sony MDS-B1 MiniDisc 'Cart' type machines.

I'll risk the very real wrath of Sony and now speculate that MD will indeed become a very common Mastering format, despite the lack of time code, despite the slight reduction in dynamic range and quality against CD and DAT. MD will prevail because it is a cheap, magneto optical recording format, with adequate editing facilities.

MD will be the tool of choice used in the average project and home studio, where the choice till now has been limited to DAT. Even where a DAT machine is resident, MD will often take over, because you can re-order the track sequence, and in effect 'cut' and 'paste', with the domestic 'consumer' MD machine. You can label your track, label your disc, and the editing steps are .06 of a second. Enough to rip out a guitar riff, even.

Project studios will burn their own MD's for customer demos and small run retail release. No machinery required. It leaves tape for dead.

Mastering engineer (and Connections columnist) Paul Bryant says MD is good enough for getting songs in sequence, and without noise. "There's problems with DAT aside from editing, like glitches between tracks. MD can do musical edits, the quality is good enough. The guys with Tascams in the bedroom will call the shots!"

DAT doesn't let you edit like MD does.

At this time MD recorder availability is limited to a single domestic fixed unit, the MDS-101 *(pictured, above)* which comes with a remote *(below, left)*. A portable walkman type recorder/player, the MZ-1 will record for about an hour on the rechargeable battery supplied, and play back for about 75 minutes.

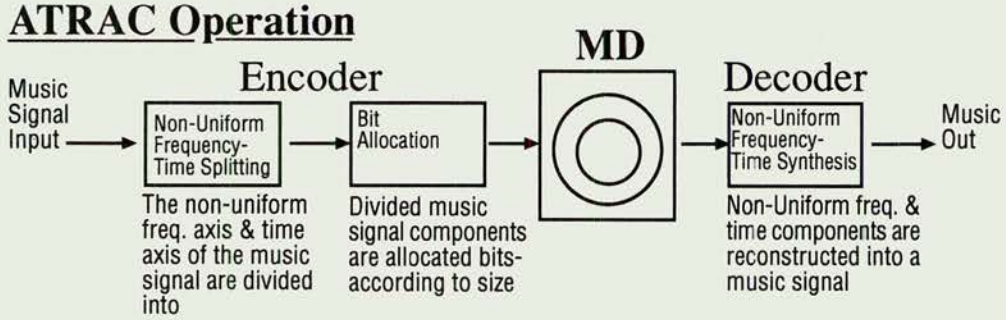
Frequency response is 5Hz - 20khz +0.5dB, with dynamic range of 105dB. MiniDisc samples at 44.1kHz, and the technology features a data buffer that allows 'shock free' playback memory. In field use, the format is extremely stable, you can continually abuse the walkman type unit and it will not miss a beat!

The Walkman type unit costs $1499, and the MDS-101 domestic: $1799. Both record *and* play.

• **Julius Grafton.**

Smaller and holding about 1/5 the data of a CD, MiniDisc uses Sony's Adaptive TRansform Acoustic Coding system (see below), using the latest digital compression technology to cram 74 minutes of program onto the 2.5" (64mm) wide disc. The signal is read from the disc at the rate of 1.4Mbit/second, but played back at only 0.3 Mbit/second. Thus 1Mbit is held in a memory buffer, so if the unit is shocked, playback continues!

ATRAC Operation



Jessica Ducrou has joined Joe Seg's International Music Concepts (IMC) and left her post as an agent for APA and has dragged a number of bands with her..Ducrou can now be contacted on: (02) 968 4926, or the general IMC number: (02) 968 3067.

APRA have formed a new coalition to represent Australian songwriters and composers to be known as Alliance of Australian Composer Organisations.

Grant Thomas Management have taken on the management of artist Drue Tyson Hoille.

Chris Dunn formerly of Waterfront has joined Geffen Records reporting to MCA/Geffen Marketing Manager Paul Krige.

Artists in Melbourne have formed a new collective to help support local music to be known as The Melbourne Artists' Support Collective (MASC). Contact details are: Phone: (03) 885 8018, Fax: (03) 885 7473.

The Drum Media have changed address, phone and fax numbers. They are now located at: 82 Fitzroy Street, Surry Hills NSW 2010. Postal address: PO Box 952, Darlinghurst NSW 2010. Phone: (02) 331 7077, Fax: (02) 331 2633.

Deborah Conway has left MAF Management and is now being managed by Ralph Carr's RCM International.

Kulcha have just signed to Warner Music.

Group Leisure Distribution have acquired a distribution deal for American Bluegrass label Sugarhill.

MORE >>

Events

EXPOMUSICA Spain 10 - 13 May
Pro Audio, Light & Music,Beijing May 7-11
BROADCAST MADRID '94 11-15th May
BROADCAST ASIA, Singapore 1st - 4th June
INFOCOMM Anaheim 9th - 11th June
RADIO MONTREUX Switzerland 9th - 11th June
World Lighting Fair, Tokyo, 16 - 18 June
APRS London 22nd - 24th June
SMPTE '94, SYDNEY July 5 - 8
Pro Audio & Light Asia, Singapore July 6 - 8
New Music Seminar, New York July 19 - 23
I.A.A.M. Minneapolis July 30 - August 1
PLASA, London, Sept 11-14
ENTECH '94, SYDNEY 6 - 8 October
Melbourne Music Expo, 22 - 24 October
AES 97th, San Fransisco Nov 10 - 13
LDI Reno USA Nov 18 - 20
Musik Messe Frankfurt, March 8 - 12, 1995
AES 5th Australian, Sydney April 25 - 27, '95

- **NSW AES Section Meetings:** (Call (02) 948-4577) **Tuesday May 10** (AGM)
- The Australian Film, Television and Radio School will hold an **Audio Education Conference,** on **July 4th** in Sydney. Call Steve Murphy on (02) 805-6582 for more information on this.

Your EVENT here: *FAX the details to us* ***by the 15th of the month*** *for inclusion. Plan ahead, be PR SMART. No cost to you ....*

MultiComm Cancelled

• The first Sydney tradeshow for Peter Blackmore's RVW Seminars, scheduled for early May, was cancelled in April.

OPCODE Coming

• Music Link and Opcode host a presentation on May 3rd, at Sound Devices in Sydney.

AVD Pro Show for Sydney

• The Sydney firm AVD - Audio Visual Designs - will host a Pro Show and Digital Expo, featuring Tascam's DA88 digital multitracker, Yamaha's DMC 1000 digital mixing console, and a host of digital recording gear. **When:** Thur May 12 to Saturday May 14. **Where:** 51 Ramsay Street Haberfield. RSVP to (02) 716-0211.

More NETAA Seminars

• The National Entertainment Technology Association of Australia announce a series of lighting technical seminars, call them on (02) 697-4860 for a brochure. A seminar each month .... — **Next NETAA seminar:** May 17, 'Rigging & Focusing', by Mark Carpenter. **Where:** Io Myers Studio, Uni NSW. **Time:** 6pm. Cost: $5/$10/$25.

The Jolly Frog Tavern at Windsor in Sydney is now owned by ex-Warner music person Steve Hands and ex-Springfields person Martyn Clapp.

Sue Moses, 2MMM's afternoon announcer has resigned after eight weeks when she took over from Ron E. Sparks.

Shock Australia have announced two new labels. Shock Records the label, was shut down late last year and no longer exists as a label name. The two new labels are: Concubine Records which will directly sign local artists, while Cortex Records is the label which will release all licensed and locally pressed international artists.

Michael Coppel Presents has moved to 716-718 High Street Armadale VIC 3143 and the phone number will change soon too.

More>>

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Write in Reader Service number: 149

Profile

JO CADMAN

Catriona Forcer talks with a Music Video producer who gets them in on budget, and understands about rock stars!

Jo Cadman was nursing a bit of a hangover when I went to interview her. Being a music video producer for Perpetual Motion Pictures, a large part of Jo's work involves socialising and 'networking' with the appropriate people.

"I went to a record launch for Chocolate Starfish's new album last night," she confessed. "It was a great album launch and if I could go out there and do it without the drinking it would be alright! But I have to keep my ear to the ground and know what the latest trends and markets are. The music video industry is not that big in Australia but we have to make a living out of it and, because the video's are not that good in budget, we have to do three or four a month to cover our overheads, which are not that much."

Perpetual Motion Pictures has been in business for over three years and is a joint venture between Jo Cadman (Producer), Jon Vidler (Producer) and Maurice Todman (Director/Editor). "We do an average of thirty videos a year," said Jo."On top of that we have a commercial department for TV commercials and we also produce long form videos both concerts (Joe Jackson, John Farnham) and documentaries (Geldorf in Gondiwindee). We've done a lot of live stuff and that's how I get to meet the people on the other side of the industry like the roadies and the lighting guys."

"I work hard because I work long hours but because I enjoy my work so much, and I feel it's so easy, I don't think I'm working as hard as I probably could be," she said. "One thing with making music videos is that you have to fit in with the artists timetable and if they are really busy it's very difficult. We recently did John Farnham's Talk of the Town video on the last day of his rehearsing for the tour so we could only shoot the rehearsals plus a few pick up shots to make it look interesting."

When a new act comes on the scene, their record company submits out ideas to various production companies and directors but it is the producer who has to get to know just what the record company actually wants.

"The record company has usually already worked out a kind of marketing plan," Jo said." If you don't find that out how can you possibly write a synopsis or a treatment that is going to go within their marketing lines? You also need to know how much they are willing to spend which usually is not a lot. Also if you know the band it's a lot better and I really try to get to meet as many bands as possible. I've made some fantastic friends out of this industry by just doing that. If you don't get to know them, then how can you possibly sell them which is what the music video is all about? It's important to research the relevant information before the director writes the treatment and that's the name of the game. The music video is always the last thing the band's publicity people think of so by the time the band gets to us a lot of them are really tired and sick to death of the promotional thing. All they want to do is let it all out and I guess that's why I've become really good friends with some of them. You get to see them as real people not the celebrities they've become in the public eye."

One of the most memorable videos that Jo produced was with Bob Geldorf at The Pinnacles in WA. "It was a very easy shoot to do and it all came together very nicely," she said. "Working with Bob is such a treat, he's such a wonderful man to deal with although he doesn't let up on you. He pushes you for your best all the time- I guess I kind of like that."

"The Peter Andre Let's Get It On video was an absolute nightmare! We had eighty extras in the State Theatre on Halloween eve with a full moon so there was a lot of lunacy going around. Three of the kids broke into the building next door and the entire Sydney Police force turned up complete with dogs whilst we were filming. Dealing with Molly Meldrum, love him to death as I do, he can be a bit of a pain in the arse. We went enormously overtime and anything that could happen did. We started at 1pm and I eventually got home at 7am the next morning."

Lighting is often a problem for Jo as there usually is not enough at the live shoots.

"Even though we have very fast speed stops it's often a problem," she said. "A classic example was the Peter Andre with East 17 show at the Hordern Pavillion. We got the guys to put the lights up so we could check the levels and it was far too low. It was 5pm and we had to find some followspots quickly. I have a bible of numbers and after a few calls, because it was a Friday night and all the followspots were out on other jobs, I got some delivered within the hour. You mustn't panic or you'll fuck up. Lighting crews get pretty cheesed off if they're not notified that you're coming along to film. I don't blame them but if they are well informed they're usually more than helpful."

Jo believes the competition in her business is not as fierce as it once was partially because her company is now well known.

"If I really wanted music videos to be my sole source of income then I would be in the States by now setting up a company and getting into the scene over there like I am here. Though I love doing music videos and I hope I'm still doing them to the day I die, it's still a stepping stone to my ultimate goal which is the feature film. I'm really pleased I've got a music video grounding because I know how to make a budget work, I know how to get pop stars together and I've come in contact with a tremendous amount of fantastic songwriters that one day I hope can write my film scores."

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NewMICROPHONESNewMICROPHONES

• The **Neumann** TLM193 Condenser Microphone, *(right)* offers classic Neumann large diaphragm performance at a budget price. The TLM193 features a fixed, true cardioid response pattern & employs advanced transformerless electronics to deliver an extremely low self-noise level of -140dB and a dynamic range of 130dB, and it employs a 22mm dual membrane gold-deposited diaphragm which boasts sensitivity of 11mV/Pa and a linear frequency response of 20Hz to 20kHz. It is powered by standard 48 Volt phantom powering and is finished in a neutral slate grey.

Call Amber Technology:- (02) 975-1211

Bruel & Kjaer say the 4021 Instrument Microphone is a dedicated string instrument mic, utilising a thick-film pre-amp with SMD transistors, enabling the use of the 4011 capsule at just a quarter of the length of the standard microphone. It offers smooth off-axis and flat frequency response. When miking a stringed instrument, the microphone is positioned on top of the strings behind the bridge. The mount allows 45° of adjustment to enable the microphone to be critically positioned towards the "sweet-spot" of the violin.

Call Studio Supplies, (02) 957-5389, or Soundcorp (03) 416-1066.

• **Shure SC Wireless systems,** incorporate features for installed sound systems like:

Battery Fuel Gauge - The built-in battery fuel gauge has five coloured LEDs to indicate what state the battery is in,

No More Interference - Eight frequency selections help side-step RF interference from mobiles, portable two-way radios or other wireless mic systems.

Tone Key Squelch - This feature allows users to turn transmitter power on and off during presentations without any switching noise.

The SC Series is available from this month, with Shure's full range of lavalier, headset and handheld microphones. The SC Series comprises one receiver and a choice of two transmitters, all designed from the ground up.

Call Jands for more info - (02) 516-3622.

Magnet Promotions have changed their company name to Operation Dragnet and have moved to: 55 Albion Street Surry Hills 2010 and they've changed their phone number to: (02) 211 2277 and their fax number to: (02) 211 2014

Clifford Hocking concert promoters have changed their company name to Hocking, Vigo & Gerrand.

Parnell Music Promotions have moved: to 13 Nelligan St Dianella 6062 and have changed their phone/fax number to: (09) 276 1445.

Abbey Road Entertainment have changed their fax number to: (07) 821 2816.

Aboriginal Arts Mgt Assoc has moved to 4th Floor, 60-62

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Fresnels		Spot	Flood	Spot	Flood	
Compact 6	7-50°	165,600	17,640	120,000	13,68[illegible]	150mm/6"
Selecon 1200	7-56°	228,939	27,158	126,000	14,04[illegible]	175mm/7"
Strand Cantata	7.7-50°	123,250	10,900			150mm/6"
CCT Starlette	6-57°	156,000	17,750	136,200	12,50[illegible]	150mm/6"
Teatro Tratto	6-35°	138,500	24,600	132,400	21,00[illegible]	150mm/6"
Teatro Spazio	8.5-50°			116,200	13,60[illegible]	150mm/6"
P.C.'s						
Compact 6	5-60°	306,000	15,840	205,200	10,000	150mm/6"
Selecon 1200	4.5-60°	342,000	14,220	226,800	10,000	175mm/7"
Strand Cantata	4.2-49°	206,000	14,300			150mm/6"
CCT Starlette	7-38°	152,500	18,300	127,000	13,250	150mm/6"

NSW Herkes Ph: 0-2-319 3133 MacSound Ph: 0-6-778 4090
VIC LSC. Ph: 0-3-561 5255 Three Arts Ph: 0-3-818 0397
QLAND East Coast Lighting Ph: 0-7-252 9583
SA Osmonds Ph: 0-8-410 1111 **ACT** Topstage Ph: 0-6-280 5710
WA Kosmic Ph: 0-9-242 3844 Stagecraft Ph: 0-9-227 9000
TAS KW McCulloch (Hobart) Ph: 002-286573 KW McCulloch (Launceston) Ph: 003-431 034 **NT** Top Ends Sounds Ph:0-89-81 7744

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Write in Reader Service number: 146

PEOPLE

• **Michael Shade** now the National Sales Manager for M.I. products at **Studio Connections** who distribute Lexicon and Alen & Heath amongst others.

• Changes at **Yamaha**, with long time Sydney based Sales Manager **Ken McDonaugh** *(below)* departing rather than transferring to Melbourne, and popular Queensland rep **Ian Evans** being retrenched/rationalised.

NewAudioNewAudioNewAudio

XLR WITHOUT SOLDER

Neutrik's XY-Series Solderless 'XLR' style Connectors *(below)* employ Insulation Displacement technology, and are said to offer up to a 40% reduction in assembly time when compared to conventional, solder-terminated connectors. The new XY-Series can extend the time saving to 60% with machine assembly.

Based on Neutrik's proven X-Series connector, with over 50 million pieces in use throughout the world, the new XY-Series employs the same basic shell and strain relief elements. The connector requires no stripping or tinning of wires, no assembly tools and no soldering. *Call Amber Thechnology :(02) 975-1211*

PROTECT YOUR SPEAKERS!

Dynaudio Acoustics PLP10 Passive Speaker Protector is a patented speaker protector that consists of a thermal switch combined with an electronic control circuit. A range of selectable limit values allows the PLP 10 to match almost any type of loudspeaker or loudspeaker system. It detects five different types of overload signals to ensure protection against a majority of overload situations.

When a trip has occurred, the speaker protector allows the voice coil of the connected loudspeaker to cool during a reset time of approx. 30 seconds before the signal path is re-established.
Call Studio Supplies, (02) 957-5389, or Soundcorp (03) 416-1066.

Foveaux Street, Surry Hills NSW 2010.

NACAO (National Association of Campus Activities Officers) has changed its name to AACA (Australian Association of Campus Activities), and the head office details have changed to: c/o University of NSW Union Programs, PO Box 173, Kingsford NSW 2032. Phone: (02) 663 9160, Fax: (02) 663 4732.

Paul Cussen Management have moved to Level 2, 82 Myrtle St, Chippendale NSW 2008. Ph: (02) 319 5413 Fax: (02) 698 3730.

Ian B Allen has changed company name to Dynamic Management.

Ben Steer Presents has a new phone: (02) 552 1957.

More>>

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Acoustic Modules

Adelaide based firm **Aro Technology** manufacture a range of acoustic treatments and modules for studios and performance spaces. Their latest offering is a two-stage number theoretics diffuser, which offers almost perfect sound scattering over more than five octaves in a module only 170mm deep, they say.

Acoustic treatments have recently been applied in a couple of recording studios. Rocking Horse at Byron Bay have installed two stage quadratic residue diffusors. These were custom made and feature crushed red marble facings! Visual, huh?

Grevillea Studios in Brisbane have ten single stage diffusers mounted on the studio ceiling, and have ordered another 26.

Call Chris Morton, 08 346-4199.

NewAudio**NewAudio**NewAudio

Tube Equaliser

The Drawmer 1961 Vacuum Tube Equaliser is designed to complement their 1960 Vacuum Tube Compressor/Preamplifier. The 2 channel 1961 Equaliser has input level controls and corresponding level meters, to optimise the signal level to drive the tube section hard or gently. A separate tube provides 'soft clipping', controlled by the input level adjustment.

Each channel has six filters each able to be switched in or out. The six EQ sections comprise: a Variable High Pass section - a low frequency, 12dB/octave roll-off filter adjustable from 20Hz to 500Hz; a Variable Low Pass section - a high frequency, 12dB/octave roll-off (band-limit) filter adjustable from 5kHz to 35kHz; and four main equaliser sections, each with six switchable, overlapping centre frequencies, variable bandwidth from 0.3 to 3 octaves and 18dB of boost or cut. *Call Amber for more:- (02) 975-1211*

Coe Productions has moved to 12-363 New St, Brighton VIC 3186 Ph: (03) 596 5913 Fax: (03) 596 5913

Small Time Productions has changed its name to Cranium Management, postal address is PO Box 760 Leichhardt NSW 2040. Ph: (02) 564 5195 Fax: (02) 550 9396.

Exterminate Management have moved to 12/1267-69 Pittwater Road, Narrabeen NSW 2101. Ph: (02) 267 6003 Fax: (02) 267 6003.

Gorgeous Management have changed postal address to PO Box 195, Gardenvale VIC 3185.

HIT Management have moved to 20-30 Bourke Street, Melbourne VIC 3000 Ph: (03) 663 8055 Fax: (03) 663 8401.

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UREI PLATFORM - MODULAR PROCESSING SYSTEM

The new Platform Series from Urei is an advanced modular signal processing system that can be customised "on the fly".

Urei's Platform lets you pack a fully integrated system with optional remote control into a rugged 3RU rack mount chassis with universal switching power supply.

Communication between the various modules is co-ordinated by a computer module that can be programmed to recall any of 100 memories of VCA settings and mute functions. Additionally, either RS232 or the MIDI control protocols can be used to remotely recall any of these pre-programmed settings.

Configuration is entirely up to the user and depends on application. The five signal procesors released initially are the COMP1 compressor/expander, GATE1 gate module, MIN1 input module, OUT1 output module and the PEQ1 parametric equaliser. Additional modules will be released on an on-going basis, ensuring that Platform can adapt to future needs without functional limitations.

Platform is ideal for touring sound systems where pre-programmed functions and signal levels need to be recalled during a production. Other applications include use in home studios, post production, conference and AV facilities, professional recording and broadcasting services.

The Platform series in made by Urei in the United States and is distributed exclusively by Jands Electronics in Australia. The range carries a 12 month warranty. Recommended retail prices are:

CPU1	$ 995	CPU2	$ 895
COMP1	$ 895	GATE1	$ 895
MINI1	$ 895	OUT1	$ 895
PEQ1	$ 895	RACK1	$1495

**Call (02) 516-3622 for more.*

ACTIVE MIC SPLITTING SYSTEM

ARX announce the release of its MSX 4 Active Microphone Splitting System.

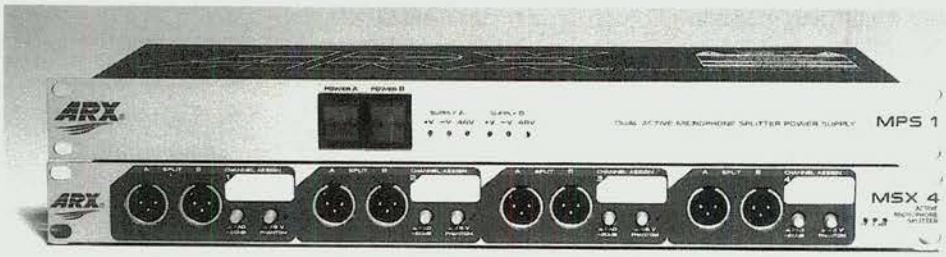
The MSX 4 Microphone Splitter features ultra low noise circuitry and multiple electronic and transformer outputs.

Each channel has four outputs, consisting of Main and Monitor and two front panel splits, plus switchable +48VDC phantom power and 20dB pad switch.

The MSX 4 is externally powered for low noise, by the MPS 1 dual *failsale* power. This consists of two electrically separate power supplies, separated even down to duplicated IEC AC inlet sockets.

Both units are housed in compact 1RU steel chassis.

Details: ARX (03) 555-7859.



Hushtone Artist Management have moved to 4 Strahan Row, Yarralumla ACT 2600 Ph: (06) 282 1533.

Mike Brady Management have moved to—356 Swan St, Richmond VIC 3121. Ph: 03 429 6199 Fax: 03 427 9107.

Vicki Watson Management - new phone: 015 279 643.

Wow Management have a new postal address PO Box 616, Kings Cross NSW 2011 Ph: (02) 358 1600 Fax: (02) 358 1915.

Eastman McMillan has moved to—Level 1, 52 Kings Park Road, West Perth WA 6005 Ph: (09) 324 2286 Fax: (09) 481 5588.

Sapphire Music has moved to 137A Hotham Street, Collingwood VIC 3066. Ph: (03) 417 3541 Fax: (03) 417 3783.

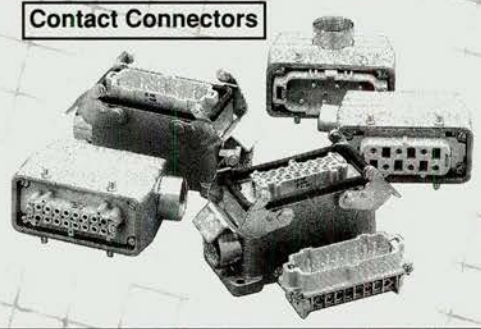
Christian Marketing Communications has moved to 9/147 Marshalltown Rd, Grovedale VIC 3216 Ph: (052) 413 288 Fax: (052) 413 290.

●●●●●

MC AUSTRALIA

Multi-Contact Australia Pty Ltd

Contact Connectors



High quality rectangular, industry standard lighting and power connectors available with screw terminations from 3 to 32 pin and for crimp termination from 7 to 128 pin. Available in single or double lever locking configurations in top, side and front cable entry. Rollers mounted into locking clips to ensure smooth but positive locking. A wide range of glands with or without cable bend protection can be provided.

"Contact" has been used by industry majors for many years giving trouble free long life operation.

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Fax: (07) 856 4681

10 Nicholson Street
Coburg VIC 3058
Phone: (03) 383 3733
Fax: (03) 383 4526

TRADE SHOW FAILURE

The cancellation of Multicomm '94 'Converging Technologies' has more than inconvenienced a few people, it augers badly for anyone planning to get into the Trade Show business.

Multicomm was conceived by Melbourne based audio consultant Peter Blackmore, who has had reasonable success with a technology seminar series last year. Multicomm '94, however, was doomed before it started.

Scheduled for May 3 through 5 at Sydney Exhibition Centre, the event was announced in February this year, well short of the usual one-year-plus planning period for a professional trade show. It was also scheduled against ATUG '94, a long established major telecommunications and data networking event held in Melbourne-May 3-5.

Despite the short notice, a number of companies (but not enough) did feel obligated to participate in Multicomm, several proprieters told me they couldn't say no. "Peter Blackmore is a major consultant who specifies our products", said one, on condition he not be named.

One firm who did sign up and has now suffered from the failure is Crestron Australia. On April 27 they faxed notice of a two day course, to be held on May 2nd, featuring Crestron Electronics Inc Systems Engineering Manager, Fred Bargitzi— who was flying to Australia for Multicomm '94.

Multicomm was originally touted as an Audio Visual industry event, but slow floor space sales along the way saw many participants in last years AES Convention - of which Peter Blackmore was exhibition chairman - approached to take up space.

Most firms in last years AES had already signed up to appear at ENTECH '94 *(promoted by the publishers of this magazine)* by the time Multicomm was first touted.

By contrast, ENTECH '94 is over 80% sold out, six months ahead of the event, which has an 18 month planning cycle, a $60,000 promotion budget, and extensive industry support. **-Julius Grafton.**

NewMIXERSNewMIXERS

SPIRIT STUDIO LC

Digital multitracks, samplers, keyboards and rackmount sound modules have become standard hardware for most studios- problem is, most affordable mixers are not designed with digital sound in mind and they can't cope with the increasing number of inputs studios require, says Jands.

The 8-bus Spirit Studio LC from Soundcraft comes in 16, 24 and 32 channel frames and provides features like: up to 82 inputs at mixdown (32 channel frame), eight Aux sends and seven returns, swept mid and low three-band EQ, a submixer input, a true Solo-in-Place facility, balanced inputs and ground compensated outputs.

Spirit Studio LC is designed to the highest specifications. The console is housed in a rugged steel frame with all connectors manufactured by Neutrik and faders by Alps, for long and trouble-free use.

Although designed primarily for studio use the Spirit Studio LC can double as a live mixer where 8 buses and sophisticated monitoring are required.

Studio LC *(pictured below)* is available from this month. Recommended retail prices are :

- 16 Channels $ 6995
- 24 Channels $ 9995
- 32 Channels $12995.

Call Jands: (02) 516-3622.

SOUNDTRACS TOPAZ

The new Topaz Project Studio Console by Soundtracs is a dedicated multitrack audio mixing console designed to specifically cater to the requirements of the project studio or MIDI suite.

Available with a choice of 24 or 32 input channels, Topaz features a dedicated 8-way Group Section ideal for direct connection to 8-track multitrack recorders, together with the ability to handle up to 24 or 32-track recorders respectively, without re-patching. Topaz is automation ready, with provision in place for a future VCA fader/mute automation package.

Topaz boasts dual input capability. Each input module features a secondary input stage for tape return with separate EQ. A 'flip' switch provides routing of the secondary input through the main section without the need for patching. In mixdown the console can provide 72 (Topaz 32) inputs, 64 with separate EQ. All secondary inputs may be fed to a stereo bus separate from the main bus to create a second, totally independent stereo mix.

Each Topaz input channel has 4-band equalisation with two parametric mid bands; secondary input stage and associated 2-band equaliser & 6 auxiliary sends. *Amber Technology-(02) 975-1211*

SA-AV HIRE IN SYDNEY

Sound Affair in Sydney have joined forces with AV Innovators to form SAVI - Sound & Video Innovators.

The new team is headed by Edger Kramer (SAVI Director) and Sound Affair's Martin Kaye (Hire Manager). They now offer AV hire from Sound Affair's premises, allied to Sound Affair's long established driveway and installation audio hire business.

Call (02) 417-4388, or visit 3/108 Warrane Rd, Willoughby NSW.

CHANGE OF ADDRESSES

•**SKYPAK LIGHTING**- now at 159 Abbotsford Rd, Mayne QLD 4006, Phone (07) 852-2757.

•**HAHN AUDIO/PARALECTRICS** now at 5 Limpopo Cr, Seven Hills. Same ph, new fax: (02) 896-0650.

• **STUDIO 19** Recording Studio has moved, phone (077) 757-375.

PHIL TRIPP was buried under his own Australasian Music Industry Directory deadline at our deadline, so we excused him. He says his column will return next month.

AUX 2 Gossip

Recently an attractive young sales woman from a well known Melbourne hire, production and truss manufacturing was seen and heard Karaok'ing in Sydney's Kings X whilst on a short stay. Does she not realise the damage this will do to the 'Keep Music Live' image — not to mention our eardrums?

Pink Floyd have redefined Production excess with a stage hanging from multiple 60 ton cranes, a 16' diameter mirrorball that emerges from the mix tower loaded with lights, cantilevered machine structures and rigging nightmares. The PA is, of course, quadraphonic, and comprises 112 Turbosound Flashlight & Floodlight enclosures from Britannia Row.

Some reaction to our editorial last month regarding international touring productions importing crew and equipment - Australia risks going into the 'too hard' basket if we try to impose restrictions on visiting crew. It's already marginal to tour here, say the internationals.

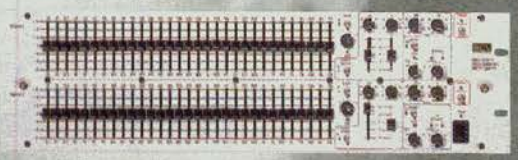
Company tradition? Rep from one of the large local distribution firms dining a client in Adelaide became so tired and emotional that he had to call room service and 'order a new bathroom' the next day!

New Baby Alert ... Jeff Bolt from Jands is dad for the first time, as is our graphics guru Josh Luo.

Mick James, famous Gold Coast technical guru and vendor, married Roylyn in March. Congrats!

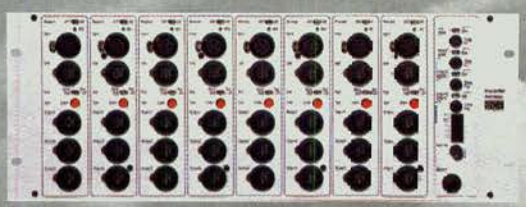
Neil 'The Legend' Smith has changed the name of his Rock & Roll Music to: Sydney Concert Light & Sound. This is because he says Neil Ohlback bought the guitar and bass section in January, so now he is trading exclusively in Pro Audio & Lighting. What's in a name? Recall the chronology: The Legend opened Smithys in Sydney, Smithys in Brisbane, sold each, then after a spell trading from home, opened The Second Hand Music Co at Manly. Smithys in Sydney and Brisbane continue. Sydney Concert Light & Sound is on 008 804-994.

International Crossing



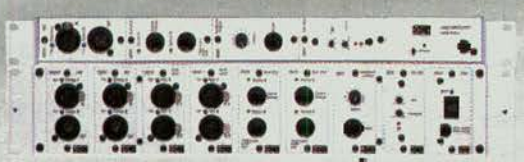
Graphic Equalisers
Extensive range of graphic equalisers featuring active balanced inputs & transformer balanced outputs Featured EQ231SP-R with full dynamics processing.

Conference Mixers
MX32 features 3 mic inputs, priority voice over, mono/stereo program inputs and EQ. EX62 6 mic input expander/mixer.



Microphone Splitters
824 MkII - 8 channel active microphone splitter with options including Test Module, Power Fail Relays & Passive Splitter Transformers.

Signal Processors
MEQ5 - Triple stereo program equaliser.
PFL52 - 5 band parametric equaliser.
BCL2 - stereo compressor/limiter with de-esser.



Universal Buffer System
Modular problem solving system for level matching, impedance conversion, balancing, etc., etc. 2 4 & 8 channel frames available.

SCV Electronics produce one of the most extensive ranges of signal processing solutions for PA, Contracting and Broadcast applications.

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Feed Back

• **Chris Grierson** of East Bentleigh says Connections is without a doubt the best magazine available anywhere! What a guy!

• **Hefferich Tan** from Singapore says he really enjoys reading Connections, especially the educational articles, like The Acoustician. He also likes the buyers guides, but wants some more product reviews.
** Ooops, the Acoustician is missing this month, but we get the idea, Hefferich. Product reviews take a lot of time to get right, so we don't run them 'en-masse' like some mags do. -Ed*

Abe Udy is a year 10 student,head Lighting Designer and Rigger at school in Port Lincoln SA. He says he really learns heaps from reading this magazine - "keep up the bloody excellent work. I really am keen on lighting. I enjoy it immensely as I really love expressing myself and letting others have a good time. I am trying to con my school into getting a moving light; that really would be nice. I take this magazine to school and three people read the issues regularly". • *What a guy! We've sent Abe some goddies for being nice.*

• **Keith Matthews,** a computer service engineer, from Vortex Studios in the ACT, would like some articles on tricks of the trade in getting 'the commercial sound' from a project studio. Four people read his copy.
** Anyone want to write about this for Connections?*

• **Anthony Goh** from Source 1 Opto Acoustics in Singapore was concerned an item in the March issue regarding a split at Hawco may have been a little harsh. Mr. Yeo Yang Thong established Source 1 Opto Acoustics early this year after a long tenure at Hawco.
** The item wasn't worded as politely as is required in Asian bsuiness, and for this we are sorry.*

• **Ben Dennis,** Electrical Engineer from ATPS in Hornsby, says more tech. reviews and funny stories. Four people read his copy.
** Funny stories? Connections is a serious technical trade mag, pal.*

LETTERS *#!/@%XX -?!

Limit O/S Visiting Crew?

Having been the Executive Audio Engineer for Jands Production Services in Sydney for a period of approx. 15 years and now Vice President - Audio Services with Showco, Inc. of Dallas Texas, I feel I may be in the unique position of being able to look at this difficult issue from both perspectives.

First the reality - on a large scale world tour by an established act - in the mindset of the touring production management, **Australia is just another set of venues** like Germany, Italy - even the U.S.

One must realize the vast amount of preparation that goes into a large scale world concert tour. After spending one (or more) months in "band rehearsals" then weeks or even months of full scale "production rehearsals", the actual live performance is rehearsed many, many times under real ideal conditions. The exact functions of each and every touring crew member are defined and rehearsed.

In the 1990's the vast costs of touring these shows prohibit actually touring **ANY** road crew personnel who do not have a very real function to perform at each and every show.

It is vital to the understanding of this whole issue to realize (without bias) that if a tour happens to go to Australia 2, 4 or 10 months after it is fully rehearsed, up and running and has probably done hundreds of shows all over the world, no production wants to be forced to change or modify the most important ingredient in the production of each show - the touring crew!

If your act is not a "World Headliner" one cannot always guarantee to do enough business in Australia to make it a really sound business proposition.

This letter is a plea to **all** responsible members of the Australian entertainment industry. There are **already** vast problems taking a concert tour to Australia (the vast distance creating huge transportation costs being just one). Please don't rock the boat to the point where the production manager of the tour (who **was not** looking forward to the hassles in Australia anyway) goes to the band and says it's just "**TOO HARD!**".
- Howard Page - Dallas, Texas.

No 'Award Fraud' here

I refer to the article titled "Award Fraud" in the current *(April '94)* edition of your magazine.

Graham Storer of the "Enterprise Studio" has brought this article to my attention; both our companies presuming the latter example of "fraud" would refer to our respective interests. He is very concerned about the usage and tone in the piece, as indeed am I.

Again, presuming the nature of the presentation of the nomination for the "Enterprise Studios" (to wit, my signature in one hand and the actual specifics of my company's nomination in another) has tripped off over-zealous auditing I offer an explanation as to how this scenario has occurred. Also, whilst realising that your magazine has had the good sense not to name either of respective business (i.e. Ruth Consolidated Industries, Enterprise Recording Studios) I would also expect a retraction of the word "fraud" in any or all contexts of my company or any intention to nominate Mr. Storer for any award for services. I expect our nomination to stand.

How your alleged "fraud" came about? Whilst at the "Enterprise Studios" doing a batch of produce information transcriptions I was thumbing through your magazine, amongst others. Seeing these awards I told Mr. Storer, the engineer for our services, that we'd be happy to acknowledge the solid services the studio had given us in recent times. I signed the form and told Storer he could fill what was appropriate as his grasp of recording service nomenclature would be superior to mine (we market vetinary products). This he then did on another day. Mr. Storer rang to inform me what exactly and specifically I had voted for. I refute the collusion expressly implied in your article.

Mr. Storer is concerned that his reputation within his industry may be importuned and I hope that this will be formally acknowledged to the contrary.
- Brett Ruth, Ruth Consolidated Ind, Annandale, NSW.

**We're getting a LOT of nominations for the Entech Awards. -Ed.*

MIAC & Kim Wilson ....

As concerned Industry workers, the AUSMUSIC NSW staff are writing in response to Phil Tripp's Column in the March 1994 edition of 'Connections', and our comments are not necessarily those of our company.

Mr. Tripp addressed a number of issues concerning our Music Industry with particular emphasis given to the role of the Music Industry Advisory Council (MIAC) and the appropriatness of Kim Wilson its Chairman.

There is a place for a mediating voice between the Music Industry and the Government of Australia just as with other industries. Every day, we at AUSMUSIC liase not only with all levels of the Music Industry but with Local, State and Federal bodies on a wide range of issues and as we can attest to, this in itself is a skill. On the Government's side, we are confident Mr. Wilson, Chair of MIAC, is communicating effectively with various Departments. As stated in their own bulletins, if one takes time to read them, MIAC exists to provide a 'co-ordinated, representative and authoritative voice to the Government on the Australian Music Industry' and this is what Industry need to know. It is a voice to the Government.

Unfortunately, as witnessed at the Melbourne Music Festival Forum, this same 'voice' did not communicate successfully to the other side of the fence, especially to the middle and grass roots sector of the Music Industry and this caused great concern and was somewhat alienating. However, attempting to discuss such broadbased issues in such a short amount of time to a possibly 'uninformed' audience was a tough act.

AUSMUSIC keep MIAC informed of our initiatives and regularly the NSW branch has invited Mr Wilson to speak at our industry courses covering issues relevant to the Council. We see the necessity for the Industry to be aware of the role of the Council - the bigger picture. At the same time, maybe it is best to keep 'the

LETTERS *#/@%XX -?!

voice' directed to the halls of Canberra, but where would that leave the opportunity for Industry input and decision making?

With regards to the problem of non-representation of the professional technical area of the music industry (i.e. lighting, concert production and musical instruments) AUSMUSIC feel it is not solely a problem of MIAC.

The problem within this area of the Music Industry is the fact that it does not run as an industry but moreso as a collection of businesses. There is not a united voice that can address the problems facing the professional/technical side of the industry. Therefore how can an organisation such as MIAC inform the Government accurately if it does not have the information to access?

Furthermore, even when an organisation such as AUSMUSIC tries to collate the information, as we have done on a regular basis (e.g. The Stayin' Alive Survey, the Venue Survey, the Music Instrument and Component Industry Report, Industry training courses in Audio & Management) the response has been barely appropriate to base a whole report on.

All the problems raised in Mr. Tripp's column are relevant and need to be addressed by the industry *as a whole.* If AUSMUSIC is not the pinnacle voice in the industry (and God knows we are trying to service everyone), and the Industry feel MIAC is not the avenue, then let's form one that is, and furthermore, support it so they can form a unified and focussed voice to the powers that be in Canberra. The research is fine, but action is needed.

Mr. Tripp asks 'what we are doing?' To quote the MD of a major publishing company, at the "top end of the Australian Music Industry there is a highly efficient marketing machine. While at the bottom end there is an abundance of experiments, flawed logic, brilliant ideas, originality, drive and a wide variety of music."

Well, Mr. Tripp, we bypass the piffle! This is the end where AUSMUSIC NSW work. This is where the future success of all sectors of our industry lies. Is anyone else consulting the 'bottom end'??

'Connections' is a powerful tool to unite the professional/technical side of the music industry and keep everyone informed. 'Connections' is on the AUSMUSIC NSW preferred reading list and our clients are getting into it.

- Marcella McAdam, (Manager) Kent Paisley, (Industry Development Officer), Linda Gioria, (Projects Assistant), AUSMUSIC NSW.

Brett Thomas says NO

While I have enjoyed the last two copies of the Mag., I must take to task your gossip columnist over his mention of me in the current *(April)* edition.

Although I happily plead guilty to misinterpreting the Lovegrove/Barnes/Gudinski tale, the feature done on Frontier was not an "amends" maker. If your columnist had checked his dates, he would have discovered the Gabriel concert at which the interview took place, occurred before the Barnes piece and well before the Frontier piece eventually appeared.

In other words, I'm innocent of all allusions made to "sucking up"!

- Brett Thomas, Sun Herald, Sydney, NSW.

Write to PO Box 439, Epping NSW 2121 Australia, **Fax** (02) 876-5715 or **CompuServe** 100242,366.

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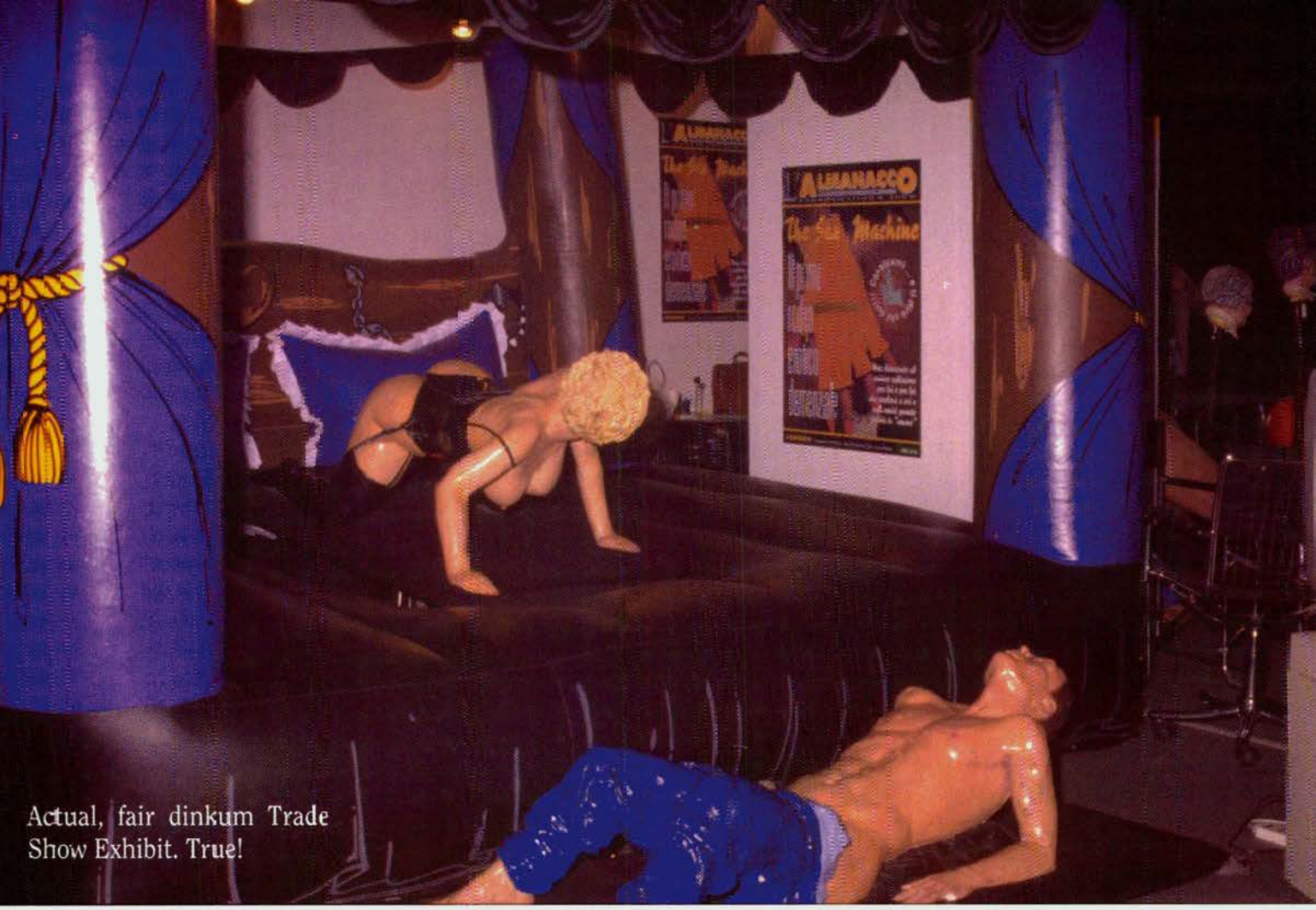
Broadcast Technology Pty Ltd. A.C.N. 005 689 752. RAY WELCH ADV.



Actual, fair dinkum Trade Show Exhibit. True!

Caroline Grafton visits one of the greatest shows on earth ....

Hooley Dooley. Rimini again!

SEX, GLAMOUR, VOLUME, VISUAL EFFECTS, FOOD, WINE and VIVACITY are the marketing tools used for the entrancement of visitors to the only trade show in the world, where your head is constantly reeling from technical and sociological overload. And I love it. Welcome to my report on SIB '94 — which is staged in Rimini Italy each year ....

33,000 m² in total and 400 exhibitors, SIB attracts technicians, LD's, club owners, managers, architects and interior designers — not to mention potential and existing international distributors. Exhibitors are predominantly Italian but when a tradeshow of this scale is held international exhibitor participation is inevitable. Displays including furnishing, lighting, audio, special effects, many in scaled down nightclubs **within** the pavilions themselves, Rimini SIB '94 proved once again to be the most dominant discotechque exhibition in the world. *But if you work in the live sector keep reading!*

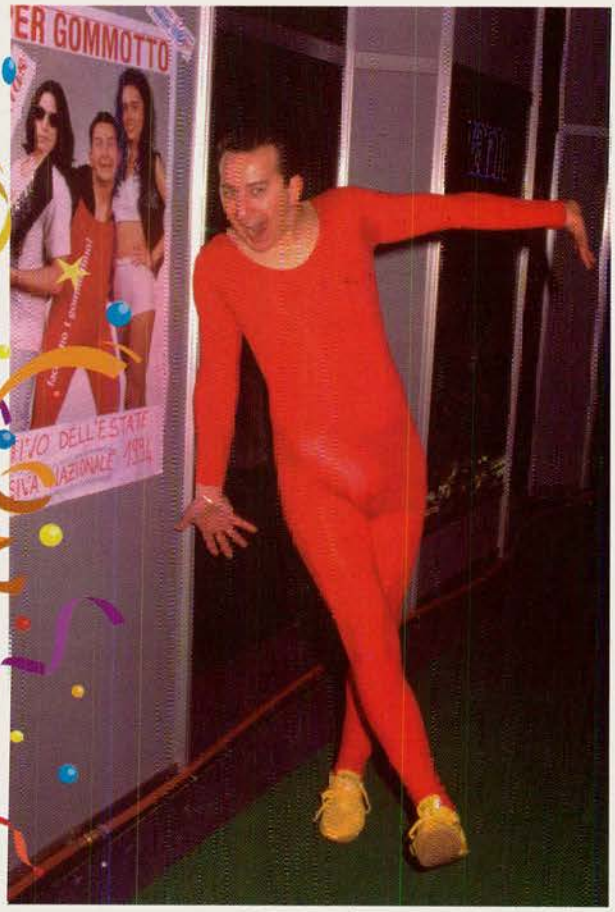
This year at the SIB convention, I witnessed the realisation/ recognition (by Euro manufacturers) of the convergence of lighting and special effects into the live production and touring sector, a market the Euro lighting and audio manufacturers in the past have underestimated, but they like the Americans especially, have discovered that there is more to life than discos.

The realisation was in the form of a new exhibitor innovation entitled 'Concert World' and although it consisted of current SIB represented companies, it displayed the potential of things to come and in the future we hope to see 'Live Concert Performances" on a functional touring scale with much more audio involvement.

Volume at distortion levels has always been a problem at Rimini, with exhibitors vying for visitors by bursting their eardrums to attract them to their exhibits but this year we found a more controlled environment which made technical and business discussion possible.

Presentation at any tradeshow is all impor-

You meet all kinds at SIB. Well, I did, anyway .....



Yes, I'm happy to see you, too!

tant, but at Rimini the Europeans being on home turf and the Italians the masters of style, you boggle with display size, quality and hospitality. I'll point out at this time that most large exhibitors have a show viewing area, sound proof offices and hospitality areas including a bar and catering services. The larger of these of course are Clay Paky, Coemar and Martin *(please note my **political correctness** by the fact that all companies in my stories are always in alphabetical order).*

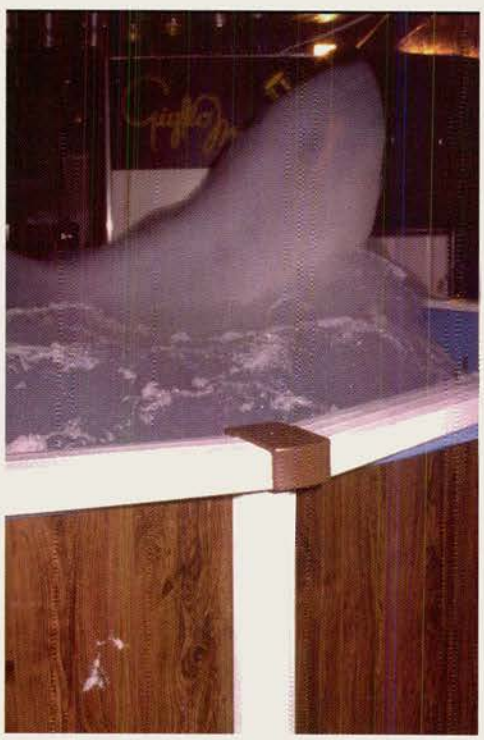
DEMONSTRATIONS OF THE SHOW

A talking light? Give me a break!

The **Superscan Zoom** from Clay Paky (undoubtedly product of the show) demo featured an audio visual presentation which covered the corporate and product port folio presentation with a slow build up and then:— "we've given you design excellence with Goldenscan, Goldenscan II and Golden Scan III now we give you the talking light". Yeah well, in their dreams, but this fixture is VERY impressive. What they meant by 'talking light' was the clever combination of the Superscan Zoom design features and programming on Masterpiece by CPP (Clay Paky Pulsar). To the smooth pre-recorded voice with a perfect non-accent the light was focused on the floor, and with split second timing the iris quickly expanded and contracted to appear like a mouth talking, it was a very impressive demonstration. The light talks you through all its design features with instant demonstrations.

This year I really have to take my hat off to Coemar for their post industrial display, a huge structure built entirely of their new Modo truss and featuring NAT TM2500's flown as well as several sitting on their tails in a circle on the

(turn the page, please ....)



New trend in Euro Disco World ....fill a room with this wild, non stick foam - and get amongst it!

"ice!"

INSTITUTO NAZIONALE PER IL COMMERCIO ESTERO
or: ITALIAN TRADE COMMISSION
or: **ICE**

Look at it carefully readers, it's not that hard to decipher is it?

ICE is a worldwide network of offices and its prime duties include promoting trade, gathering information on international industry, technology, customs, markets, currency, projects etc., and to disseminate information on Italy. And thus is how I, with three other Australians, was invited to attend this years SIB '94 exhibition. As co-publisher of the only Professional Audio & Lighting Magazine in Australia I was invited in a journalistic capacity and quite frankly, I love Italy, so how could I say no?

Along with forty-five other international delegates from Mexico, China, Chile, South Africa, Indonesia, Turkey and good old US-of-A, we Australians enjoyed unsurpassed hospitality in the form of food, wine, song, dance and many

(continued over)

Hooley Dooley! (Continued)

floor. The design demonstrated at close range the unusual mechanics of this fixture with all effects focused on an overhead scrim, floor, walls and anywhere this 360 degree fixture was programmed to. Choreographed by the "laughing boys" - Carl Dodds and John Lindsell, it was a perfect demonstration of an innovative product.

Coemar's Peter Kemp with Drew Muirhead from dmc

NEW PRODUCTS

Abstract Gladiator range: see Lighting, Page 58.

Clay Paky have definitely come up with the goods with the new **Superscan Zoom** and the updated **Miniscan II 300**. For details go to Lighting, Page 53.

Coemar have released a really funky looking modular truss called **Modo**. This quite unique truss isn't what you would call suitable for road use but would fantastic for any long term or permanent installation. Construction: four tube profiled aluminium extrusions in standard one, two and three metre lengths and cross braced by die-cast meshed aluminium for rigidity and mechanical strength. All truss and accessories are finished in metal-grey powder coating and have that typically Italian visual flair. Call Coemar De Sisti Australia on (02) 467 8666.

LeMaitre introduced the **Red Devil**, a new smoke machine in the Popular Range and is a product aimed at the small discotheque and mobile market. The Red Devil is quite, remote controllable and can supply continuous, clean, non-toxic smoke. A big plus is the five year warranty. Distributed in Australia by Lightmoves Technologies Pty Ltd on (02) 560 0000.

Martin although not releasing any new moving light technology since we covered LDI '93 they did officially launch the **Robocolor II** to a good reception. On the lower technology scale Martin have released the **Pro 2000 The Big Smoke Fogger.** The unit offers a long life heating element, controllable high pressure pump plus remote control, auto-timing and memory functions. Call Show Technology on (02) 898 1111

RCF have released the new **MSW 8 Subwoofer** designed to compliment the Monitor 8 Speaker. In addition RCF have released the **Event Series of Professional Speakers** comprising of the Event 3000 2-way system, Event 4000 3-way system and the ESW 1018 18" Subwoofer. They are a trapezoidal design, and neat. Distributed by RCF Australia (08) 234 2789.

SGM have come up with the **GalileoIII** and while I will say that this a pretty happening fixture that's about all I can tell you as I couldn t find any English literature at the show. But as soon as the translated version comes in I'll let you know. **-Caroline Grafton.**

Caroline Grafton was flown to Rimini as a guest of the Italian Government, to report on the show, and the local industry there. Connections extends warm thanks for the extraordinary hospitality provided!

ICE (continued)

a dirty joke or ditty (although lost in translation sometimes).

Our minders 'The Women from ICE' were far from cold and were so skilled at partying they sometimes left us delegates for dead on the dance floor (no wonder they need a daily siesta) but their ability to keep track of, organise, transport and communicate to every member of the delegation was fantastic and I will forever be in their debt.

But, it wasn't all fun and games. We were all invited in an attempt to boost Italian exports and to that end I believe ICE were successful. Certainly in Australia while we may not take on any more Brand Names than already exist eg Clay Paky, Coemar, De Sisti, SGM etc., Ice's action acts to boost Australian faith in these manufacturers by demonstrating these companies commitment to research and development, design innovation, marketing and quality control. Respect for the market potential in Australia, as we approach Olympic 2000 is evident.

The team from ICE (left) who extended every possible assistance to the Australian delegation at Rimini.

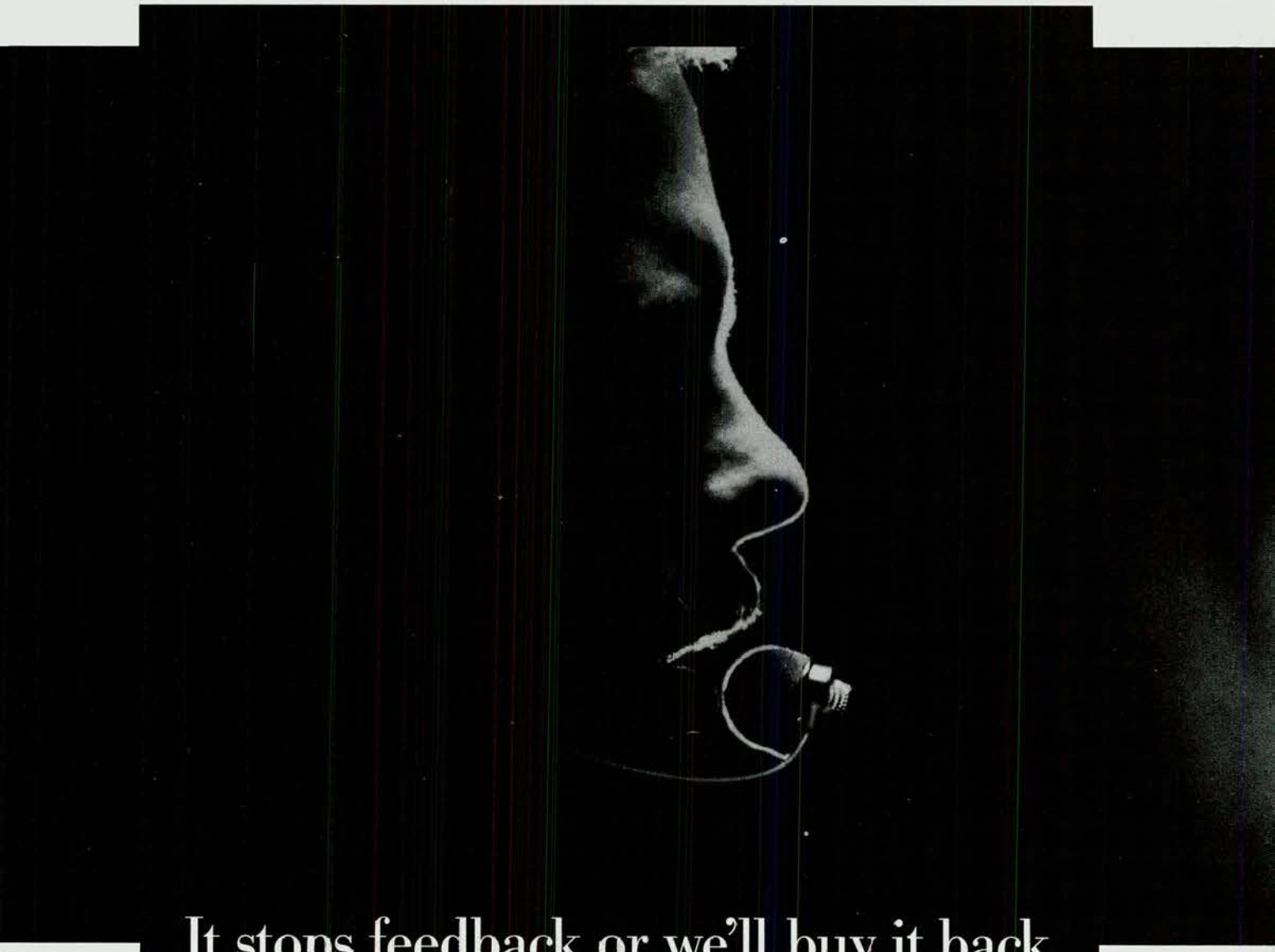
APIAD - looking after the industry

SIB '94 was not only an international exhibition of equipment for clubs, discotheques and live production but a celebration of APIAD's (Association of Italian Disco & Theatre Equipment Manufacturers) 10th Anniversary. The member companies produce lighting effects, sound systems and decor components and apart from a huge local market they export 40-50% of total production, mostly to European countries but to the Pacific regions and the USA as well.

Market targeting, marketing innovation and quality control are always high on the agenda of APIAD. They work closely with the Italian Trade Commission while establishing market areas (outside Italy) and quality/safety standards. APIAD have recently appointed a consulting company to align technical standards among its members. This move will hopefully realise for APIAD members the 12% increase in exports anticipated for 1994.

On the local market 600 disco and theatre equipment companies, employing 10,000 people turnover US$1,300 million in revenue. Italian manufacturers have quickly evolved in response to Italian club requests for innovative products. 7,000 of Europe's 50,000 dance halls/discos are in Italy and in 1993 had a combined turnover of US$1,000 million, 50%= entrance fee and 50%= second drinks and has constantly enjoyed a 10% annual increase. The venues vary in size and I have personally been to a couple that enjoy up to 12,000 writhing bodies a night, usually in theme environments where anything from cross-dressing to S&M is acceptable. The clubs do not hesitate on upgrading equipment, decor or even constructing a complete new theme area to satisfy the recorded 2 million per week dance hall attendee's And guess what, in Italy even the young or out-of-it attendee's don't deem it necessary to destroy the installation! **-CG** •

Emmanuel Ziino, from Show Technology, pictured (above) with APIAD Chairman Nicola R. Ticozzi



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Willie & Waylon Bumble Through Town

When the first 'Willie & Waylon' show at Sydney Entertainment Centre got such bad reviews for both the production and the condescending attitude of the performers, I just had to have a look at the show on its return visit.

The sound at the last concert was severely critiqued in the press and I asked Willies sound engineer Peter Greenlund for his reply.

"Yes, the critics were unkind," he admitted."We had some problems with the console. I was losing gain and ended up having to move channels around. Willies got a bad habit of singing very far off from the microphone and that night in particular he strayed a bit too far from the microphone. That didn't help the problems we were having out front of house. It's quite different to follow an act like Waylon where it's a little bit more high technology. There's a lot more electronic control which we don't have in the acoustic type band that we are so I think part of that might have been the reviewers limited education as to who Willie Nelson is and the type of things he plays. I wasn't happy with that evening but I don't think it justified the review it got."

"When we came over here we decided to cut everything to bare bones and as simple as possible knowing the equipment we were going to use was going to change from city to city," said Peter. "We're using a Yamaha 3000 for the house console and I'm only using four effects units - a TC2290 delay, a Yamaha Rev 5 reverb unit, SPX900 and SPX90. Willie also always carries a Lexicon 224, that's his personal unit we travel with. We're using Brooke Siren limiters with this particular rig and Drawmer gates. We only use four compressors and four gates, it's a pretty simple show. On this trip we have a Midas XL3 out as a monitor desk which is fabulous. I'm not sure what the cabinet configuration is for the monitors as I try stay out front of house and let them deal with the stage."

"The biggest thing with Willie Nelson is that it's such an acoustic band you have to approach it a little unorthodox sometimes to get what you need. We're using a C Tape on the piano and that's one of the critical sounds from Willie, a lot of the music bases itself around the piano lines. The band plays very dynamically and very light so to fill a large room is a bit of a challenge especially to achieve enough gain before feedback."

It was at this point that Peter admitted the band never do sound checks because Willie 'feels that is cheating in a live situation'. That's all very well but it certainly puts the pressure on the sound crew and perhaps the problems mentioned earlier would have been avoided if a soundcheck had been performed.

"The first three songs are usually somewhat of a trainer as I try to figure out what's going on," said Peter. "Willie plays every night different, approaching the songs differently."

With only a front and back truss of mainly par cans to operate, lighting designer Buddy Prewitt ('but you can call me Budrock') was hardly stretched to his creative limits. In fact Budrock described the tour as a paid vacation! Budrock has worked with Willie Nelson since 1977 - exclusively since 1980 - and prior to that as a freelance designer with acts such as Bowie, Bad Company, Steve Miller and Iggy Pop.

"I was one of the original Showco lighting directors back when Showco had a lighting department," said Budrock. "That was when they were first developing the Vari*lite in the back room. In the old days with Willie we would do over 300 days a year on the road now we're down to 100 shows in about 200 days. It made sense to stick with Willie as he's a fellow Texan and I'm a fan of his. Plus I knew how much people in the country loved Willie and that he would be a main stay act for years."

Budrock has a Texan flag which he trips at the beginning of the show. Budrock was using a Celco desk as he had all his show information on a Q-card - something he reckons saves him a lot of time. Budrock described the Australian rig as basically slightly different from the one he tours with in the States although he had added a few things for Waylon Jennings.

"I added some ACLs as they use a little more bump and flash lighting," he said. "My lighting is a little bit more directed and solo orientated. It's all pars, cyc lights and audience lights for me. It's easy and fast to put up although I never have to do that. Our pace of work is not quite rock'n'roll, we're a lot more laid back. We don't even leave the hotel until 1pm and I would guess the crew will have been waiting around at least an hour and a half for us to get there. My guys don't like smoke machines, they're older guys and when I fire a smoke machine they want to know what's on fire. There are not what you'd call effects in a Willie Nelson show, people don't expect that as they come to hear Willie Nelson sing. We just try to accent the mood not upstage him with lights."

Unfortunately Waylon's lighting designer, Tim Stevens from Nashville, was not available for comment as he had met a girl in Brisbane and consequently gone AWOL.

"There is talk that I may be doing Waylon tonight," laughed Budrock.

• **Catriona Forcer**

WEDDED ON STAGE!

One charming aspect of the Willy/Waylon tour was the wedding of Regina Marques and local crew guy Watson Hudgens, pre-show on stage in Sydney. Good luck!

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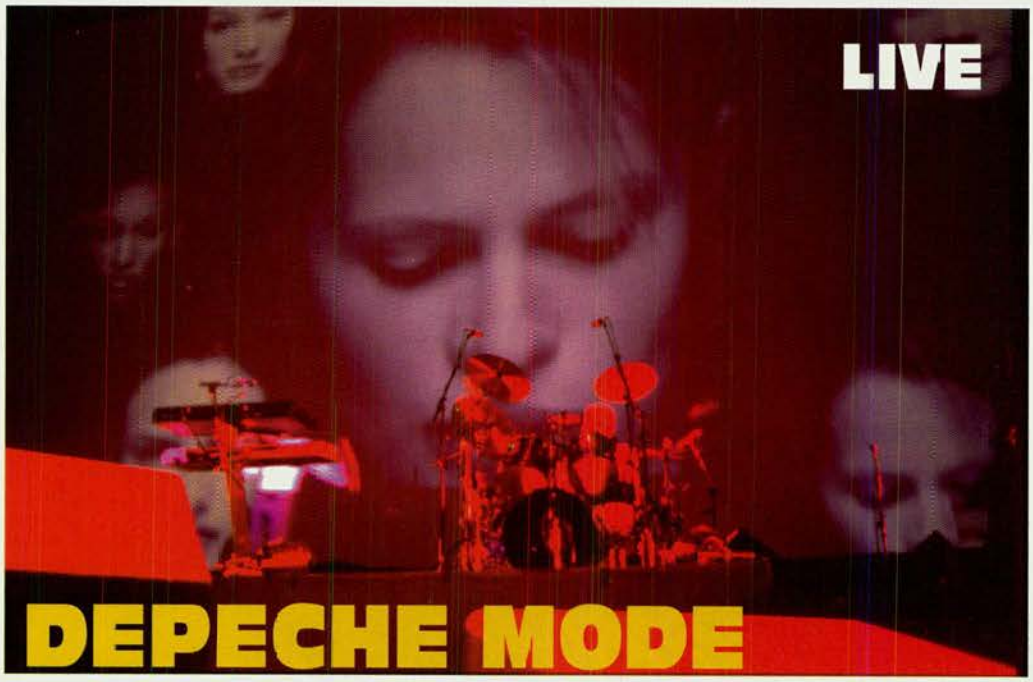

Depeche Mode Sound engineer is Jon Lemon- an Australian who has lived in London for the past ten years. Prior to that, he said he worked for Jands before 'running away'. "I went to Europe to do John Williams & Sky," said Jon, 'took a six week holiday from Jands but never came back. He then went on to do The Pet Shop Boys, The Cure and Depeche Mode. "I've been voted Sound Engineer of the Year in the UK for two years running which isn't bad for an Aussie lad", Jon told me. "If I had stayed in Australia I would have been going around in circles doing the same seven gigs all the time".

Although freelance, Jon usually works with Britannia Row in the UK and was the first engineer to work with their Flashlight PA system when he was doing the Pet Shop Boys. "Depeche Mode approached me six months before the tour started. At one point we were going to use a hard disk system to generate a lot of the stuff that is on tape now but we couldn't find a good enough hard disk system. I insisted they use digital tapes hence those two Sony 3324's. They don't like using sequencers because they're paranoid about things breaking down. We only use fourteen tracks as the tape on the other one is a backup."

Icon control desk

The brief from Depeche Mode was that they wanted to sound like their records and they wanted spares of everything. 'I use a lot of valve EQ and valve compression with some of the stuff. It adds a bit of warmth, you just plug them through a valve and you knock away some of the digital edge. It tends to analogue it up a bit, if you like. When you use a Flashlight PA, you can really hear things like that working. I also have some compressors that a friend of mine, Al Smart, designed - the Smart compressor which is a version of the SSL stereo compressors. It's a really great overall mix compressor which I use on drums and things like that.

I've got a lot of programmable EQ that I use obviously because of the multitracks changing hence the Varicurve sitting out there. They're all time coded up, all the midi is generated from a Mac onstage so I don't even have a m.d. changer anymore. We 're getting closer to having my Mac change the cue sheets and stuff as well, the keyboard tech and I'.

Jon favours BSS compressors to do the multitracks although he finds DBX160's are better for vocals and guitar. For the first time ever Depeche Mode are touring with a drum kit which adds another 24 channels to the desk even though it's only used eight times during the show. "I'm using two Midas XL3's because they're probably, for me, the best sounding board," added Jon. "Maybe they haven't got the best facilities but they sound better than the Yamaha. Instead of using third octave EQ I use a BSS Varicurve with a slave. It's great to be able to store curves and buildings in your computer."

In Australia the PA system was a TMS3 (32 each side plus 14 subs per side) supplied by Jands, which Jon found to be fine. The show at Sydney Entertainment Centre was special to Jon as, when he worked for Jands, he did a lot of the audio tests on the building as it was being constructed. "It's funny being back here again," he said. "When I was here with The Cure I remember thinking just how shitty it sounds! Still it's a challenge. Jands are pretty good at putting the PA up in here and it's pretty straight forward for them."

Monitor engineer - Anzac Wilson - was using two Ramsa desks and on this show it was down to 12 mixes from 18 on the European leg. There were BSS graphics, BSS gates and compressors, a couple of PCMs and a few midi switching devices run off the Mac with a time code. "Martin Gore uses some in ear monitoring," said Jon. "He uses a PRS radio station and the drummer uses in ear monitors but they're actually on a cable. Mic wise, for the last four years I've always preferred to use EV757's because I find they sound far more natural than a 58 although you need an endorsement to get them for free because they do break down! Drums is fairly standard stuff - a Beyer M88, snares and toms a 57 with 414 and 451 s for high hats".

(continues)

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DEPECHE MODE (continued)

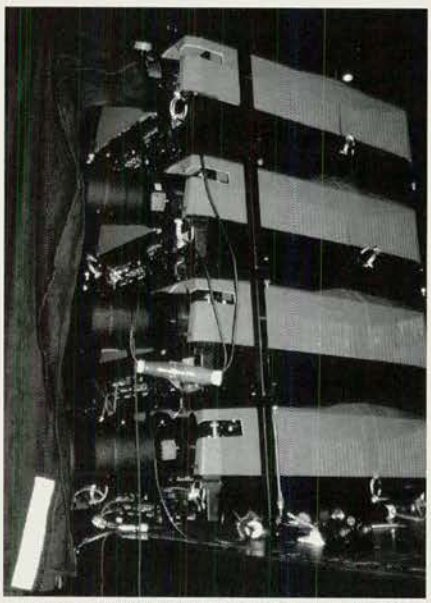
LIGHTING... was designed originally by Patrick Woodroffe, who worked closely with the film producer Anton Corbijn - who produced striking images for the band. The lighting system comprised 18 of LSD's new moving light, The Icon, and 72 pars arranged very symmetrical in the air. Mark Pope was the lighting director/Icon operator for the tour.

"On the last tour they had a few problems as they didn't like a few aspects of it," he told me. "This time they got Anton involved right from the start and he came up with the basic look of the show. He shot all the film well in advance as they had the set list decided very early on in the planning. So really the lighting was added to a stage set that was already designed, bearing in mind that over half the songs were going to be video. For us that was nice because it gave us another element. Anton had very little experience with live shows so they needed someone who would be quite understanding to his ideas but at the same time Anton trusted us with the lighting".

The band were keen to use LSD's new Icon automated luminaire and their tour production manager, Andy Franks, had a good relationship with LSD. "It was decided before I got the job that Icons would be platformed on this tour and I was really pleased about it," said Mark. "Moving from a Vari*lite desk to an Iconn desk was easy." Mark admits that they had a lot of teething problems with the Icons and that they were fortunate in having such a simple lighting rig. "We weren't pushing the Icons too far," he said. "We had lots of people working 24 hours a day to make them work. At one point it really was touch and go, we were discussing getting rid of them and putting VL2s up. But, thanks to all the technicians that were there, we managed to get them going and after the first few shows they were running quite smoothly. They've just got better and better until now they're no problem. The desk just sorted itself out in time. With hindsight, they weren't ready but we made them work through hard work and it's now a great product. Vari*lite will have a lot of competition. The rotating gobos on the Icon are very controllable, they can go very slow and you can make good combinations of still gobos and rotating gobos. Then you can split the colour as well. With the operating, it's more complicated because you can do that much more."

I asked Mark if it was possible to run the entire lighting rig through the desk: "They say you can but infact you can't" he replied. "The DMX is pretty much finished now but it didn't work in South Africa (where the tour was previous to Australia) or here. We expected it to be working here but it wasn't so we've got a Celco operated by Mark England for the generic lighting." The production in Australia was, as usual, smaller than in Europe and the USA. The same films remained but Mark started again from scratch with the lighting which had to be smaller in quantity. "Again it's very simple and it's great because we've finished setting up by 11am," he said. "I've got 181 and 106 washes with a few open whites and a touch of 141. That's it. It's mostly the 18 Icons during the show with the large cyc at the back. We're using Colourset Colourchangers which are amazing and I want buy some. If I had 12 of them I'd be laughing. I'd put them in the garage and use them when on tour. Then I wouldn't have to use Molemags because Molemags never work."

Lighting equipment, apart from the Icons, for the Australian tour was supplied by Concert Lighting Systems with whom Mark was extremely happy. The Icons were supplied by Bytecraft who Mark thinks were very smart in their purchase of the lamp. "You have to remember that LSD has a huge customer list," said Mark. "Every show that goes out, they're going to put Icons on. They'll offer a really good deal to the bands which they won't want to refuse. Depeche Mode are introducing this lights to every territory." The projectors on the show were Barco 5000s, supplied by PSI in the UK, which Mark describes as extremely efficient with a knockout image. "It really is state-of-the-art stuff," he said. "In Europe we were using them over a 14ft throw onto a 6ft x 6ft screen, back projecting, and the image clarity was amazing. Here, it's the first time they've been used over this distance and Barco said it couldn't be done. But Richard Turner, our video boffin, has spent a lot of time lining things up and tuning all the projectors so we get a really nice image." **•Catriona Forcer**



Barco 5000 projectors (above), pair of Midas XL-3 consoles at FOH (below)

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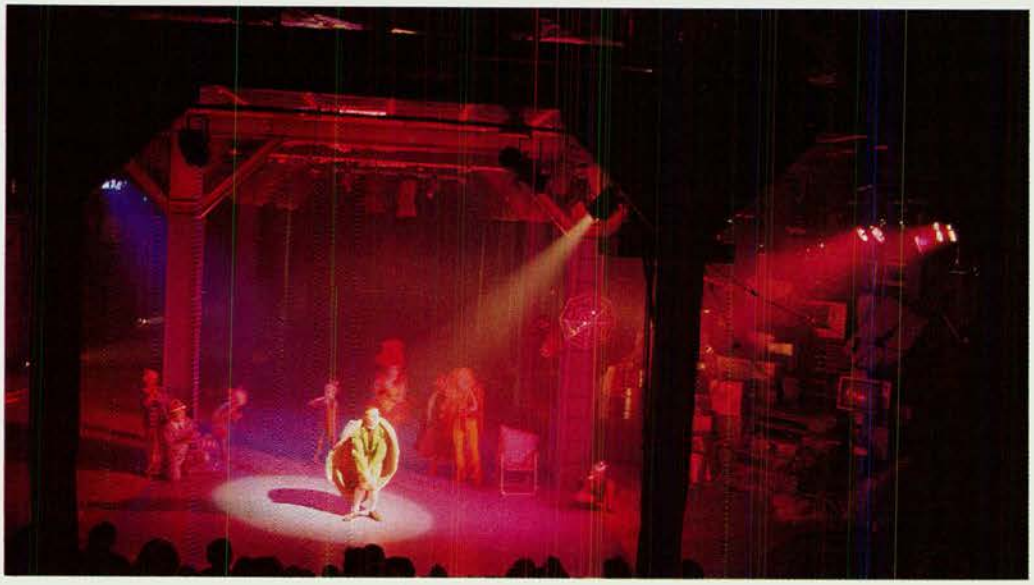

Carnival Of The Animals

Over the Easter period The Carnival of the Animals was staged by the Theatre of Image in association with Sydney Theatre Company at The Wharf theatre. Created by designer/director Kim Carpenter and writer Richard Tulloch, the story revolves around the fate of a bunch of animals that were rejected from an ark, as their world was on the brink of being flooded, because they were not perfect. The production was visually entrancing and the story was told through a combination of narrative, choreography, music, lighting and imaginative set design.

Lighting designer Geoff Cobham has worked on several Theatre of Image *(The Happy Prince, Swimming in Light)* shows as well as diverse projects such as Circus Oz, Belvoir St productions, Flying Fruit Circus, Sydney Festival shows and the lighting for the Dressed to Kill fashion exhibition at the Australian National Gallery. Geoff is part of the Sydney based company Bluebottle who specialise in lighting design and production management. Geoff draws all his plots with the Lux programme on his Apple Mac.

"That speeds things up so I can do enough jobs to afford to live as a lighting designer!" he said. "It cuts down my work time by about 7 hours per drawing."

Geoff has worked with Kim Carpenter for eight years and consequently they find they do not need to communicate over projects too much. Geoff describes the end result as happening almost by 'osmosis'.

"Kim designs the show about eight months ahead of time and produces the most beautiful watercolours of how it should look," said Geoff. "Because it's for children we can really go for the big effect. It doesn't have to be high tech, which is something I'm not very comfortable with, I tend to go for low tech things. You have to be careful to try keep the focus on the characters as kids do not have a great concentration span."

The room used for the production was one of the sea level spaces which, at first, proved fairly daunting to the production team. The large space was broken up by large steel pillars and the depth of the main performing area was about 40 metres. A smaller performing area, stage right and similar to a rubbish dump, was separated by a pillar which could obscure your view so it was not used very often. Fairy lights, turned off during the show, were strung around the space to add to the magical appearance of the setting.

"I don't think anyone has ever done as big a show in here before," Geoff said. "When I first saw the building I was pretty terrified because basically we were supposed to be upstairs in the studio and they changed it to down here as they wanted to use a venue that was more magical. The equipment was basically the rejects from everywhere else in the Sydney Theatre Company. We had no confirmation of the power and trying to get a blackout in here took days of stapling black plastic over the windows and holes. I don't have many rigging points in the roof so I only had a limited number of bars. As a result I've done a lot of the lighting from the floor which does suit me and there's no front of house at all as it's all done by footlights. I was a bit worried about that as we have a silver roof but it's been alright and doesn't pull your focus away probably because the costumes are so bright."

In such a space Geoff finds that the audience are more relaxed than in a theatre and nothing pleases him more than when the kids scream and talk in response to the show. The production had enormous trouble to begin with as the building did not

(continued)

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Carnival *(continued)*

have a license when they arrived although it had been applied for.

In fact on the day they opened they had the inspection. The electricians had been in at 4am putting in the emergency lighting and had managed to short the board out and crash the Melange computer control board. The inspectors said the seating was no good, there were no aisle lights and no exits signs so the show would have to be closed. Aisle and exit light were hurriedly put in, the seats were taken off the bleachers with cushions put down in their place and fortunately no shows were cancelled. Apparently the type of seating used is licensed in Victoria where it comes from but not in all of NSW.

"The production 'Dead Heart' over at the railway yard *(see next story)* has exactly the same seating unit but theirs wasn't condemned," said Geoff. "I think it's because of different councils. The 'Theatre and Halls Act' is being given over to the councils now and it's no longer clear as everyone seems to make different decisions."

"Lighting wise I've probably got one of every kind of lamp from Pattern 23 Mark 1's right through to the latest Selecon 1200 Zoomspot which I hired. I've probably hired half the rig as upstairs they've got a lot of 264's and 764's which I tried to use but their shutters didn't move any more and they were filthy. The main effect that I've relied upon is the oil cracker, hired from Chameleon, to try make the use of each lamp that I've got so that you see the beam from the lamp right through. To add to that depth of the performing area I've used the smoke with some lamps on the floor right at the back as there are no lighting bars back there. It really gives an atmosphere in the space."

Most of the hire equipment came from Roger Hind who Geoff describes as the patron saint for lighting designers from small theatre companies. Geoff insists he could never normally afford to hire equipment of such quality but fortunately Roger is very supportive.

Geoff used a few ripple machines, from Premier, to give a watery appearance to the set and they were extremely effective especially in the smoke- it was rather lovely.

"The board operator (Ken Roach) also operates a 1200 Profile, with an iris in it, as a sort of followspot. Sometimes it's used as a special so he'll move the lamp to the next position and leave it there. I've had to put the poor bugger sitting on a little platform on top of a pole about 4 meters high to operate the show."

Geoffs' company Bluebottle have recently become the Australian distributers for the Melange Memory Lighting Controller manufactured by the NSI Corporation based in Oregon, USA.

"You need two or three shows a month to make a living. Working with companies this size, the pay is pretty bad but the satisfaction is good so you can only do it for so long. I really come from a dance background so I apply a dance approach to theatre - lots of side light and deeper colours that perhaps wouldn't normally be used in theatre. Last year I did sixteen productions, which means sixteen opening nights, and so I had a production week more than once a month. After a production week, I'm stuffed the week after and I'm not sure I can keep going at that pace. I'd like to do more exhibitions or teaching but, although you do get sick of the performance work, you do want to keep working with those people as it's the most challenging work. The thing is you can't keep working for $1,000 a pop, that's all they can afford, although the average I get is $3,000 a design." •

By Catriona Forcer.

Dead

Belvoir Street Theatre, in conjunction with Black Swan of Perth, recently staged Dead Heart, written by Nicholas Parsons, which deals with the clash of two cultures particularly the differences between western and tribal laws. Director Neil Armfield decided to hold the production at Eveleigh Railway Yards, Redfern and so an enormous warehouse became a theatre. The large space was converted into a red sand desert with sacred sites and a rock pool, a campfire setting, a police station, a jail and the homes of the white people that come to the aboriginal community. The show, which featured a large cast of white and aboriginal members, also had spectacular car chases and wheelies across the desert.

"This is definitely the most unusual production that I've worked on just because of the scale of it and that we had to start from nothing," said Annette Alderson, Production Coordinator. "Neil felt the play needed much more scope in terms of space and a more epic scale in terms of production. It works really well for this play especially when the walls come down opening the 'community' into the Australian landscape. Everything you see we installed including the concrete slabs which form the basis of the interior settings. We also had to put up the plastic to block off the light as we're doing a big schools matinee programme."

The main focus of the set are the two corrugated steel walls which collapse via a hinge which is safety chained to the floor so they don't fall forward instead of backwards. When the snap shackles are released, a piece of wire rope lets go and the wall slides backwards along a steel plate.

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Heart

"It's simple, effective and invisible to the audience," said Annette." Also it means it doesn't need any rigging from the roof and to get it back up again, we just use chain blocks. They were a little bit problematical in the beginning as the hinges were gouging into the concrete and stopping the walls falling down so we put the steel plates in. It took us about ten days to set the production up - getting power fed through to here, hanging pipe as there was nothing to hang the lights on - and we only had the one scissor lift to do it with. Safety wise, we had to go through three levels of government starting with State Government Department of Planning, who have a caveat on this whole area, down to the local council who did the inspections."

The major problem playing at the railway yards in Redfern is theft and consequently all the equipment and props have to be taken down after each show, locked away and set up again the next day.

Theresa Ryan, Assistant Stage Manager, was in charge of the sound with most of the cues on CD for easy use. There were a couple of Bose front of house speakers as well as a speaker in the foyer. Most of the sound is live - playing sticks and didgeredoos - and of course the car sound effects are real.

"The sound's not very complex at all," said Theresa. "There's a generator that runs consistently during the show when the scenes are in the town but it doesn't play when they're in the desert. We have two videos which we run to the TVs in the interior sets.

Lighting Designer for the show was Mark Howett and the lighting equipment was mostly Selecons and Par 64s which gave good coverage something that was necessary because of the height of the warehouse. Ten lamp bars were suspended from the roof and there were also a couple of upright bars to light the walls.

Equipment was hired from Roger Hind except for the Par cans which came from Electric Sunshine and the crew promised they would thoroughly clean them of red sand before returning them! Lighting control was a Theatrelight Showmaster run by Robert Riccardi.

"It's not high tech but just normal things," said Mark Mitchell, Production Manager. 'As it's a high grid there are a lot of 1Ks. Cabling wasn't too bad, luckily there are some old beams which the old cranes ran on so we were able to put the racks up there and run 3 phase to them. That cut down the cabling and we run looms out. Car headlights and the police car flashing light are all part of the lighting design. Lights are used around the pond to reflect ripples onto the corrugated iron walls."

Set design, props and costumes were by Edie Kurzer.

•By Catriona Forcer

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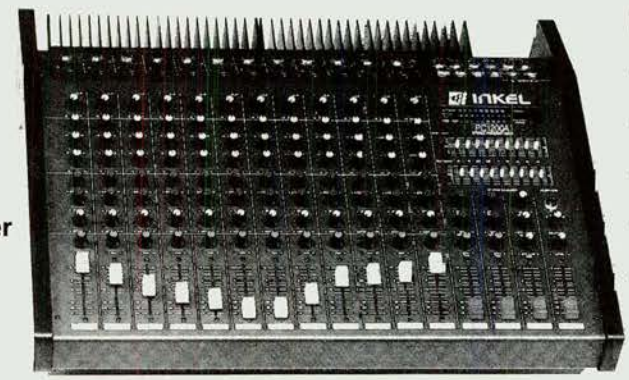

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STAGING RENTALS Sydney NSW (02) 519 6300 ..... Notes from the Netherworld
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"What! Never heard of it.....Great!"
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"Gold foil! "
"Send a sample"
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WILD GRAVITY Townsville Qld recently worked with Jose Feliciano at the Townsville Breakwater Entertainment Centre. The rig 80 Par cans & Deltamax PA flown for an audience of 1000. They also experienced the 'Toyota Road Show' machine at the Sheraton Hotel Townsville. Give Noel a call on (077) 21 3540.

ACTIVE LIGHTING PTY LTD Melbourne Vic. designed and provided the lighting for the Melbourne launch of Pink Floyd's new album, held at the Old Regent Theatre. The rig comprised of 8 Goldenscan II's complimented by a rig of 52 Par 64 & 32 Raylights. The Goldenscans and Dynalight DMX Dimmers were controlled together off a Scancommander desk. CREW: Kevin Gaynor, David Wright, Rob Darvall. Active are also providing the pre match entertainment lighting for several Melbourne Magic home matches this season at the Melbourne Sports & Entertainment Centre, using Goldenscan II's controlled by Scancommander desk and operated by Active's new production manager Kevin Gaynor. Kevin originally came from a Rock N Roll background, having worked with acts such as Hunters & Collectors, The Black Sorrows and X during the 80's. For the past few years he has been working around Melbourne for various lighting companies, doing the occasional theatre seasons. With his combination of Rock N Roll, Corporate and Theatrical experience he is ready to do business. Call Anne Topp on (03) 819 6912.

FERNANDEZ MUSICENTRE Cairns Qld. have "been busier than a one armed pick pocket on pay day in Perth" according to Doug.

"The scenic Kuranda amphitheatre was the venue for Rock and Reggae in the Rainforest. The Divinyls and Inner Circle pulled a great crowd on a Sunday Mid-April. All the punters sang along with all the words that they knew! A La La La La La, A La La La La La (who wrote this rubbish?) The PA was frieghted from Brisbane while Doug and friends brought the rest of the lightshow and crew from Cairns. 10 points to the lighting crew - Doug and Zac, for the natural rainforest backdrop; 10K of 139 in the trees looked pretty good!!! LD in this case stands for Legendary Dudes, not Longhaired Drop Kicks as the audio guys maintained!!

Late April saw a return visit to North Qld by those Screaming Jets. The P.A. was a Nessel and the lightshow and stage gear came from Fernandez - "our Mashall's needed the cobwebs blown out!".

The LD's (new meaning) of Fernandez finished out the month in the Cairns Hilton and the Sheraton Mirage in Port Douglas with Vince Jones and Friends, requiring P.A. and lights and "E.V.S200 monitors or else". Doug wants to know "is this a deal that Vince has with E.V.? Does he get a kickback for every pair of monitors sold? Do people really like Jazz? Sorry!". You can (if you really need the feel to) call Doug on (070)51 8519.

RAVES have lulled a little in the last month but I'm sure they'll manage to resurface. After my last little dig at Raves I have had, my opinion on the 'illegal Rave subject' challenged, even to the point of nasty threats and invitations to various dare I say 'gigs'. They say "the jobs I work on or promote are 'clean' why don't you come along?". "Yeah sure!" I reply, but not one of these invitations has come to fruition. Clean gigs hey! I've still to find one.

Grant Walden from Tamworth reports the Chippendales worked town recently, with a Showtravel semi load of gear including two Harley's which the loaders lugged in. 900 costumes, *16 members* - is that the right word? were bussed in, the show went down a storm, the Beef autographed the ladies things, one even displayed hers to the loaders. Cruel!

A non-industry type person was listening to me prattle on the other day and then asked me, "Why would anyone want to hire a driveway?". Bye! **-Caroline Grafton.**

Console Talk

Osmond Electronics in Adelaide have added a Midas XL-3 40ch console to inventory. This makes a respectable impression from Midas on the Aussie concert sound industry, which now boasts the XL-3 and Yamaha's new-ish PM 4000 as common place.

The PM4000 has been chosen by Troy Balance we hear, who needed to update like many other firms, after a virtual freeze on capital expenditure 1990 through 1993.

Last year Ian Richardson's Audio & Recording - who operate the largest Meyer system outside the USA - bought the two Soundcraft Series Four/40 consoles from the finance company who had financed the massive rig A1 Audio bought in the late 1980's. Audio & Recording also have a TAC 9000, the type installed at Sydney's Opera House.

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STUDIOS MONTHLY
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STUDIO PROFILE

Greg Simmons visits 48V Studio, Sydney

48V is one of Sydney's newest studios and was first mentioned in Connections some months back when they were still putting the facility together. The studio is now fully operational, so we thought we'd drop in for an update.

48V is Rob Taylor, Greg Henderson and Clare Britton. Housed in the Darling Harbour Studios complex, their client list so far includes Screaming Jets, The Gadflys, The Wash, The Whitlams, Caligula and Def FX. 48V is also the production house for Phantom Records, who have got them booked throughout the coming year. When Connections dropped in, Def FX were in the studio with Nick Launay producing.

On the equipment front, 48V has a fully automated 56 input Amek Hendrix console, a Studer A-80 Mk II 24-track two inch analogue recorder, and a Tascam DA-800 24-track digital recorder. Outboard equipment includes a Lexicon 480L digital reverb and a range of compressors and gates from dbx, Symetrix and Aphex. They've also got an Akai DD1000 magneto-optical disc recorder, an Akai S1000 HD sampler and an Atari Mega STE running Cubase sequencing software. Three Tascam DA-88 modular digital multitracks are currently under consideration, to replace the Tascam DA-800 and to be more in line with what people are using. A collection of old analogue synths and drum machines means they're also particularly well set up for techno and dance music. All of this is housed in a large, well-lit control room.

Although they're the production house for Phantom, 48V are also being booked by other record companies. According to Clare: "It's a gradual, step-by-step process of building up the vibe. We're getting good feedback from the people who have recorded here, they've been really happy."

So how's business going? According to Rob: "To understand how we fit in the marketplace, you have to understand the philosophies behind what we are and what we want to do. We don't want to compete with other studios, Sydney is so saturated with studios. We're the production house of Phantom — we're their

(continued on page 40)

Nick Launay & Rob Taylor in the background, studio manager Clare Britton, and DefFX Member. At 48V.

WORKBENCH

With Howard Jones

THE MECHANICS OF ELECTRONICS

I never cease to be amazed at how often a fault which seems apparently electronic in origin is eventually found to have a mechanical cause, and a classic example of this occurred recently. The call out was to a large console fitted with VCA fader automation; the problem was that the automation system had "lost its mind". When I arrived, the fault was immediately obvious: all the status LEDs in the channel fader sections were winking on and off like Christmas tree lights, and the system wouldn't respond to any commands at all.

Fig 1 shows that the fader automation in this console is closely tied in with the console status panel: virtually all the mix functions are controlled from this panel. The operator enters commands via the remote control keypad: from here they are transmitted by an infra-red beam to the status panel. A microprocessor in the panel then communicates with the fader control modules which in turn address the individual channel faders. Say, for example, you wanted to place channel 12 into update mode: all keystrokes would be entered on the remote and the status panel would then issue commands to enable that mode on that particular channel (A by-product of this design is that, if the remote control panel fails, then you can't control the desk at all!).

The faders in this console occupy a separate bay which runs the width of the mixer. Each fader plugs in to a vertically mounted edge connector on a dedicated fader mother board and each mother board accommodates a group of 8 fader modules. As shown in Fig 1, these mother boards are linked by short ribbon cables which carry the data and address lines from the 3 microprocessor control cards at the right hand end of the desk. These bus lines travel across all the mother boards, and are linked in parallel to all the fader modules. At the left hand side of the desk these lines are joined to a bus termination board, which terminates all the individual bus lines with the required impedance to ensure reliable operation at TTL levels. With this board absent or malfunctioning, you would tend to get random or garbage operation - hmm!

Luckily, the studio had the correct extender card for the fader and control modules, so it was at least going to be possible to stoke

(continues on page 40)

EFECTS: Reverb & Delays EXPLAINED, Buyers Guide: Page 48

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Workshop *(continued)*

up the CRO and have a look at what was happening. Each channel naturally had its own fader, and adjacent to the last channel was the master fader - also automated. Where the fader bay ran below the patchbay, provision had been made for the installation of "wild" faders, but these were not fitted to this console - instead a series of blank cover plates covered the gap. At the far right hand end of the console, the three control modules were found lurking beneath some of these blank plates.

With each of these control modules in turn up on the extender card it could be seen that the fader address bus operation was not consistent with normal bus behaviour, and yet it was difficult to characterise exactly what was wrong. Powering the console off and then on seemed to leave the whole system in a different condition each time - sometimes, various lines looked stuck, whilst other times the micro appeared to be cycling the address lines waiting for some valid data. Unfortunately, nothing on these control modules could be cited as definitely faulty - most of the important chips seemed to be OK.

Having already checked the automation power supply voltages as a matter of course - they too were OK - suspicion fell next on the bus termination board. This small PCB contained a voltage regulator fed from the main supply and this regulator supplied the pull-up voltage required for the bus terminations. However, no joy - all was well here.

The next step was to remove all the fader modules. Because intermittent problems can sometimes be traced to dodgy edge connectors, this studio had been in the habit of removing these modules themselves, and spraying contact cleaner on the (male) connector on the module and into the (female) connector on the mother board. This latter is a real pain, because these sprays are generally non-evaporative, and so sit there forever attracting dirt, dust, ganja etc. into the connector. In my view, this turns a short term problem into an on-going maintenance hassle.

The connector on each module was cleaned and some were found to be very dirty - could this be the cause of the corruption on the busses? We seemed to be on the road to success when I plugged in only the first four fader modules and powered up the console. The automation system booted up correctly and we were able to control all four channels as per normal. The console was then turned off and more modules were connected. We booted up a second time and - clunk - winking lights and random garbage.

However, this experiment had set me thinking and by this time I was wishing that I had a ribbon cable long enough to connect straight from the control modules to the very first mother board on the left hand side. This would narrow the problem down to the essentials and show me whether the fault was in the control modules or somewhere along the bus itself. Well, I didn't have such a ribbon cable handy, but I did find that the cable leading to the first fader mother board at the right hand end was sufficiently long to be teased out and connected to the next mother board. The effect of this was to bypass the unused mother board which was only there if "wild" faders were to be used.

This time the console powered up with all channels working beautifully. Powering down and configuring the cables the way they had been showed conclusively that this first mother board was the source of all the problems.

And why was this? Well, this board lived under a series of cover plates and had no faders plugged into it - therefore, no-one had ever seen the need to clean out the edge connectors. Being vertically mounted, these connectors had simply accumulated plenty of samples of all the things that find their way through the cracks in a console.

Somehow - be it humidity or liquid spill - these particles had become sufficient conductive to be intermittently loading down the fader data and address busses which ran via these connectors. So, even though they weren't used in this desk, this group of connectors were to halt the operation of the whole console!

** As you may have guessed, Howard is a whizz at Fixing and Installing Things. Call his firm, Studio Solutions, on (02) 906-4363*

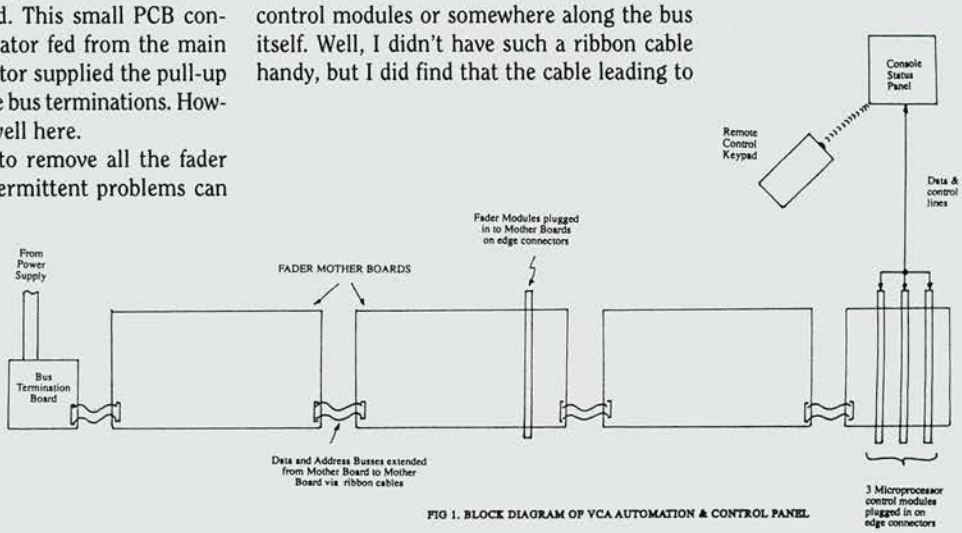

FIG 1. BLOCK DIAGRAM OF VCA AUTOMATION & CONTROL PANEL

48V *(continued)*

left arm. We've developed a family relationship with our bands. But, inadvertantly, we are competing because we're here and we've had good jobs from day one. We're also very realistic about pricing. When you hire the studio you get the whole thing. There's no extra costs."

In summary, Rob says: "You know you're doing well when you hear on the grapevine that other studios are saying 'they'll go broke in a couple of months'!" Call Clare or Rob at 48V on (02) 211 6663 or fax (02) 211 6664.

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STUDIO PROFILE

Darling Harbour Studios

Have you ever visited a classic old theatre or pub and marvelled at the majesty of the interior design?

That's the impression you get when you enter the Darling Harbour Studios complex (DHS). The complex is being built with materials taken from old theatres, pubs and other places that have been demolished.

There's lots of polished wood, stained glass and plaster work, creating a very 'lived in' feel and retaining some of the atmosphere of those old theatres and pubs.

DHS is run by Ike Brunt and Dave Mead, whose collective backgrounds include recording and playing music, managing a recording studio, running a theatre, working in film and, er, demolishing old buildings... The complex is housed in a large warehouse directly opposite The Powerhouse Museum. They're currently in the second phase of construction with two fully functional rehearsal rooms, an equipment 'cage' for bands to store their gear, and a professional multitrack recording studio (48V). Still under construction are another multitrack recording studio, a huge recording/rehearsal/production room, a Midi suite and a video suite.

One of the most interesting things about DHS is the 'community' attitude that Ike and Dave have towards the place. Instead of taking the corporate approach where all facilities are owned by one company with large overheads, DHS is more like a collection of people under one roof, forming a big company out of lots of little parts. The recording studio currently in operation belongs to 48V, the Midi suite belongs to Clan Analogue, and the video suite is being set-up by Warren Lynch from Apocalypse.

Putting together a complex such as DHS takes a certain amount of vision. According to Ike and Dave, the DHS vision is: "To create a facility for up-and-coming and established artists, whether for music, theatre, film or video. A facility where the artist feels a comfortable vibe and gets a creative atmosphere, and a facility that's affordable to young bands." *Call Darling Harbour on (02) 211-1474*

MASTERING
With Paul Bryant

HOME STUDIO DIGITAL - DAT, DCC AND MINI DISC

There are now three digital recording systems within the reach of the home studio owner, DAT, DCC and MiniDisc. None are compatible with each other and each has its own advantages.

Of these formats, only DAT uses the same digital data as CD, whereas both DCC and MiniDisc use forms of digital data compression to reduce the amount of data actually stored.

DAT: DAT is a tape based system which can record digital audio which is compatible with CD, and is a logical choice for home studios releasing product on CD. Although DAT recordings can be transferred digitally to CD, to compile a CD album some form of digital editor is necessary. These are a little too expensive for the average home studio so this means using an editing/mastering suite to prepare your CD master, which is not a bad idea anyway as it allows last-minute fine tuning of equalisation and levels.

DCC : DCC is also tape based and uses a tape of similar dimensions to the analogue compact cassette. DCC machines are capable of replaying analogue cassettes as well

(continued over)

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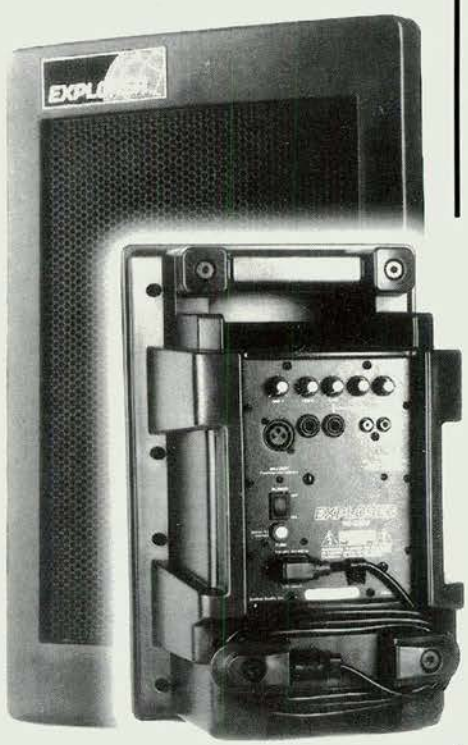

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as digital recordings, but in practice this may not be a good idea because although premium quality analogue cassettes should be O.K., if you play the junk that duplicators are fond of using a few times, you will end up with a clogged head and this means a trip to the service department, as you cannot clean the head yourself. DCC is similar to DAT in that an editor is necessary for editing and compiling. The data compression system used with DCC is called Precision Adaptive Sub-Coding or PASC. Using this system, about 75% of the audio information is discarded while still providing a good approximation of the original sound.

A demonstration of DCC using both a CCC tape and a CD of the same material played through the same digital decoder resulted, subjectively, in the DCC sounding slightly indistinct and "mellower" than the CD. In fact, the DCC sounded more pleasant than the CD, but this could be due to clever source selection favouring the DCC characteristic. The important thing is that although the DCC sounded good and was close to the source material, it was not the same as the original.

MiniDisc : MiniDisc is not tape based but uses a magneto-optical disc which is read by a non-contact laser, offering durability and reliability that far surpasses conventional tape formats.

MiniDisc uses a data compression technique called Adaptive Transform Acoustic Coding or ATRAC. This reduces the amount of data recorded by 80%, yet still produces a reasonably accurate reproduction of the source material.

Subjectively, when a MiniDisc and a CD of the same album were played and compared, the MiniDisc seemed to be lacking in "spatial" information with the soundstage reduced and more "up front". Even so, the effect was subtle and quite acceptable, but like DCC there was a difference between the source and the MiniDisc.

SONY's professional division is stating emphatically that MiniDisc is not intended for mastering, even though the MiniDisc brochure invites you to "turn your living room into a Home Studio". MiniDisc is going to appeal to home studio operators because of the low cost and durability of the discs, the random access capability, and the basic editing capability. These give MiniDisc an edge over both DCC and DAT from an operational point of view, although for audio quality DAT is still superior to both formats.

If your home studio produces demos, broadcast audio or cassette only albums then MiniDisc looks very attractive, chiefly because you can do more yourself without resorting to outside help such as an editing suite.

** Paul Brynat is a Mastering Engineer at All Music Manufacturing - call them on (02) 557-1169.*

Review:

LA AUDIO
4x4 and 4c, Gate/Compressors

By Bruce Waite & Dave Macken, Blind Lemon Pie

Let's get one thing straight, right from the outset. This article is NOT about off road vehicles or sound seminars. The LA Audio "4 x 4" is not a flora and fauna crunching assault jeep, nor is "4c" a bad mark in the last year of a long sound engineering course.

Rather they are two dynamic processing units from the current LA Audio range that have been receiving some attention, from around the world it would seem.

Briefly the 4 x 4 is a stereo gate and compressor with high/low filtering while the 4c is a four channel multi-band compressor without gating. While the two are similar we've decided, whether you like it or not, that to easier understand each units capabilities we should split them up and look at the 4 x 4 first.

4x4 Overview.

Like many and most processors of today, particularly compressors, the 4 x 4 is housed in a 1 rack unit high enclosure of non descript grey/grey colouring. Unlike many of it's counterparts, the 4 x 4 has taken the now established "two compressors with a gate" theme and expanded it by furnishing the user with many more of the features found on individually packaged compressors and gates. It's front panel markings are easily read around a simply laid out and grouped set of controls. A description of these controls will make obvious just how many of these professional features a manufacturer can introduce into one unit.

Each channel begins with the gate section, here you'll find the common place yet ultra necessary Threshold control followed by the addition of a 5ms to 4 second Release dial and a Range control allowing up to 90dB of attenuation.

Above these are four push buttons, two of which allow selection of and monitoring of the external key input, one of which engages the Auto Attack time function and the other allows individual Bypass of the gate. When Auto Attack is engaged the gate assumes a floating attack time of between 20*us* and 10ms in relation to the input signal. We tested this feature and it worked very sensibly; this is just as well because the fixed 5*us* attack time was so fast that it tended to introduce an audible clicking on the front of most sounds. Completing the gate is a Key activity LED and three 6.5mm phone jacks for Input, Output and External Key access.

The channel now continues to the next extra feature, a high and low filter module that is assignable to either the gate key path or the compressor side chain. This filter comprises two shelving circuits which the engineer can em-

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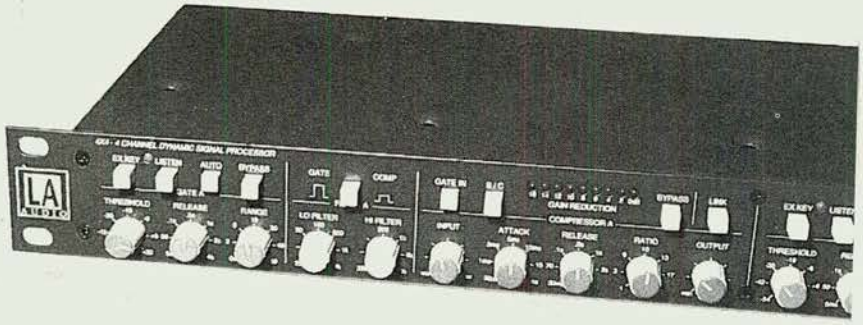


ploy to achieve frequency conscious processing. For example, switching the filter to the Gate could mean that only sounds with frequencies in between the high and low settings are able to open the gate. Likewise, switching this filter to effect the compressor side chain will mean these sounds may now be the only ones that cause compression to take place.

Compression, should you wish it to take place, is manipulated in a fashion not unfamiliar to us though not altogether common place. The manufacturer has decided on this model to overlook the use of a compression Threshold control by instead equipping the 4 x 4 with an Input level control as well as the usual Output level control. This leads to the sometimes annoying practice of continually having to reconstruct your gain settings because increasing or decreasing the Input level is the only means of causing more or less compression to take place. Once settling on a gain structure suitable to your compression needs the unit does, however, offer further independent adjustment of both the Attack and Release response times. The Ratio of compressor action is variable from 1:1 up to 20:1 and here the available maximum setting only just scrapes in to support the manufacturers claims of the unit being a limiter.

Above the five compressor dials are switches which allow individual bypass of the compressor stage and front panel selection of side chain operation. The compressor "module", as with the gate, has it's own jack sockets on the rear panel for Input, Output and Side chain. The 4 x 4 socket patching allows the unit to be used as four independent processors however a clever addition by the manufacturer is a push switch called "Gate In". This button toggles between the compressor either listening to it's own input socket or direct to the internal output of the gate within its channel.

Finishing the compressor sections, and the unit in general, are two LED ramps for viewing gain reduction readings and a Link switch for ensuring correct imaging between channels A and B when using the 4 x 4 for true stereo processing. Overall this model works to an acceptable standard and it has lots of neat switches yet, as with nearly all compressors, it does add hiss to your sound. In defence of the manufacturer we can at least say they seem to be honest because they were prepared to admit to a signal to noise ratio of 83 dB. Most compressor spec sheets quote much higher readings while expecting people like us to act dumb and ignore the inevitable noise associated with compression processors.

4C Overview

While we're in the mood to *compress* facts onto paper, let's *press* on with the LA Audio 4c multi-band, 4 channel, super linked, half band, full band, every-band-you've-ever-worked-for compressor ! Initially, in it's most basic configuration the 4c is a four stage mono compressor and thanks to the modern wonder of jack sockets with little switches built into them the 4c can be patched as not only four mono units but also as two stereo twin stage compressors. Neat, eh !

Provided on the rear panel are sixteen jack sockets allowing signal Input and Output as well as Side chain In and Out for all four channels. It is these sockets, combined with front panel selector switches that let the 4c operate as a choice of four standard compressors through to a combination of standard and split band processors. Split band compression is achieved via a single stage shelving filter which can reside in either the Side chain or over the entire incoming audio source. When the front panel 'Half" button is activated the combination of the filter frequency dial setting and whether it is engaged to high pass (HP) or low pass (LP) mode determines if the frequencies above or below this point are compressed. In this mode the un-compressed band of sound is still always present at the Output and the Gain control is used to "mix in" the compressed band. This is effective for some applications but the 4c will not let you access only the processed band and as such defeats the ability to have true split band compression. By not using the Half mode the filter simply resides in the Side chain.

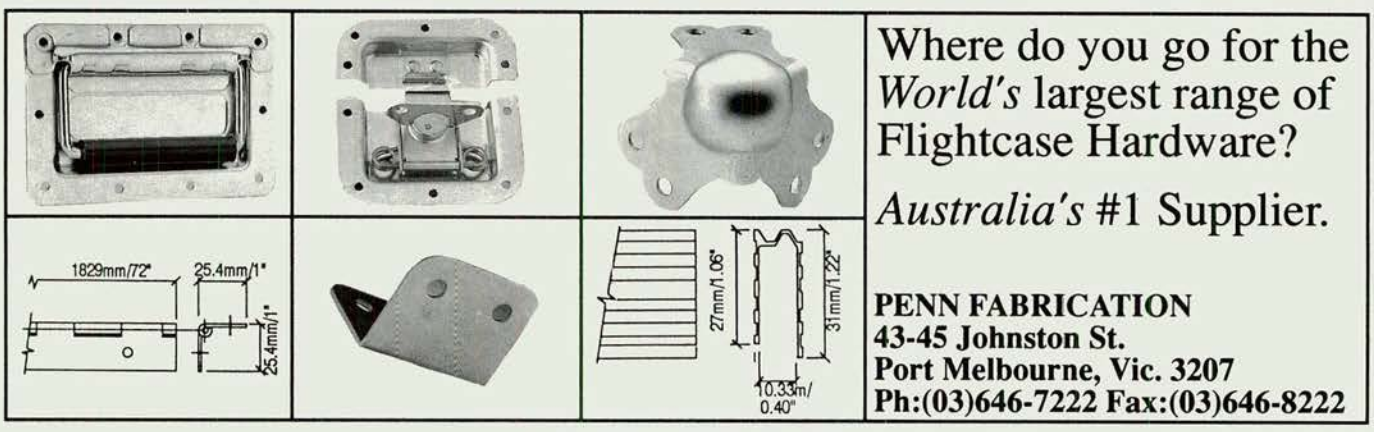
Other push buttons on the 4c include Bypass and Attack for each of the four channels as well as a Link button for each pair of channels. Placed in between these buttons is a dedicated gain reduction LED ramp that, when the unit is in Bypass, continues operating though with a reduced luminosity*

(n. - the state or quality of being luminous: New Webster's Encyclopedic Dictionary 1989. Oh how bloody helpful !).

Unlike the 4 x 4, the manufacturers have seen their way clear to include a Threshold control on this model and this combines with the Ratio, Release and Gain dials to bring the 4c up to a level where pretty much all compression effects may be obtained.

Half band compression circuitry in conjunction with the four in one approach of the

(continued over)



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LA Audio 4c and a price tag of under $1300 is no doubt the reason for the global interest it is attracting. This unit could well be used in a "live" environment for its rack space saving approach as much as it may be found in more critical studio applications where only parts of each sound have a need to be processed. On the other hand the 4 x 4 has less channels and a lower price point yet gives the less discerning user the opportunity to 'have a go' with such things as filtered gate keying and frequency selected compression. •

About Our Reviews:

Connections does not run product reviews to any particular schedule. Bruce Waite & Dave Macken choose products on offer, and review without regard for advertising obligations, and without regard for marketing considerations. Bruce Waite & Dave Macken are freelance, working from their project studio, Blind Lemon Pie in Sydney. Call them on (02) 457-8304.

LA AUDIO 4 x 4 INFOTAINMENT

GATE.

SIGNAL TO NOISE	98dB (channel closed).	-95dB (channel open).
Bandwidth	10Hz to 60kHz +/- 1dB.	
THD	0.02% at 1kHz.	
THRESHOLD	-54dB to +20dB.	
ATTACK TIME	Auto off: 5us.	Auto On: 20us to10ms depending on trigger signal.
HOLD/RELEASE	60ms / 5ms to 4 seconds.	
RANGE	0dB to 90dB.	

COMPRESSOR.

SIGNAL TO NOISE	83dB.
DISTORTION	0.05% with no compression.
SIDECHAIN THRESHOLD	0dB.
ATTACK TIME	22us to 20 ms for 100% recovery.
RELEASE TIME	40ms to 4 seconds for 95% recovery.
RATIO	Fully adjustable from 1:1 to 20:1.

ETC...

GAIN REDUCTION METER	9 segment led in 2dB steps.
DIMENSIONS	44mm (H), 483mm (W), 178mm (D).
PRICE	$1030.

LA AUDIO 4c INFOTAINMENT

AUDIO.

INPUT	20k ohms balanced,	10k unbalanced.
MAX. OUTPUT LEVEL	+20dB balanced.	
BANDWIDTH	10Hz to 50kHz +/- 0.5dB.	
SIGNAL TO NOISE	92 dB.	
DISTORTION	0.05% THD.	
SIDECHAIN	OUTPUT unbalanced.	
SIDECHAIN INPUT	unbalanced/normalised with sidechain output.	

CONTROL.

THRESHOLD	-40 dB to +20dB.
RELEASE TIME	20ms to 4 seconds.
RATIO	1:1 to 20:1 with soft knee.
GAIN	-12dB to +24dB.
FILTER	100Hz to 10kHz.

ETC...

DIMENSIONS	44mm (H), 483mm (W), 178mm (D).
PRICE	$1292.

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EX-TRACK

Studio News
with Caroline Grafton

Yoh dudes! It's nice to be here again after a short break from this column. We'll check out what's been happening around the traps in the last month but first I'd like to extend congratulations to the 1993 ARIA winners.

Tony Cohen - Producer of the Year for the Cruel Sea's "The Honeymoon Is Over" - Best Album - Best Single - Best Group - Song Of The Year; Tiddas "Sing About Life" - Best Indigenous Record; Dave Graney & The Coral Snakes "Night of the Wolverine".

Doug Roberts - Engineer of the Year for Archie Roach "Walking Into Doors From Paradise" and The Bad Loves "I Remember".

On with Ex-Track!

48v Studio NSW situated in the Darling Harbour Studios complex is officially open. Formerly Skyhigh Recordings, owner Rob Taylor, is happy with the name change and relocation and expects to pick up extra trade from both a now central location and the fact that the complex offers a wide variety of facilities from rehearsal to MIDI.

Call Rob on (02) 211 6663.

Studio 52 Vic. those prolific producers of Nu-Music Samplers are about to release the first single and video for Remedy Stone "Mother Mary". The album is due for release in June and I'll look forward to a listen. Nu-Music samplers are a tribute to studio owners Paul Higgins and Trevor Carter and their never ending quest to find, record and launch new talent. Call Paul on (03) 417 7707.

Troy Horse NSW currently have Connections very own Bruce Waite in session with some industry favs' recording a secret debut album??? Troy Horses in-house print-shop is also up and running, so give them a call on (02) 557 3129.

Grevillea Recording Studios Qld. have installed a new generation Marantz CDR610 recorder. Combine this with their SADIE digital editor and this will allow track ident accuracy not previously available. Call Malcolm Jacobsen on (07) 262 8422.

Damien Gerard Sound Studios

(continues)

ARTIST	PRODUCER	ENGINEER/S	NOTES
ACT			
Wonderland Studios	Tony Boye (06) 241 1577 16 Track/MIDI/Direct Disk Recorder		
Coloured Stone	Tony Boye	Jon Wicks	Album
Alice Haines	Jon Wicks	Jon Wicks	Album
Colin Gilchrist	Tony Boye	Tony Boye	Single
Janelle McMenamin	Tony Boye	Tony Boye	Demo
Kate Kelly	Jon Wicks	Jon Wicks/TonyBoye	Demo
Jon Wicks	Jon Wicks	Jon Wicks	Dance CD
New South Wales			
A# Sharp Studio	Jeff Cripps (02) 553 8136		
Us and the Giants	Jeff Cripps	Jeff Cripps	Demo
Bobby & the Hawks	Jeff Cripps	Jeff Cripps	Album
Balmain Peoples Choir	Jeff Cripps	Jeff Cripps	Album
Trough Lollies	Jeff Cripps	Jeff Cripps	Demo
Tar Babies	Jeff Cripps	Jeff Cripps	Demo
Hoardes of Chords	Jeff Cripps	Jeff Cripps	Album
Airmotion Studios	Kristen Wolek (02) 550 3863 24 Track		
Alisons Wonderland Band	Tony Gorman	Guy Dickerson	Album
Transylvaniacs	Transylvaniacs	Shane Fahey	Album
Machine for Making Sense	MFMS	Shane Fahey/JT	CD Sampling
Thami		Guy Dickerson/Jason Blackwell	Album
All Music Manufacturing	Geoff Sturre (02) 557 1169 2 Mastering Suites		
Rocks	Peter Davie	Paul Bryant	CD Master
L.A.N.	Geoff Sturre	Paul Bryant	CD Master
King of Swing	Geoff Sturre	Paul Bryant	CD Master
Jenny Morris	Warners	Paul Bryant	12" Vinyl Master
Peter Andre	Mark Forrester	Paul Bryant	12" Vinyl Master
Beats-O-Matic	Pro DJ	Paul Bryant	CD Master
Artrage	Peter (Feeney) Williamson (02) 564 2509		
Dub-Congress	Rasty/Band	Rasty Jovasevic	Album
Unity	Mick Infante	Rasty Jovasevic	Dubs for Album
Celestial Panel Van	Rasty/Band	Rasty Jovasevic	E.P.
Darren Smith	Rasty Jovasevic	Rasty Jovasevic	Demos
Sophie Pommier	Sophie/Rasty/Ed	Ed Hughes/Rasty	Com.
Martin	Rasty/Martin	Ed Hughes/Rasty	Album
Bush Traks Recording Studio Ruth & Dave (066) 39 1290 24 Track			
The Bourkenbacks	Band/D.Highet	Dave Highet	Album
Lost Youth	Band/D.Highet	Dave Highet	Album
Kym Pitman & Ibis	K. Pitman/D.Highet	Dave Highet	Album
Col Phillips	Various	Dave Highet	Demos
Gary Dennis	G.Dennis/D.Highet	Dave Highet	Demos
Charing Cross Studios	Dave Sykes (02) 387 8362 24 Track A'log		
Max Sharom	N. Mainsbridge/D. Denholm	Nick & Daniel	Vocal Tracking
Elastic Hippies	Steve Balbi/Justin Stanley	Martin White	Live Rec./Mix
Smooth	Matt Haywood	Alex Hodgson	Mix & Voc. Tracking
Barton Price	Barton Price	Keil Cooper	Tracking & Mixing Demos
Turpentine	Martin White	Keil Cooper	Mixing
Opium	Andy Cichon	Andrew Smith	Tracking & Mixing
Damien Gerard Studios Contact Marshall (02) 660-8776 16/32 Track			
Dream Seed	Andy Sidari	Russ Pilling	Single
Cluster	Brent Williams	Marshall Cullen	E.P.
Sabre	Band	David Trump	Demo
Space Date	Jedd Starr	Russ Pilling	E.P.
Drue Hoille	Drue/Barton	Mike Woods	Album Mixing
Hard Heads	Mike Cullen	Mike Woods	Album
Electric Avenue Studios (Mullens St) Philip Punch (02) 810 4848 24 Track/2" A'log			
Arizona Productions	Rob Searls/Peter Kalder	Phil Punch	Various Ad Tracks
Whitenoise	Brenton White	Phil Punch	Various Ad Tracks
Dubrovnicks	Phil Punch/Band	Phil Punch	Album
Sweet Atmosphere	Band	Phil Punch	Album
Electric Avenue Studios (Trafalgar St) Formerly Trafalgar Studios Phil Punch (02) 660 0385 24 Track/2" A'log			
John Williamson	John Williamson	Steve Newton	Album
Ed Kuepper	Ed Kuepper/Phil Punch	Phil Punch	Album
Mark Simmons	Mark Simmons/Kierin Stafford	Phil Punch	Album
Various	Charles Fisher	Jim Bonnefond	Film Score
Enrec Studios Ed Matzenik (046) 361 376 32 Track			
Carol Carr	Steve Newton	Steve Newton	Album
48V Studio Clare Britton (02)211 6663 48 Track, 24 Digital/24 A'log			
Peggy Van Zalm	John Puskas/Robbie Rowlancs	Robbie Rowlands	Album Gadflys
Gadflys	Dave Henderson	EP Mix/Phantom	
Def FX	Nick Launay	Nick Launay/Rob Taylor	Single/EMI
Whitlams	Rob Taylor	Rob Taylor	Album/Phantom
Nitocris	Mark Thomas	Mark Thomas	EP Mix/Phantom
Giant Studios	Peter Dawkins (02) 555 8999 36 Digital/CD Mastering		
Adam Reily	Richard Herczeg/Adam Reily	Terry Memory	Various
Ian Miller	Ian Miller	Paul Dawkins	Sample CD
Matt Finish	Peter Dawkins	Peter Dawkins	Will I Ever Know
James Dee	Various	Gavin Dutfield'	Upside Down
Calvin Coolidge	Richard Herczeg	Richard Herczeg	Stand by Me
Hullabaloo	Glenn Heaton 02 684 2039 24 Track		
SBS	Heaton McGarvey	Heaton McGarvey	TV Themes
ABC	Heaton McGarvey	Heaton McGarvey	TV Themes
Australis Media	Heaton McGarvey	Heaton McGarvey	World Cup Soccer Translations
White Boy Roy	Band	Blair Murphy	Demo
'8601'	Band	Adam Iuston	Demo
JMF Sound Studio	Fran Esther, (02) 790 4097, 24 Track		
P.G.B.	Band	Ralph Ester	Demo
Korean Choir	Choir	Ralph Ester	CD Album
Outcry	Band	Ralph Ester	Album Tracks
Megaphon Studios	Guy Dickerson (02) 516 3917 24 Track		
Midnight Oil	Midnight Oil	Brent Clark	
Max Sharam	Danial Denholm	Nick Mainsbridge	Album
Alisons Wonderland Band	Tony Gorman	Guy Dickerson	Album
Mirage Studios	Angela Marina (02) 211 3915 24 Track A'log/32 Track Dig.		
Caligula	Caligula	John Murtagh	Live Recordings
Paradise Studios	Bill Field (02) 357 1599 48 Track A'log		
Russell Crowe	Charles Fisher	Charles Fisher	Tracks
May Sharam	Nick Mainsbridge	Nick Mainsbridge	Tracks
Gina Jeffries	Garth Porter	Ted Howard	Tracks
Powerhouse Studio	Contact Craig Beck (02) 318 1220 32 Input Desk 24 Track A'log		

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EX-TRACK

(continued)

NSW have been hosts to both 'Died Pretty' and 'Mentals' with both bands sharing the facilities writing and demoing new material. Producer Tim Powels is working with NZ band 'Awakening' using both a & B studios for various acoustic effects. Call Marshall Cullen on (02) 692 9915.

Kokomo Recorders Vic have relocated to 12 Woolton Ave Thornbury (Melbourne). The newly constructed studio building has acoustically designed live and control rooms, 16 tracks of ADAT (more on request) plus 16 tracks of analog which can be synced to the ADAT. They have also installed a new AMEK 'Big' console from Langley, 56 inputs with automation, virtual dynamics and recall. Call John Coco (03) 484 6430.

The Enterprise Studios are as always looking for new talent for their musical collective. Call Graeme Storer on (02) 564 3225.

Electric Avenue Studios NSW have expanded into new premises by incorporating the former Trafalgar Street Studios into their fold. The new Trafalgar St. address has been busy revamping but is endeavouring to retain a mix of vintage and state of the art gear. A good live room, comfortable surroundings and custom gear eg. a custom 1" valve recorder should be a winning combination. Call Phil Punch on (02) 810 4848.

FREELANCERS

David Price of **Vicki Watson Management** NSW has been producing/engineering a single for 'Baby Sugar Loud'. Price recorded the single at Damien Gerards and did the mix at Rich Studios, both in Sydney. Release date unknown. Call Vicki Watson on 015 279 643.

The Victorian **Russell J White Management** team round-up follows. **Tony Cohen** has been taking it easy completing some mixes for 'Stickyback Monkey' and 'Working Class Ringoes' and recovering from an onslaught of new project proposals after his win in the ARIA's. **Stewart Day** is about to commence producing and recording a double album with 'Wings and Super Friends' in Malaysia at Booty Studios and Digitron. The mixdown will happen in Australia, the studio yet to be advised. **Chris Dickie** is now resident in Australia and has

ARTIST	PRODUCER	ENGINEER/S	NOTES
Meryl Leppard	L.Berger & D.Henderson	Henderson/Beck	Album
Doug Williams	Doug Williams	C. Beck	Album
Psychrist	The Band	C. Beck	C.D.
Glass Onion	The Band	J. Hresc	C.D.
The Deep End	Chip Douglas	J. Hresc	Album
Rainmaker	The Band	C. Beck	Single
R&R Recordings	Contact Robert Zimola (02) 624 4484 16 Track		
CJJM	CJJM	R.Zimola/I.Henry	Album
Steve Clark	S. Clark	R.Zimola	E.P.
Nu-Skin	R.Zimola	R.Zimola/I.Henry	Corporate
Friction	Friction	R.Zimola/I.Henry	Demos
Ruin	Ruin	R.Zimola/I.Henry	Demos
Log Products	R.Zimola	R.Zimola/I.Henry	Corporate
Rich Music Studios P/L	Contact Jason Nairnsey (02) 264 7734 32 Dig./A'log		
Belly Dance	Martin White	Martin White	Single Mix
Zephyr Baby	Band	Fraser Stuart	Single Record/Mix
Jackie Orzasky	Jackie Orzasky	Jim Bonnefond	Album Track
The Smooth	Matt Haywood		Single Mix
'Sum of Us' Soundtrack	Charles Fisher	Jim Bonnefond	Soundtrack Mix
Tom Kazaz Album	Tom Kazaz	Tom Kazaz	Album Record & Mix
RockingHorse Studio	Allan Devandra/Kim Reid ((066)884131		
Die Laughting	Keven Stanton/Spencer Lee	S. Lee (Orig.)R. Sathiah/K. Shirley(Remix)	Album
Test Pilots for Peace	Ramesh Sathiah	Ramesh Sathiah	Demos
Cruel Sea	Band	Paul McKercher	Demos
SAE Studios	Jason de Wilde (02) 211 3711 24 Track A'log/16 Track Dig.		
Winterhouse	Tom Misner/Mark Kennedy	T.Misner/Jason de Wilde	Album
So What	John Murtagh	John Murtagh	Demo
Diesel	"Paco"	David/"Paco" Pasco	Demo Remix
Sony Music Studios	Contact Ross Ahern (02) 332-0320 24 Track A'log-Dig/Dig. Pro-Tools/Editing.		
Oliver	Wayne Connolly	Wayne Connolly	Demos
Peggy Van Ziam	Rob Rowland	Rob Rowland	Album
The Mighty Reapers	The Band	Mark Roberts	Album
The Angels	The Band	Greg Henderson	Album
Culture Shock	Pee Wee	Simon Tonx	Remix
Youngblood Comp.	Various	Various	Album
Sound Level Pty Ltd.	Joe Breen (02) 552 3200 Live to DAT 24 Channel		
Rat Cat	Joe Sec	John Soane	Demo
Brass in Pocket	Paul Gannell	Paul Gannell	Demo
Bellissimo	Helen Carter	John Soane	Album Tracks
Red	Paul Gannell	Paul Gannell	Demo
T.U.R.D.	John David	John David	Demo
Neil Murray	Neil	John Soane	Demo
Soundwarp Audio Services	Bill Syratt/Meredith Brooks (02) 214 0605 Mastering/Audio Services		
Eva TGrout		Meredith Brooks	CD Master
King Leer		Meredith Brooks	Cassette Master
The Enterprise	Graeme Storer 02 564 3225 8 Track/MIDI		
T.Baker Hall	T.Baker Hall	G. Storer	Demos
Enterprise Songwriter's Group		G.Storer	Publishing Demos
The Vault Studio	Contact Michael Tame (02) 953 0332 2" 24 Track		
'Rough Diamonds'	Mark Moffatt/Wayne T.Goodwin	Mark Moffatt	Soundtrack
Cactus Child	Tom Colley/Mark Moffatt		Over Dubs
Audio Murphy	Mark Moffatt	Hendo.	Single
Audio Murphy	Mark Ovenden	Hendo	Remix
Trackdown P/L	Contact Jeff Watson (02) 550 6890 24 Track/16 Track A-DAT/Pro Tools		
Girlfriend	Tommy Farragher	Simon Leadley	Single
Robertson Brothers	Phil Buckle	Guy Grey	Single
Blinky Bill Songs	Guy Gross Music	Tim Ryan	Album
Happy House (Lyn Buckfield)		Tim Ryan	Album
Tracking Station Studios	Contact Martin Cass (02) 281 8899 24 Track A'log		
Wayne Law	Martin Cass	Martin Cass	Album Tracks
Martin Reeve	Martin Reeve	Steve Pomfrett	Album Tracks
Orange Horse		Mal Shepherd	Demo
Clint Beattie	Martin Cass	Steve Pomfrett	Single
Hypnosis		Steve Pomfrett	Demo
Troy Horse Studio	Michael Lewis (02) 557 3129 24 Track		
Vicious Hairy Mary	Band	Liberty	EP Release
Godstar	Nic Dalton	John Rafferty	EP Release
Disneyfist	Stuart G. Robinson	Liberty	EP Release
George Washingmachine		Liberty	Tracks
Sweetlip		Bruce Waite	Album Tracks
Laughing Zebras	Keith Salvat	Colin Wright	Animation Soundtrack
Wirra Willa Studios	Contact Will Rout (02)605 1203 24 Track/8 Track Hard Disk		
Distinction	Dion Wilton	Dion Wilton	Promotional Tape
The Voodoo	The Band	Will Rout/Ian Cooper	CD Mini Album
Wild Guess	The Band	Will Rout/Ian Cooper	Demo Tape
Spirit	The Band	Ian Cooper	Demo Tape
Ben Van Luen	Ben	Will Rout/Ian Cooper	Demo Tape
Rod Dye	Rod	Ian Cooper	Demo Tape
Queensland			
Grevillea Recording Studios	Malcolm Jacobson (07) 262-8422 24 Track A'log/8 Track Dig./8 Track H.D.		
Pat Morgan		Malcolm Jacobson	Album Mix
Movie World Band	Sean O'Boyle	Malcolm Jacobson	Demos
Jungle Book	Jungle Book	Malcolm Jacobson	Demos
Red Ted	Owen Johnstone	Bruce Jacobson/Steve Lambert	Documentary
Timetrax	Garry McDonald & Laurie Stone	Bruce Jacobson	U.S. T.V. Series
Nick Coetzee	Nick Coetzee	Murray Lalor	Video Soundtrack
Taramalin Sound	Allan Lahey (07) 208 9736 16/32 Track Dig/A'log Mastering		
Andy McDonell	Andy	Allan Lahey/Andy	Album
Alimony	Alimony	Allan Lahey	Demo
Gordon McDowell	Gordon	Allan Lahey	Album
Mark Tempany	Mark Tempany/Rob Fisher	Allan Lahey	Album
Puzzle House	Puzzle House	Allan Lahey	Pre Production
Seed Bucket	Mark McElligot	Mark McElligot	Demo
Total Advertising Production Studio	Paul O'Connor (074) 792 277 16 Track Dig.		
Fashionline	Barrie Morrisson	Anthony Marsh	Jingle/TVC Production
Snug Harbour	Barrie Morrisson	Anthony Marsh	TVC Production
The Good Homemakers	Barrie Morrisson	Anthony Marsh	TVC Production
Jewel Supermarket	Barrie Morrisson	Anthony Marsh	TVC Production

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EX-TRACK

(continued)

joined the RJW ranks bringing with him a very impressive list of credits including recording/mixing for Morrissey, Depeche Mode, Simply Red and Rickie Lee Jones as well as recording for Annie Lennox, Sinead O'Connor, Guns 'N Roses (live) and The Chieftans (live). Chris also has substantial experience with orchestral recordings working with arrangers such as Flachra Trench ('Wet Wet Wet' & 'The Pogues') and Will Malone ('Depeche Mode'). **Mark Forrester** has been producing, recording and mixing 'Chill Factor' and is about to commence co-producing, recording and mixing 'Curtis Lake" with Josh Beagley from 'Swoop'. **Michael Letho** is recording and mixing two film scores with David Hirschfelder.

Doug Roberts of **TK Entertainment Services Pty Ltd** Vic., has been busy engineering some live shows for 'Farnham', producing and engineering some tracks for Daryl Braithwaite and is about to commence work on the new Nick Barker album. Call Tom Kehoe on (03) 879 9400.

•••••••

E602 Studio.

Last month we were all subjected to a little April Fool prank, **E602** is a figment of Greg Simmons imagination. Sorry about that! -Ed.

HOW TO LIST YOUR STUDIO:

1. Deadline is ALWAYS the 15th of the month before publication. We reserve to right to select suitable material. No cost to you!
2. Mail or Fax the information to us, you do not need a specific form, but you do need to follow the format of the guide, which is obvious - have a look.
3. **We must now limit listings to FIVE or less separate artists.**
4. Please note your studio NAME, phone number, state and your contact details so we may check anything odd.
5. If we have any doubts we will contact you around the 20th of the month. It's FREE!
6. Questions? Verification? Call Elaine on (02) 876-3530 (BH).

Send to: *Connections, BASF Guide, PO Box 439, Epping 2121, or Fax: (02) 876-5715.*

ARTIST	PRODUCER	ENGINEER/S	NOTES
K Mart	Barrie Morrisson	Anthony Marsh	Television Track
Wide Baylae Building Soc.	Barrie Morrisson	Anthony Marsh	TVC Prod.
South Australia			
Mixmaster Productions	Mick Wordley (018) 822 986 24 Track 2" Dolby		
Riki & Pete	Riki & Pete	Mick Wordley	Album
Stick	Stick/Wordley	Mick Wordley	Album
Lono	Lono/Turrell	M Turrell	EP
All Flight Crew Are Dead		Mick Wordley	EP
Victoria			
Bel Air Sound	Danny Olesh (C3) 563 7887 24 Track Dig.Mastering		
Brad Walker	Danny Olesh	Danny Olesh	Album
Jonestown	Jonestown	Danny Olesh/R.Smith	Album
Homeland	Simon Segal	Simon Segal	Demos
Amnesia	Amnesia	Danny Olesh	Demos
Remix	Simon Segal	Danny Olesh	12" Remixes
Lemas Advertising		Danny Olesh/Simon Segal	A/V Post Production
Gotham Audio	Tom Kehoe (03) 879 9400 48 Track Dig.		
Richard Pleasance	Richard Pleasance	Doug Roberts/Aaron Humphries	Album Recording
"Lex and Rory" Soundtrack	Frank Strangio	Doug Brady/Aaron Humphries	SoundTrack Album Mix
Azadene	Doug Brady	Doug Brady/Aaron Humphries	Single Record & Mix
Borrowed Time	Nigel Derricks	Nigel Derricks/Aaron Humphries	Album Recording
Superman		Mathew Thomas/Aaron Humphries	Demos
LAV	Mr. Shimizu Sh Inji	Yasushi Konisi	Vocal O/Dubbs & Mix Album
Hot House Audio	Contact Cryss (03) 525 3703 24 Track		
Shotgun Alley	Band/Stuart Day	Stuart Day	E.P.
Escape	Stuart Day	Stuart Day	E.P.
Super Heist	Paul Annison	Paul Annison	E.P.
Shivai	Band/Stuart Day	Stuart Day	Single
False Gods	Band	Stuart Day	Mixing
Painters & Dockers		Craig Harnath	O/Dubs
Metropolis Audio	Contact Ern Rose (03) 696 2111		
Darryl Braithwaite	Doug Roberts	Doug Roberts/Tim Johnston	Project
Muriel's Wedding	Peter Best	David Hemming/Andrew Baldwin	Film Score
Fireballs	Mathew Thomas	Mathew Thomas	Album
Powder Finger	Tony Cohen	Tony Cohen/Andrew Baldwin	Album
Tan	John Justin	Cameron Craig/Karl Moeller	Album
Richard Marx		Ern Rose/Mathew Thomas & Mix-Doug Brady	OB
Michael Bolten		Michael Wickow/Mathew Thomas	OB
Newmarket Studio	Contact Anne (03) 329 2877 24 Track		
The Giants	The Giants	Daniel Desiere	Mixdown
Michael Atkinson	Michael Atkinson	Robert B Dillon	Recording
Rodney Freeman-Smith	Nick Smith	Robert B Dillon	Recording
Paul Rettke		John Ruberto	CD Mastering
Handspan Theatre	Ken Evans	John Ruberto	Mastering
Back to Back Theatre	Natasha	Robert B Dillon	Mastering
001 Recording Studios	Contact George Siew Ooi (03) 348 1300 24 Track/Midi Suite		
Peter Andre	Peter Andre	B Taylor	Tracking/Mixing
Many Faces	Brian St.James	T Espie	Tracking
Ruby	Mark Dommeny	P Pomeroy	Tracking
Marina	Marina	B Taylor	Demo
Rough Diamonds	Rough Diamonds	P Pomeroy	Tracking
Fizzleheads	Fizzleheads	M Robinson	Tracking/Mixing
Platinum Aust. P/L	Contact Jim Mountford/Susan Minchin (03) 827 7483 48 Trk. SSL/24 Trk.		
The Sharp	Peter Farnan	Rick Will/Kalju Tonuna	Album
Things of Stone & Wood	James Black	Chris Corr	Album
Hunters & Collectors		Kalju Tonuma	B-Side
Gentle Persuasion	Phil Jones	Kalju Tonuma/Chris Corr	Album
Robertson Bros.		Rick Will	Mix
Soulhouse	Chris Corr/Peter Baird	Chris Corr	Album
Sing Sing Studio	Contact Kaj Dahlstrom (03) 428 4622 24 Track Dig./24 Track A'log-Dolby SR		
Black Sorrows	Joe Camilleri	Phil Butson	Album
Main & Groovin Orchestra	Cameron Rayne	Trevor Reading	Album
Earthmen	Chris Thompson	Chris Thompson	Album
This Digital Ocean	Phil Pomeroy	Phil Pomeroy	Album Mix
Colour Bomb	Colour Bomb	Kaj Dahlstrom	Rhythm Tracks
The Jetty	The Jetty	David Davis	Album Mix
St. Andrews Recording Studio	Mark McCormack (03) 583 2341 16 Track		
Mortification	Mortification	Mark McCormack	Album
Loaded Dog	Loaded Dog	Mal Sylvestro	Demo
Studio 52	Paul Higgins (03) 417 7707, 32 Track		
Remedy Stone	Trevor Carter	Trevor Carter	Bonus Trks for s'gle
Col Thomson	Trevor Carter	Trevor Carter	Album
Mick O'Connor & Tim Niele	Mick O'Connor	Trevor Carter	Album
Western Australia			
Bonsai Recording Studio	Tom Thorpe (09) 349 6029 24 Track		
Peter Herring	Tom Thorpe	Tom Thorpe	Demo
Andrew Breen	Tom Thorpe	Tom Thorpe	Demo
Greg Hastings	Tom Thorpe	Tom Thorpe	CD
The Cellar Dwellers	Tom Thorpe	Tom Thorpe	Demo
Sea Urchins	Tom Thorpe	Tom Thorpe	Demo
Criminal Force	Tom Thorpe	Tom Thorpe	Demo
Planet Sound Studios	Contact John Villani & Denise Preston (09) 382 2211 48/32/24 Track		
Zdenkomatic	Jincenta	Les Williams	Album
Monic Finster		John Villani	Album
Daryl Braithwaithe	Braithwaite/Doug Roberts	D Roberts	Voc.Recording
Akira Kobayashi	Misu	Yanagihara/Villani	Album
Story Time		John Villani	Album
Clive Rogers	Clive Rogers	Les Williams	Demo
Poons Head	Contact Rob Grant (09) 339 4791 32 Track		
The Electric Ass Band	Rob Grant/TEAB	Rob Grant	Album
Circus Murders	Rob Grant/Circus Murders	Rob Grant	Album
Yummy Fur	Rob Grant/Yummy Fur	Rob Grant	EP
Puff'N'Stuff	Chris Dickey	Rob Grant/Chris Dickey	EP
Hum	Rob Grant/Hum	Rob Grant	EP
Danny Farrow	Rob Grant/Danny Farrow	Rob Grant	Album
Troppo Sound	Mick Connolly (09) 92 2394 24 Track		
Mama Combia	Kamali	Frank Baguley	Album
Wayne Barker	Wayne Barker	Wayne Barker	Album

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Buyers Guide

Reverbs, delays 'effectors'. Incl. retail price at at 15th April, 1994

AMS from **Syncrotech Systems Design Pty Ltd** (02) 417.5088
RMX16 Digital Reverberation System $12,696
5-DMX Digital Delay, 6.5 seconds $13,482
1580-SB Broadcast Delay $7,490

A.R.T.(Applied Research & Technology) **from Dynamic Music** (02) 939 1299
SGX 2000 Express 2 RU high, 24 bit multi effects processor with 12AX7 valves for natural distortion (stereo out), 70 effects, 800 patches, 12 at once. 20kHz bandwidth, programmable mixer (digital and analog).$2150
SGX Nightbass Studio A bass version of SGX2000 Express.$2150
FXR 1RU. Studio grade multi effects offering complex reverbs and pitch based effects. Can operate as two completely separate processors. Ideal for P.A. systems/studios.$599.
FXR Elite A programmable version of the FXR offering Reverbs, delays, chorus, flanging and more. Fully responsive to midi path change protocol. $799.

Digitech from **Central Musical Instruments** (03) 315 2244
TSR-24 Programmable 24 bit true stereo digital reverb with fully user-definable algorithms included, digital mixing, delays, samples, pitch shifting, chorusing, noise reduction, auto panning, 6 independently programmable EQ'S and much more! $1999
TSR-12 True stereo studio reverb/ multi-effects processor. Includes all of the basic effects of the TSR-24. Fully Midi compatible and footswitch controllable. $1199.
GSP-2101 Studio-Stage tube pre-amp/digital effects processor based around Digitech's TSR-24. Multi-tube and solid state pre-amp voicings. Effects include chorus, delays, pitch shifting, whammy, wah and more. $2399.

Dynacord from **Mark IV Audio** (02) 648 3455
DRP15 24 Bit Processing; 100 programmes. 128 Memories; Full Midi; Stereo in/out; Realtime editing; 2 Year Warranty; 6 Effects Simultaneously. Extremely natural reverb. & room simulation. $2571.

KAWAI (02) 663 0571
RV4 Multi effects processor. 16 bit 48kHz sampling. 18-bit D/A conversion. Digital I/O - AES/EBA 19 effect types. 50 programs, 50 user patches. Free routing with four independent effects. Stereo in and outs. (8in/8out) $1895
EQ-8 Parametric Equaliser. 1U Rack mounting. Allows up to 8 instruments to be equalised separately. "Q" function. EQ range 50Hz-15kHz. High S/N ratio. $399
EQ-311 31 Band Graphic Equaliser. 1U Rack Mount. 20Hz-20kHz. >0.05 to THD, ±12dB, Switchable -20/ +4dB operation; RCA 6.35m Balanced Jacks. $699
EQ-312 Dual 3Band Graphic. 2U Rack mounting. Specs. as for EQ-311. $999

Klark Teknik from Mark IV Audio (02) 648 3455
DN716 Multiple Output Digital Audio Delay Line $3730
DN728 User Configurable Digital Audio Delay Line. $6840
DN726 Stereo Digital Audio Delay Line $5200
DN773 Stereo Digital Audio Delay Line $6600
DN780 Digital Reverb/Processor $7600
DN735 Solid State Audio Recorder $16,198
DN780 Most natural reverberator on the market. Plentiful.special effects. Eprom Plug-In updates. 16 Bit Linear processing. Distortion 0.03% @ 1kHz 50 memories. $7600
DN728 Digital Audio Delay. 1.3 Seconds Total Time; Upgrade to 5.2 seconds. 18 Bit Linear conversion. 200 kHz Sampling Rate. 64 Memories. Dual Input - Six Output. $6840.
DN726 Stereo Digital Audio Delay. 16 Bit Linear Converters. 100% Stereo Delay Tracking. Earth - Lift Switch. Distortion Less than 0.2% @ 1 kHz. Excellent for Satellite links. $5200.
DN716 Multiple Output Digital Delay. 16 Bit Linear converters. Single Input - 3 Output. Range from 0 - 1.311 seconds. Earth-Lift switch. Greater than 90dB Dynamic range. $3730.

Rocktron from **Central Musical Instruments** (03) 315 2244
Intelifex 24 Bit DSP stereo effects processor with up to 8 voice stereo chorusing, unlimited delays (1.5 sec), quad pitch shifting and digital hush. $2179
Inteliverb 24 Bit DSP Reverberation System in a programmable, Midi controlla ble package. Up to 2.5 seconds of memory. Will also produce the most natural room sounds available. Includes eight voice chorusing, delays and pitch shifting, also contains digital hush and ducking with complete mixing capabilities. $2899
Chameleon 24 Bit DSP Professional guitar preamp offering continuous variable distortions, EQ controls and

REVERBS & DELAYS

Greg Simmons examines the state of the technology

Delay, echo, flange, phase, chorus, early reflections and reverb. They're all tools available to the sound engineer to add a sense of dimension and/or movement to a sound source. Their audible effects range from an obvious 'gee whiz' echo to an almost imperceptible touch of reverb. Combining two or more of these effects together can create rich sonic textures, convincing acoustic spaces, shimmering images and, of course, totally useless noises...

All of these effects are generated by devices we will call 'effect processors' or 'processors'. Although many of these effects sound unique and different, they're all based on the same fundamental concept — the original signal enters the effect processor and passes through a circuit that generates the effect sound, which is then blended with the original sound to create the full effect.

How the effect signal is blended with the original signal depends on the application. The simplest method is to use the processor's 'blend' or 'balance' control, which combines the original signal with the effected signal and presents the combined sound at the processor's output socket. This method is commonly used by guitarists and keyboard players, where the processor is connected between their instrument and the amplifier.

In sound engineering applications, the most common method is to use the mixing console to blend the sounds together. The input of the effect processor is connected to one of the mixing console's auxiliary sends, allowing virtually any signal passing through the console to be sent to it. The output of the effect processor enters the mixing console as another input signal, allowing it to be blended with the original signals to create the desired effect. In these applications, the processor's 'blend' or 'balance' control is not used and would be adjusted so that only the effect signal came out the processor's output socket.

Delay and echo

Delay is the fundamental building block of all of the above-mentioned effects, and is the easiest to understand. The signal enters the processor through the input socket and, after a time period known as the 'delay time', exits through the output socket. The delay time is user-adjustable using a parameter called 'delay time'. Typical delay times range from 0.1 ms to over 1.5 seconds.

Most delay effects offer another parameter called 'feedback', which feeds a portion of the output signal back to the input socket, causing it to be delayed again. This creates a series of delayed repetitions of the original signal and is commonly referred to as 'echo'. The feedback control is usually marked in percentage, indicating how much of the output signal is being fed back to the input socket. For example, a delay set at 500 ms with 50% feedback would create a repetition of the original input signal every 500 ms. Each repetition will have 50% of the volume of the previous one, until the level decreases to inaudibility.

Typical delay and echo times vary from 40 ms to 250 ms. Delay times of 30 ms or less are rarely heard as distinct signals due to a psychoacoustic phenomena known as 'temporal fusion'. The human hearing mechanism is too slow to distinguish the delay as a separate sound from the original sound, and blends them together. This results in an increased sense of space without any obvious delay or echo effect. A simple and subtle method of adding size and depth to a sound.

Flange, phase and chorus

These effects are all based on the principle of delay time 'modulation', and are often referred to as 'modulation effects'. To understand the modulation process, imagine an effects processor that uses a rotary knob to control the delay time. Instead of leaving the knob set for a particular delay time, the engineer rotates it back and forth to create a continuously changing delay time. Blending the output of the effects processor with the original sound creates the classic sounds of phasing, flanging and chorusing. Adding feedback makes the effect stronger.

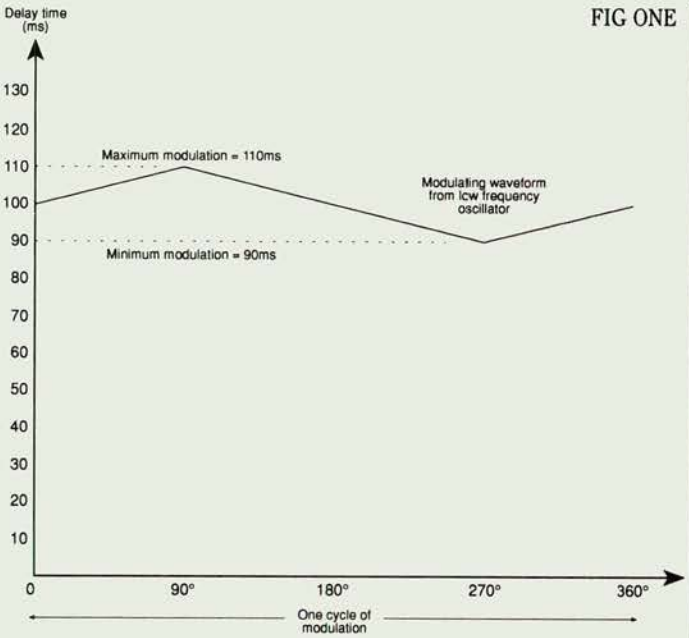

FIG ONE

To save the engineer from manually 'modulating' the delay time, effect processors use the output signal from a built-in low frequency oscillator to do the job. There are two parameters available to control the modulation effect. 'Modulation depth' controls the oscillator's amplitude, which determines how far the delay is shifted above and below the chosen delay value. 'Modulation frequency' (also called 'rate') controls the oscillator's frequency, which determines how quickly the delay is shifted. Some effect processors offer a third parameter called 'amplitude modulation', which uses the low frequency oscillator to modulate the amplitude of the effected signal.

Figure one shows how modulation changes the delay time, using a 100 ms delay with 10% modulation depth. Most modulation effects use short delay times, typically under 10 ms. Delays of this short duration create notches in the audio frequency spectrum due to phase cancellations. For example, a frequency of 50 Hz takes 20 ms to complete one full cycle. Putting a 50 Hz signal through a 10 ms delay will cause it to be shifted by one half cycle, or 180 degrees. Blending the delayed signal with the original signal will cause signal cancellations at 50 Hz, and also at odd numbered multiples of 50 Hz, e.g. 150 Hz, 250 Hz, etc.

These cancellations form the basis of the modulation effects. Because the delay time is modulated and therefore continually changing, the notches keep moving up and down throughout the frequency response. Adding feedback makes the effect even more interesting.

Reverb and early reflections

These effects are used to give the sound a 'space' to belong in. They are both attempts to recreate the natural events that occur when a sound exists in a closed space such as a concert hall, a living room or even a bathroom. To fully understand the reverb and early reflection processes, we need to understand the natural events they are trying to recreate.

Imagine yourself seated in a large concert hall with an oscillator connected to a speaker. You switch on the oscillator to produce a continuous, unchanging tone. The first sound you hear will be the sound that has travelled the shortest path from the speaker to your ears, and is known as the

Reverbs, delays 'effectors'. Incl. retail price at at 15th April, 1994

effects within the 254 on-board presets, including Wah Wah, compressor flanger, delay, reverb, chorus, pitch shift, tremolo and more. $1999

DSP-16 Effects Processor. 16 Different digital and reverb effects. 128 Non-programmable presets. Stereo input/output. MIDI changeable programs. 3-band EQ. 20Hz to 16kHz band width. 90dB S/N. 16-bit processor.$749

DSP-256XL Multi-Effects Processor. 24 Different effects, up to 4 at a time. 256 patches (128 user-definable, 128 factory pre-set). MIDI controllable. Stereo input/output. 20Hz to 20kHz band width. 90dB S/N. 20-bit VLSI processor. $1129

HARMONY PROCESSORS

VHM-5 The VOCALIST Human-Voice Harmony Processor. Up to 5-part, natural-sounding harmonies. Vocoder mode. Pitch correction and randomising. 128 factory presets and 128 user-definable programs, each with 4 variations & 32 chord changes each. On-board synth. $1899.

VOC-2 VOCALISTII - Human-Voice Harmony Processor. Rack mount version of the VHM-5 with expanded song list & chord identification, simplified user interface, 99 user definable and restorable factory presets. Can be programmed to change chords automatically in sync. with a drum machine or midi sequencer. Includes FS-300 foot switch. $1729

DHP-55 Five Part Digital Harmony Processor. 5 Part chordal, scalar and chromatic harmonies, oversampling analog-to-digital converter technology. Many different effects can be applied to each voice individually; intelligent chord & pitch shifting, delay, chorus, flange, compression, dynamic filter, gate, and many more. $2899.

Roland (02) 982 8266

SE-70 Super Effects Processor. Capably handles stereo and mono requirements, accommodating guitars, keyboards and vocals, as well as PA and other professional line level signals, 45 preset Multi-algorithms let you use up to 16 effects simultaneously. Features a built-in tuner. $1495

ME-10 Guitar Multiple Effects. The ME-10's effects include Compression, Overdrive (1,2), Distrotion, (1,2), Noise Suppression, EQ/Wah, Phaser/Flanger/Pitch Shifter, Delay, Stereo Chorus, Stereo Reverb and a Guitar Amp Simulator. Other features include 128 Patches and fast easy editing. $1595.

ME-6 Guitar Multiple Effects. The ME-6 includes six popular effects - Compression, Over-drive/Distortion, Three-band EQ, Delay, Chorus/ Flanger and Reverb. Overdrive/ Distortion is processed through an analog circuit to deliver natural-sounding distortion. 25 Patches with built-in Noise Suppressor. $749

ME-6B Bass Multiple Effects. Eleven high-quality effects designed especially for bass, including Compression, EQ, Chorus, Flanger, Overdrive, Distortion, Reverb and Delay. The Synth Bass provides 12 great synth sounds with its wave generator. $749

ME-X Expandable Multiple Effects. Eight built-in digital effects (reverb/modulation effects) stores and connects up to three Compact-Series effects pedals that can be programmed in combination with built-in ME-X effects.$1395

SN-550 Digital Noise Eliminator. New product designed for use in professional sound reinforcement and studio environments. Efficiently eliminates noise and hum to ensure high quality sound. $3995

SDE-330 Dimensional Space Delay. Uses a newly developed ultra-high speed (DSP) to create every type of delay effect, and incorporates innovative algorithms based on Roland's proprietary 3-D sound localisation technology, so you can achieve creative and radical effects with expansive-sounding soundspace. $1995.

SRV-330 Dimensional Space Reverb. Ultra-high speed (DSP), two inputs and outputs allow true stereo applications. An onboard 3-band parametric EQ can place early reflections anywhere in the 360 degree soundfield for spacious three-dimensional reverb.$1995.

SONY (02) 887 6666

HRGP5 Half rack guitar processor/ effector. 7 Simultaneous effects. Reverb, compressor, modulator1, modulator 2, equaliser and amp simulation.$1185

(continued over)

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Reverbs, delays 'effectors'. Incl. retail price at at 15th April, 1994

HRMP5 Half Rack Multi Processor Effector. Twin Effect Block with 51 effects. (Modulator, delay, simulator, compressor, Gate, Eq.) $1185.
DPSD7 Full rack stereo digital delay with 3 band Eq. and digital pan. $2045.
DPSR7 Full rack 2 channel digital reverb 100 preset effects. $2360
DPS-M7 Full rack digital Sonic modulator featuring pitch shifters, flanging, chorus etc. $2795.
DPS-F7 Full rack 2 channel digital dynamic filter/effector. $3219.

T.C. Electronic from **Amber Technology** (02) 975 1211
TC1210 Spacial Expander - Significantly enhances perceived width, warmth and size of stereo signals without audible sound alteration. The TC1210 also provides high performance chorus/flanging/doubling effects. 1U High with balanced XLR in/outs.$3295
TC2290 Stereo Effects Control Processor. Programmable effects include chorus/flanging/delay/doubling/gating/compression & expansion. Many effects can be combined with up to 4 being combined simultaneously. Options include up to 64 sec. of phase-locked stereo sampling. $5295
M5000 Advanced digital effects processor. "Modular" design allows single 2U mainframe to configured/expanded from single stereo processor with analog I/O to quad. stereo processor with digital I/O (all with disk drive). Extensive presets inc. reverbs/chorus/pitch shift/delays & flanging plus optional sampling and dynamics.$8500-$14,800

Yamaha Music Australia Pty Ltd. (03) 699 2388
R100 Digital reverb, 40 user programmable patches, MIDI equipped. $499
EMP100 Multi effects processor, general purpose device, two simultaneous effects, includes compression, overdrive, EQ, chorus, pitch change, flange and reverbs. MIDI equipped. $799
EMP700 Multi effects processor, stereo (dual processor), general purpose device, seven simultaneous effects, includes aural enhancer, compression, overdrive, EQ, chorus, pitch change, flange and reverbs. MIDI equipped. $1399
FX550 Multi effects processor for guitar, six simultaneous effects, includes amp simulator, compression, overdrive, EQ, chorus, pitch change, flange and reverbs. MIDI equipped.$995
FX770 Multi effects processor for guitar, eight simultaneous effects, includes amp simulator, wah, modulation effects, compression, overdrive, EQ, chorus, pitch change, flange, delay and reverbs. Analogue volume and presence. MIDI equipped. $1495
SPX990 Professional multi effects processor, stereo, balanced in/out, 20-bit AD/DA conversion, RAM card, programmable, three simultaneous effects (pre, main, post), includes reverbs, delays, intelligent pitch change, flange, chorus, compression, sampling and EQ. MIDI equipped. $1995.
SPX1000 Professional multi effects processor, stereo (dual processor), balanced analogue in/out, Yamaha Y2 format digital in/out, 20-bit AD/DA conversion, RAM card, programmable, includes reverbs, delays, intelligent pitch change, flange, chorus, compression, sampling and EQ. MIDI equipped. $2995.
REV5 Professional stereo digital reverb and effects processor, balanced in/out, digital 3-band parametric EQ,30 main effects programs including reverb, delay, stereo flange, stereo chorus, tremolo, pitch change and samapling. MIDI equipped. $2995.

Zoom from **Dynamic Music** (02) 939 1299
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EFFECTS & REVERBS

'direct sound'. Following the direct sound, you will hear a number of 'early reflections', each representing the sound as it travels from the speaker to your ears via the reflective surfaces in the room — the walls, the floor and the ceiling. Each of these reflections will have travelled a different path, and will therefore arrive at your ears at different times. In most acoustic environments, the time delay between each individual reflection and/or the direct sound is so short that the reflections are not heard as individual events. Instead, our brain uses the information to create an impression of the size of the room and the surfaces of the walls.

Although you may not be able to perceive early reflections as individual sounds, each one adds to the overall sound energy that you hear. Eventually, the sound will have travelled every possible audible path between the speaker and your ears, at which point you will hear no new early reflections. This is known as the 'onset of steady state energy, and is generally called 'reverberation'.

Now imagine that you switch the oscillator off. The sound energy will die down in exactly the same way it was built up — reflection by reflection. The direct sound will be the first to disappear, followed by the individual reflections in the same order they initially arrived — from earliest to latest. The time taken for the sound energy to die out is known as the 'reverb time', and is usually defined as the time taken for the sound energy to decay to 60 dB below the steady state energy level.

Effect processors allow the engineer to simulate these natural acoustic events using 'early reflection' and 'reverb' programs. Both types of program have one parameter in common, called 'pre-delay'. This is a delay to simulate the time difference between the arrival of the direct sound and the arrival of the first reflection.

Early reflection programs have a number of parameters to simulate the early reflections of differ-

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ent spaces. The first of these is the type of space being simulated, such as a large or small hall, a room, or a stadium. In some cases, an effect processor will also include early reflections for classic spring and plate reverb units, and interesting effects such as reverse and random reflections that cannot occur in nature. Other parameters include 'room size' (controls the size of the room), 'liveness' (determines how reflective the room's walls are), and 'high frequency dampening' (simulates the absorption of high frequencies in the room).

Reverberation programs have a number of parameters that differ from early reflection programs. The first of these is the type of reverb, with typical selections include halls and rooms, and simulations of plate reverbs. Another useful parameter is called 'reverb time', which determines how long it takes the reverb effect to decay by 60 dB. Many effect processors also include parameters to change the reverb time for higher and lower frequencies, allowing a much more natural effect to be achieved. (Higher frequencies generally have considerably shorter reverb times than lower frequencies.) Many reverb effects also have parameters called 'diffusion' and 'density', which control the number of reflections and the spacing between them.

Multi-effects processors

The term 'multi-effect processor' refers to a unit that offers numerous types of effects. Before the arrival of multi-effect processors, there were separate processors for reverb, delay, phasing, flanging and chorusing. A multi-effect processor combines all of these capabilities into the one unit. Other features commonly found on a multi-effects processor include sampling, pitch shifting and distortion.

Yamaha spearheaded the multi-effect processor revolution in the early '80s, when they introduced the R1000 digital reverb processor. Although it was only a simple digital reverb unit, it was significantly cheaper than anything else currently available. Yamaha took advantage of their new digital reverb technology by combining it with digital delay circuitry to create the REV-7 digital reverb/delay processor, possibly the first true multi-effects processor. They refined the concept with the introduction of the popular SPX90, a product line that has seen continual improvement and expansion ever since.

Yamaha are not the only company to make multi-effect processors, but their contribution was significant in the formation of the technology. Many other companies followed Yamaha's example, particularly with the success of the SPX90. There are now literally dozens of different multi-effect processors to choose from.

Simultaneous multi-effect processors

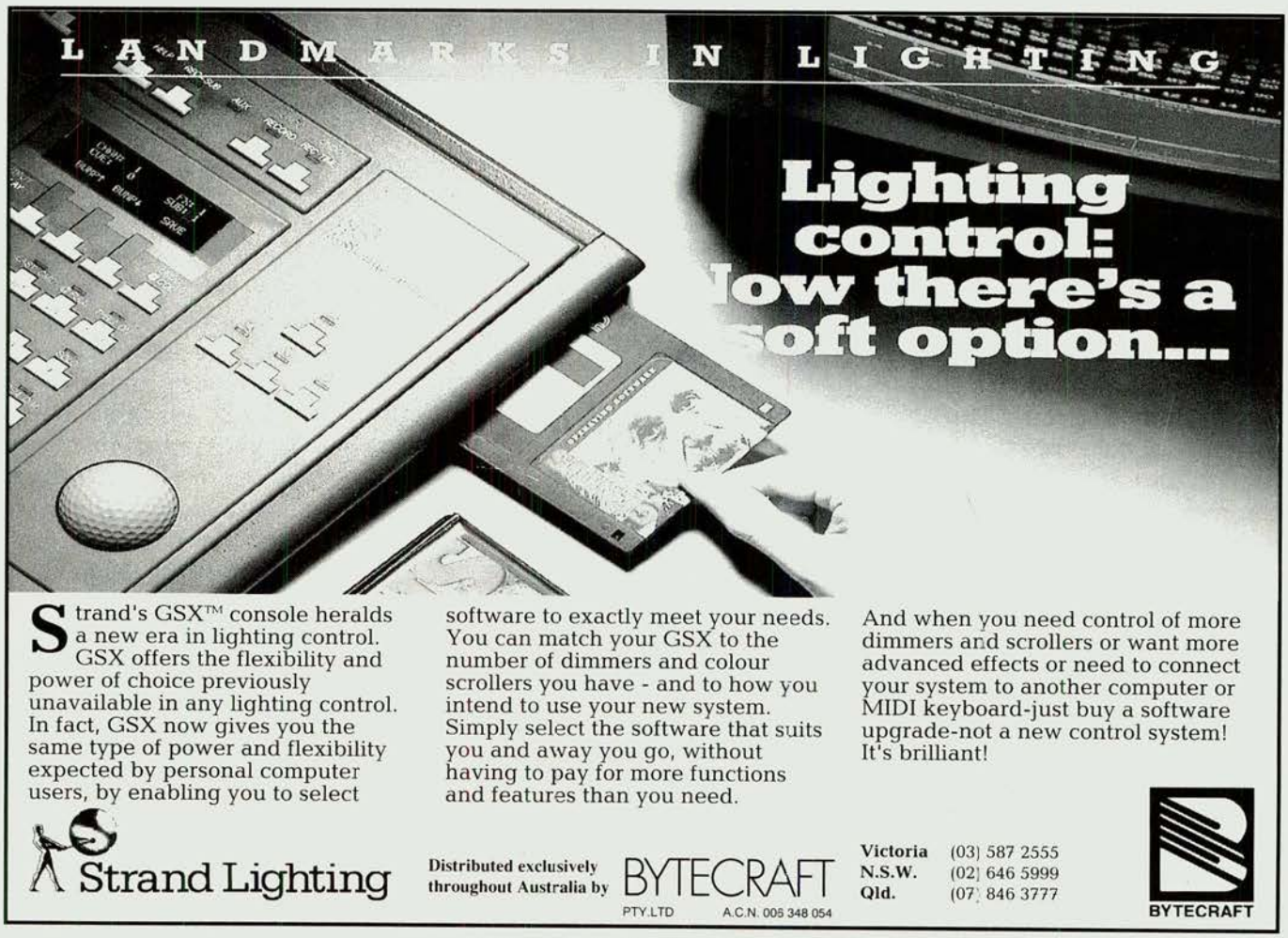
Most multi-effect processors rely on a single digital processing circuit that is capable of creating all of the different effects, but only one at a time. The latest generation of multi-effects processors typically contain up to four processing circuits, allowing up to four different effects to be used simultaneously on the same sound source.

Some manufacturers have taken this concept one step further by providing additional input and output sockets, allowing each effect to be used on a totally different sound source. These processors are the equivalent of having four totally separate multi-effects processors in the same box, and represent excellent value-for-money.

Internal patching systems allow numerous configurations of inputs, processors and outputs, allowing some very complex and interesting sounds to be created.

For example, it's possible to have four totally separate mono processors, or two stereo processors, or two mono and one stereo processor, and so on.
Not bad, huh? •

- Greg Simmons



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LIGHTING MONTHLY

MOVING LIGHTS: The Field

Nothing has changed the face of lighting more than the Moving Light, first popularised on the Solid Gold TV Show, and in the 1990's commonly available thanks to the Italian disco lighting industry.

Today the technology has matured- but demand is still running strong. The major players in the moving light market here are, in no particular order:

•**Vari*Lite,** the offshoot of Showco, a major American concert production firm. Vari*Lite's may only be hired, not purchased, and are available here through Vari*Lite Australia, an offshoot of Jands Production Services, who have upwards of 300 fixtures. Vari*Lites are fully acticulating, meaning the lamp housing moves through 360°.

• **Coemar,** (Italy) make a range of moving mirror fixtures, from tungsten halogen lamp sourced Microscans, through to the new NAT TM 2500, a monster that has a unique dual mirror head system for almost 360° movement. Available here via Coemar DeSisti Australia, a joint venture firm.

• **Clay Paky,** (Italy) likewise make a solid range, including the Golden Scan 3, possibly the top selling 'middle market' unit last year. Available here from Show Technology (formerly LAVA Australia).

• **Martin,** (Denmark) perhaps ever so slightly out of the Australian mainstream, but a solid range of RoboScan designated products, also available from Show Technology.

• **Morpeus Pan Command** - a system not unlike Vari*Lite's, similarly working to its own protocol (command language) and available here in touring rental quantity (100+ units) though Concert Lighting Systems.

• **High End Systems,** (Texas) the inventors of the Intellabeam, possibly the most prolific unit on the world concert lighting market. Also make Trackspot and a new monster power unit - Cyberlight. Regarded as the L.D.'s moving light co. Distributed here by GUVT.

• **Icon,** (UK) the product of Light & Sound Design, a very popular touring lighting vendor. Icon *(pictured left)* is in the Vari*Lite/Pan Command style, operates to its own protocol through its own control desk, and is up-to-the-minute in features. Available here through Bytecraft, at press time the first system of 32+ fixtures was on-line. One to watch.

NEW

RIMINI THE SHOWCASE

THE stakes are getting higher as the light output and lamp technology increases, with three recent releases of large format moving mirror units.

The Clay Paky Superscan Zoom is built around an HMI 1200 discharge lamp (also available in the Golden Scan 3), and has an objective lens that is zoom operated between 8° and 16°.

Colour control is impressive, a fading colour mixing system operates from 3 control channels, one each for Red, Blue and Green. In addition, an extra channel operates special colours, including UV, Saturated Red, bi-colours, four colours together, and colour temperature conversion filters.

(continued over)

Bits

• **CyberLight** is now shipping, says High End Systems. Local importer GUVT's Noel Bourne is keenly awaiting stocks, he's got orders....

• **Rohan Thornton,** one of Australia's better TV lighting designers (in the editors view,) designed his ARIA awards and Logies rigs on Microlux 1000 software from Coemar (Aust).

• Speaking of which, **ShowCAD** has been upgraded to V. 2.03, with all kinds of new features. The new manual has a 'getting started' section for neophytes like the editor, who usually tries everything then resorts to the manual as a desperate last measure, a final forlorn fling! ShowCAD is from Coemar DeSisti Aust, call (03) 467-8666.

• **Lightmoves** say Teatro delivered one dozen Talento 2500 HMI follow spots to the opening ceremony of the Liiehammer Winter Olympics, in short order. The temperature dropped to -20° some nights, so the objective lens' cracked when the units were turned on and defrosted in the morning, Spares were on hand, a slow warm up cured the problem.

• At the other end of the globe, Auckland's summer saw Shakespeare outdoors, where Selecon's hire system of Rainbow **Alfresco scrollers** sat in the elements for five weeks. Four shows were cancelled due to heavy rain, and rain fell during three off days, so the scrollers got the works. The team at Selecon report no damage! In addition, an Alfresco system has been sold to 'Mouse Music', one of Thailands leading hire companies. They use theirs in the brutal tropics, so far so good!

NEW MOVING LIGHTS, *(continued)*

Clay Paky say the Superscan Zoom allows 'sculpting and light drawings', such witnessed by Connections' Caroline Grafton at the just-completed SIB trade show in Rimini, Italy.

The gobo system uses standard M size gobos, and accepts four fixed and four rotating gobos that may rotate in either direction at a variable speed. Rotating is indexed so any position may be repeated with maximum precision, say Clay Paky. Two prisms are included, which may also rotate in either direction, at variable speed.

An iris is included, two frost filters, and a linear dimmer. The strobe effect can be varied in flash frequency from 1 to 7 flashes per second. The mirror pans 150° at +/-0.3% resolution, they say, and tilts 100°. Movement is said to be perfectly smooth at slow speeds, where jerky action is said to normally most likely show up.

Like all moving mirror units, the Superscan Zoom runs on DMX-512 protocol, and requires 12 control channels. It is 1470mm long, 430mm wide at the yoke extremities, and 455mm tall to the top of the yoke. Weight isn't yet stated, but it won't be light!

CYBERLIGHT LINES UP

At Rimini High End Systems announced the CyberLight was running through the production line after it's pre-release at last November's LDI '93 trade show. CyberLight is not unlike the new Clay Paky Superscan Zoom (above), in that it utilizes a 1200w discharge lamp source. Like Clay Paky, High End have not yet at this time stated output at any particular beam angle or throw, in lumens.

CyberLight uses a three channel colour mixing system, electing to mix Cyan Magenta and Yellow, unlike the RGB system in the Clay Paky unit. Coemar have also adopted this in the NAT TM2500.

CyberLight pans further than Superscan Zoom, but tilts less. CyberLight has seven fixed gobos and four rotating, and can provide almost infinite gobo mixing effects.

The variable zoom lens allows 12° to 32° beam spread, it has a dimmer, and the lamp is accessed through the back of the unit. Unlike Clay Paky and Coemar, High End Systems very nearly made CyberLight into a proprietary system that would only operate from their Status Cue controller - in other words, they almost left DMX capability out! The market place, apparently, made it clear that they wanted CyberLight to be backward compatible with non-High End systems control boards.

High End have the greatest number of 'complete' systems out there, with their own controllers driving their own Intellabeams and Trackspots. The instances of other manufacturers controllers being used with High End fixtures is considerably less that Coemar and Clay Paky, who have not managed to perfect a range of 'in house' control boards that are as universally acceptable to the hire and touring marketplace as High End's are.

In any case, CyberLight is both DMX and proprietary protocol capable, and that's a good move!

NAT TM, MOTHER OF THEM ALL

Really, there is no contest in terms of brute power the NAT TH 2500 should win hands down, because its lamp source is a blistering 2500w HTI discharge unit. The other radical aspect of the NAT TM 2500 is the dual moving mirror head, that allows for pan/tilt of 360°, they say.

Like the other up-market fixtures detailed here the TM has three colour mixing, rolling and contra rolling gobo effects, dimmer, frost, remote focus, fast iris, and all singing, all dancing DMX analysis.

The remote lamp on/off feature is neat, as is the external ballast to keep the fixture weight down to something like that of the CyberLight.

NAT doesn't have remote zoom like the others do, Coemar deSisti's Peter Kemp will give you 27 reasons why you don't need this, including the fact that the 10.5° beam spread is optimum, the unit has an iris like the others do, and more.

NAT stands for New Advanced Technology, there is also a NAT TM 1200 with the 'robotic' head 360° scanning arrangement too, this is 1200mm long and weighs in at 41kg, with a remote ballast.

This completes the major manufacturers line up, at least until November, when LDI '94 comes up!

MINISCAN UPGRADED

Clay Paky say the Mini Scan 300 is the smallest but most powerful intelligent spot on the market. Here in Australia we have a lot of fun with the nonsensical concept that a Moving Light can be Intelligent .... but that's more due to the direct nature of our race!

Anyway, the Mini Scan caused great excitement when released, and has remained a solid seller in the low end of the market. The 300 is the same size, but produces more than double the output, as you'd expect.

The weight is 11.5kg, and the MiniScan 300 has a colour wheel with 7 dichroic colours plus white, the ability to do two colour beams, 5 gobos, and a shutter with gradual dimming and instant shutter functions.

Working on four channels of DMX, you can get the Mini to do strobe effects and blackout, and it is a robust little creature, say Clay Paky, who acknowledge the touring and hire market is the largest user of their goods down under.

The HTI 300 lamp for the Mini Scan was developed especially by Osram.

Details from Show Technology, 1-800-64-6666, or by fax: (02) 898-1222.

MORE ON PAGE 58>>>>

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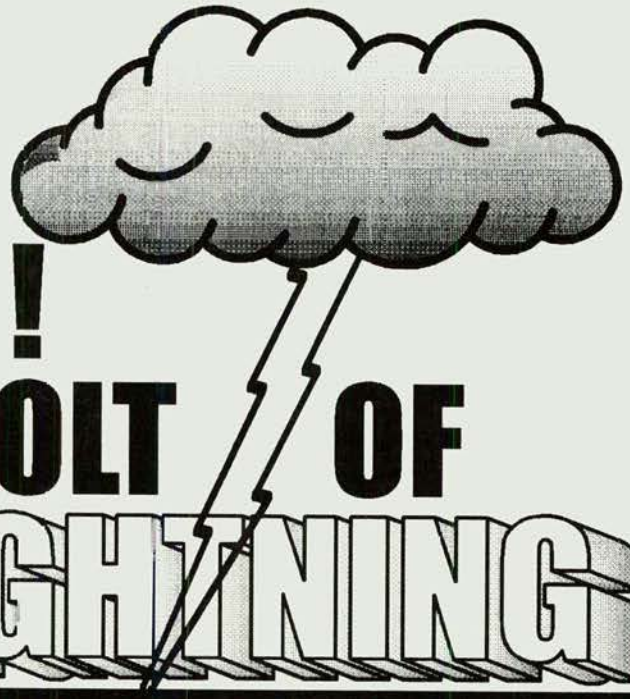

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The IDIOT

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Gee I remember when "the band want you for the tour of America" was the greatest management lie ever dropped on a lighting trog, because after the three month tour of Oz on a low wage the band went without you. Sad excuses and regrets, sure, but on the Pan Am anyway. And you sat there wondering why the sound guy, 2 stage techs, the manager, band and assorted floosies were on the Jumbo.

The great trip O/S did come my way after I decided 'the promise' was a crock, and to work every week at my standard rate regardless. Because I'd been burned, I didn't have stars in my eyes any more, so they must have figured I was OK to take.

Later on, working for a firm the same old stuff was put up in the job interview: "Naturally we have international obligations, and your position could include travel". Without thought I snapped: "How much are the Perdiums?" at the shocked G.M., who reasoned that This Kid wasn't to be brought with bullshit. I did get sent to the UK for a week, and despite hammering out a deal was $250 out of pocket at the end of the week. Let me tell you why ....

At departure your loved one parks in the car park at Tullamarine. Cost: $9.00. The departure tax on the ticket hasn't been paid: $20. Goodbye drinks: $17.80. Reading material for the 25.5 hour flight: $12.90. Stopover expenses: Singapore $17.90, Bahrain $8.90, both incurred seeking sanity. (These days the 747-400 bypasses Bahrain with one stop only, so save $8.90. Big deal).

Heathrow is hell anytime of day, the taxi to the city is moreso. $90 gone. Remember, you've converted your AUD (that's Aussie Dollars, mate) to Pounds Sterling, and paid a couple of percentum in the process. When you return home your un-spent £ will be reconverted for a similar fee. That's if you didn't loose some of them in confusion because you are not familiar with the look of the things.

You tip the bellboy, or do they call them doormen? That's $4 gone, the tea and scones when you awake after a fitful 3 hour doss another $13.50. That night you eat light and drink 2 pints across the road, $47.80. The Independent costs you $1.20, and has no page 3 girl!

On the way to your meeting you stop and buy a map of London for $4.90. The taxi cost $19.00, remember these are Aussie dollars converted from £ - A big conversion. You duck out for sandwiches, because you'd prefer not to go to the pub with the programmer, and this sets you back $8.45.

By the time your time is up you've spent, spent, spent and the meaningful receipts in your wallet do not match up to the outlay. You don't get receipts for tips, maps, coffee's, donuts, sandwiches, beers, or some taxi rides. Ever tried getting a receipt when your driver is ripped on speed?

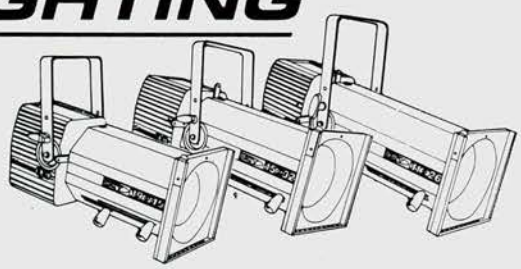
Sure enough you return home and your boss gives you $200. You're out of pocket, your wife is sniffing your underwear suspiciously, and your eyeballs are doing strange things for days. If you're particularly lucky, customs have strip searched you on the way back in, and so you've kept the Loved One waiting an hour beyond the emergence of the last straggler from the custom hall doors. You're are almost certainly $250 worse off for the week, and that's before you've purchased souvenirs, toys for the nephews, taken photographs, et all. And your wife is CERTAIN you've rooted every night with glam mullet that materialise in your 3rd rate hotel room in the 5 minutes between brushing your teeth and collapsing in bed. So it's Condoms for two months, until the blood tests come back negative.

Your protestations about jetlag, no sleep, delayed flights, rip-off's, lost tickets, fat halitosis riddled next seat passengers and being seated in smoking when you don't, all have no effect. You're a spoiled shit in the eyes of your workmates, because You Got The Trip.

Do yourself a favour. Recognise the 'O.S. Trip' is nothing more than three working weeks crammed into one. Do Not act like the eager puppy when your boss/band/contract customer start to talk travel, just ask them this: "What's it worth?"

Remember, as that great somebody once said: 'Talk is Cheap!' Stay at home. •

CCT LIGHTING



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Mr. Philip Burkinshaw & The Par Can

The Idiot now correctly recalls that the very first Par 64 lamp ever seen in Australia was imported for the YES tour of 1971 or 1972. The lamps were in a box type arrangement. Phil Burkinshaw purchased these at the end of that tour and created an orange coloured, metal 'par can'. These formed part of the inventory of Krazy Maze, Australia's first real Rock & Roll lighting co.

Let the record be set straight: Burkinshaw was the first person in Australia to use Par 64's!

MiniScan: doubles light output!

Everyone's favourite small scanner has now been boosted into higher orbit with its new 300 Watt HTI lamp - doubling light output! So now you can have **Clay Paky** quality in a smaller format, without sacrificing the power you need for instant impact.

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GLADIATOR

The **Abstract Gladiator** range is now complete with the combination of four fixtures and controller. The range features the Saga 250, Astraflash, Scenesetter and the Master Stroke 48 controller with simple scene writing features and can be MIDI cued direct with no interface required.

The Saga is a low cost, 250w moving light with seven colours, three gobos, strobe, internal sound control option, and runs on DMX-512. It sells here for $1100.

Scenesetter is a colour changer, offering 7 colours, 3 gobos, and a 250w lamp for $399.

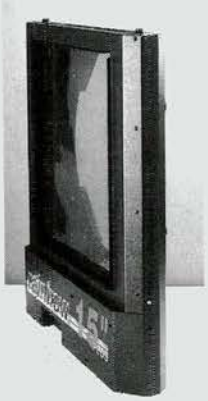
MiniStarburst 250 is an effects piece that is DMX controllable, 250w, $899.

All the above effects can be controlled with the Masterstroke 48 controller, it has pre-programmes written in, and various other functions.

Distributed in Australia by Universal Lighting & Audio on (075) 290 688.

SHOW TECH and SHOW TECHNOLOGY.
It's been pointed out to us Show Tech is a long established Melbourne company, while Show Technology is a newly incorporated Sydney Co.

CYC SCROLLER



The Rainbow 501 - 15" Plus is now available for use on Ianaro Iris 1's. Special adaptors and soft edges allow sideways mounting on Cyc's.

12 bit resolution gives slow, even control via DMX, horizontal wipes allow half or third frames of two colours, giving the wildest sunsets, say Selecon, who distribute Rainbow on both sides of the Tasman Sea.

• Meanwhile Selecon report the **Darwin Performing Arts Centre** chose their fixtures for the new DPAC studio. 108 luminaires grace the joint, including 42 Zoomspot 1200's, 20 x 7" PC1200's, and Selecon's Performer 2500w quartz followspots.

Other recent Selecon sales include the "Portugese Theatre" in Macau, which also has a Lands ESPII desk, Dynalite Dimmers, and Rainbow Scrollers.

Selecon have also sold into Amsterdam recently.

LSC NEWS

Melbourne based LSC Electronics always make a big effort at the Musik Messe show in Frankfurt, this year was no exception. With 80,000 visitors over 5 days, this is the largest single tradeshow for our industry in the world today.

The new AXIOM console attracted a lot of action, reports LSC, with the 36 channel Touring dimmer system it was subject to a lot of actual orders at the show - always the litmus test of success!

A German magazine 'Production Partner' flagged LSC's Tour Series dimmer as the fourth most popular in the huge (it is) German market!

Recent sales for LSC include Studio TC6 at the BBC in London, the Winter Olympics, and a host of Aussie Theatre and Education sales.

RED DEVIL

POPULAR

smoke machines

The Red Devil is a product of the Genesis Technology and is part of the Le Maitre 'POPULAR' range of smoke machines.
The Red Devil is ideal for mobile discos, small discotheques or any venue that needs a powerful reliable machine.
Athoungh the Red Devil is very competitively priced Le Maitre has kept a high standard of components throughout the machine.

Features:

- Genesis heat exchanger - Fully modular and easily serviced with every single part being replaceable
- All new electronic sensing with unique 'Fail Safe' device
- 5 year guarantee
- Variable smoke output from Remote Control Unit as standard via simple jack socket
- Continuous Smoke Output available
- Quiet operation with thick, clean non-toxic smoke

Technical specification

Length : 430mm	Power consumption : 4.5 Amps
Height : 130 mm	Shell : All steel
Width : 210 mm	Finish : Powder coated red
Weight : 9kg (boxed)	Jack socket remote

LeMâitre

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Pinspot $27 RRP

Stormtrooper $1,150 RRP

Strobe $189 RRP

Phasor $895 RRP

Shark $1,190 RRP

Moonscan $545 RRP

Hypermoon $895 RRP

Scatterspot $120 RRP

AE AUSTRALIA PRESENTS The 1994 COLLECTION

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Skylight $890 RRP

Comet $930 RRP

Multi Eyes $930 RRP

Funky $1,790 RRP

SAPRO

Pyramid $690 RRP

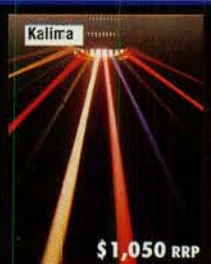
Sydney $2,200 RRP

Syncotron $2,000 RRP

Jivelight $2,100 RRP

PROFESSIONAL SERIES

Astroraggi $990 RRP


Kalima $1,050 RRP

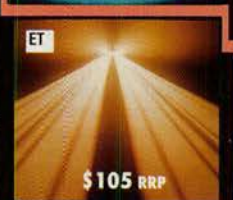
Revolver $1,150 RRP

Tricorno $960 RRP

Spinner $1,190 RRP

Astroraggi $990 RRP

Micro Rave $445 RRP


ET $105 RRP

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Mini Raggi $520 RRP

Mini Moonflower $240 RRP

Par Can $75 RRP

DJ SERIES

Mirror Balls from $5.90 RRP

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90° Par 36 Scanners from $70 RRP

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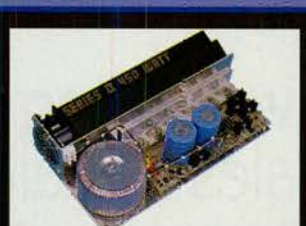

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Buyers Guide

Effects Lighting. Prices EXCLUDE sales tax, and effective 15th April 1994

ADJ from Showtech
(02) 898 1111
Astroraggi 206 Multi coloured beamsswaying to the beat! Great central effect. Uses 2 x 24V 250W M33 lamps. $1032.
Derby Classic effect featuring multi coloured beams that sway and criss-cross to music. Powerful, yet compact. 2 x 36V 400W lamps. $819.
Revolver A rotating gobo effect projected through a dichroic prism giving infinite colours. Powerful ELC lamp. $1032.
Comet Powerful dual beam effect that strobes and sways to the beat! Extremely effective and wide beam spread. $819.
Storm Trouper Classic "flat blade" effect that sways to music while moving 180° side to side. Uses economical J500 lamp. $1032.

Anytronics (UK) from G.U.V.T.
(07) 358 5022
Superstar Strobe MKII High powered (11 joule) strobe with choice of external pulse triggering, low cost ESC control or on board control. Selectable "flip flash" output for 100ms delay. $368.
Superstar Strobe Slave. Same high power as MKII but with no on board speed control. Control is by external triggering or from MKII master unit. $330.
Strobe Pod High powered pod strobe for fitting to par 64 can. Control is by external triggering. $267.
Megastar Strobe Very high powered strobe with 1500W flash tube rating with control. Features same as Superstar MKII. Fan cooled and quiet firing. $1100.
Deathstar Strobe Extremely high powered strobe approximately twice the output of Megastar strobe. Dual fan cooled and quiet firing. $1420.

Coemar from COEMAR DE SISTI AUST. Ph: 467 8666
Ritmo 1200 MSR : High powered projector with a range of lenses to change the beam projection. $7,000.00
Graffiti 1000 TH : High powered projector that utilizes liquid wheels. $2,800.00
Duo 700 MSR : Twin beam effect with built in colour change and beam movement. Automatic audio activation or 0-10V control. $4,600.00
Bello 1200 MSR : Twin movement effect producing intense colour beams or blade effect. $5,000.00
Strobe 700 : Brilliant high powered strobe. $900.00
Venus : Four movement effect producing intense colour beams or blade effect. $8,000.00
Versatile : Inexpensive effect that can produce seven bright blades of light or seven bright tunnels of light, purely by changing the lamp. $290.00
Tunnel Light : Inexpensive effect, producing one large tunnel beam. $650.00
Multi-Tunnel Music : Produces an array of tunnel beams that spin to music. $1,500.00
Multi-Beam : Produces an array of fine beams that rotate to music, available in 250W TH or 200W MSR. $1,300.00 - $1,800.00
Cybernetic 1200 MSR : Large central effect that produces multi-beams that change colour and shape to the music. $7,000.00
Confetti Cannon : Unique rotation and tilt system allows this cannon to be positioned as required. Extra heavy gauge steel construction. $405.00
Tas
Star Ray 400 AL : The Star Ray creates a star-like set of beams which rotate while the coloured beams spread in and out. All functions are synchronized to music. By using 0-10V, total independent control of rotation speed, rotation direction and the range of light beam spread can be achieved. $1,228.00
Fan Ray 400 AL : The Fan Ray creates a fan-like set of beams which rotate while the coloured beams spread in and out. All functions are synchronized to music. By using 0-10V, total independent control of rotation speed, rotation direction and the range of light beam spread can be achieved. $1,208.00
Nova Ray 400 AL : The Nova Ray creates a multitude of square-like beams which rotate while the coloured beams spread in and out. All functions are synchronized to the rhythm of the music. By using 0-10V, total independent control of rotation speed, rotation direction and the range of light beam spread can be achieved. $1,228.00
Swing 250 AL : The Swing produces an energetic atmosphere while synchronized to the music. By using 0-10V, total independent control of rotation speed and rotation direction of the flower-like effect can be achieved. Optional multi coloured reflector can be used. $900.00
Nabila 1000 AL : The Nabila creates eight sharp blades of light, which rotate and intersect among themselves. Nabila synchronizes to music, but by the use of any 0-10V, control of rotation speed and direction of rotation can be achieved. $839.00
Dominator 1000 AL : The Dominator creates 16 beams of light which rotate and intersect among themselves. The Dominator synchronizes to music but by the use of any 0-10V, control of rotation speed and direction of rotation can be achieved. $935.00
Twin 250 AL : The Twin creates two multi-beams of light which counter rotate and intersect among themselves. The Twin synchronizes to music, but by the use of any 0-10V, control of rotation speed and direction of rotation can be achieved. Optional multi coloured reflectors can be used. $1,033.00
Multipoint 250 : The Multipoint creates multi-beams of light which rotate while synchronized to the music. By using 0-10V, control of rotation speed and direction of rotation can be achieved. Optional multi coloured reflector can be used. $752.00
Mini Twin 50 AL &100 AL : The Mini Twin (a mini version of the Twin 250) creates two coloured multi-beams of light which rotate and intersect synchronized to the music. By use of accessories, straight dots or semi circular beams can be created. $645.00-$705.00
Mini Multipoint 100 AL & 150 AL : The Mini Multipoint (a mini version of the Multipoint 250) creates multibeams of light which rotate synchronized to the music. By use of accessories, straight dots or semi circular beams can be created. $550.00-$625.00
Ray 250 AL : The Ray creates variable beam patterns, including straight dots, semi-circular beams and multi-coloured by the use of various reflectors available as accessories. Impressive light effects can be created by use of standard controllers which chase and fade various units in synchronization. $370.00
Synchro HMI 575 : Extremely Powerful HMI 575 Lamp, Covers Wide 120 deg. Area, Servo Controlled Mirrors, 4 Continuous Charge Dichroic Colours, 8 Highly Concentrated Beams of Light, 8 Spinning Multiple Mirror Reflectors, Built in Mic, Black-Out Feature, Steel Plate Body, Black Epoxy Powder Paint Finish, Forced Ventilation, Operates in Any Position, Optional Dedicated Controller, Fixtures Synchronizable Via Controller. $4,580.00

Fly from Lightmoves Technologies (02) 560 0000
Hydra Rotating effect with 10 lensed fibre optic arms, raised and lowered with centrifugal force. Has automatic colour change and strobing controlling the 575 HMI output. $2625.
Midas Conical shaped low ceiling effect with automatic and audio activated control of dichroic colour, gobo and shutter. Uses a low cost ray lamp. $1665.

Geni from Showtech (02) 898 1111
Ocho/Quattro Powerful HMI575 Moonpower effect with a 4 way (Quattro) or 8 way (Ocho) mirror head. Suitable for large rooms. $2190.
Quattro Powerful HMI575 lamp source provides an array of multi-dichroic coloured beams that change to music. Price includes remote control. $2190.
Wild Flower A powerful scanning moonflower effect with dichroic colours and long life M33 lamp. $503.
Moon Flower Excellent value for money moonflower effect with Dichroic colour filters. Lamp is the popular 24V 250W Halogen (M33). $370.

Genius from Showtech (02) 898 1111
Four Flower Popular moonflower set of four (1 master, 3 slaves) utilising M33 lamp and dichroic lenses. $2677.
Gobo Flower An audio activated gobo wheel is reflected off a dichroic moonflower dish to give multiple gobo patterns changing colour. $1162.
Meteor A scanning light with 2 mirrors each with one colour, one gobo. Best in pairs where one acts as a master. $1070 Master, $894 Slave.

Laser Chorus from G.U.V.T.
(07) 358 5022
Viper Dual beam helium neon laser 4.95mw available in red, green, orange, or yellow output. Beams can be selected to work in unison or inversely horizontally or vertically. Fixture Red $4006, Other colours $4623, Controller $4635.

Lightwave Research from G.U.V.T.(07) 358 5022
Dataflash Infinitely expandable and dimmable pulsed Xenon illumination system. On board microprocessor w/- digital assignment selector. Maximum flash rate 17FPS minimum flash rate 0.5 FPS. Fixture $827, Controller: from $925.
Multiflash HX Dimmable pulsed Xenon strobe producing eight focused beams. On board microprocessor w/- digital assignment selector. Fixture $1227, Controllers : from $925.
Multiray Multi beam projector producing eight separate focused beams useable over distance of 20mts or more. Uses Quartz Halogen lamp w/- integral proximity reflector. $902.

Martin from Showtech (02) 898 1111
Starflash The Starflash is an audio activated moonflower effect featuring dichroic colour; lamp turns off and on to music as well as the dish rotating. $489.
Robozap An intelligent lighting effect that can be run on audio. Two light sources are mixed and coloured and projected via an animated drum. $1335.
Centrepiece A powerful 1200MSR lamp sources this central effect. Like having multiple intelligent lights. Can be programmed. $5345.
Ministar The original moonflower featuring dichroic colours and audio triggering. Also available with a "cone" dish (RAINBOW). $800.
Sweeper Two bright dichroic backed lamps are projected through a dichroic prism and animated to music. $845
Magic Moon An effect featuring a dichroic prism through which beams are projected and animated to music. $845

Optikinetics from LIGHTMOVES TECHNOLOGIES (02) 560 0000
Solar 250 Projector The original effects projector with an extensive range of graphic and kaleidoscopic cassettes and wheels at various speeds. Has 1960's oil effects. $675.
Solar 575 Projector The big brother to Solar 250. Uses all the same effects drives but has a 575 HMI light source. $6350.
Solar System Effects system for Solar 575 creating 64 effects. Comprises two wheels each with eight slots. Position rotation speed and direction controlled by DMX on board memory storage. $4500.
Solar 250 Audio Animated Projector. Same as Solar 250 but with audio animation bi-directional drives for sound activated lighting effects. $850.
Quasar Strobe Projector. Powered by a pulsed Xenon lamp and utilising all the solar 250 accessories, this projector creates high energy effects as a low cost projector. $1875.
Terrastrobe The mother of all high power strobes. $1200.
White Lightening Strobe The industry benchmark for high power strobes, when only the best is good enough. $900.
Super Slave Strobe High quality, reliable workhorses. $375.
Club Strobe Flower System A four head moonflower effects system with control of head output, flash rate, beam selection and rotation. Uses a short arc Xenon lamp with brilliant output. $9000.

Programmi & Sistemi Luce from G.U.V.T.(07) 358 5022
Psycho Producing multiple multicoloured beams that rotate in alternate clockwise and anticlockwise directions under audio activation. The lamp also only switches on when audio signal is present. $829.
Yuppie Producing two rows of multiple multicoloured beams that rotate in an alternate clockwise and anticlockwise direction under audio activation. $922.
Junior Producing two concentric circles of multiple multicoloured beams that rotate in an alternate clockwise and anticlockwise direction under audio activation. $922.
Quick Producing multiple multicoloured beams that rotate at a fast speed in an alternate clockwise and anticlockwise direction under audio activation. $705.
Cosmic Producing four horizontal rows of multiple multicoloured beams that move up and down under audio activation. $1493.
Seltz Producing multiple multicoloured dots of continually changing colour that randomly dances to audio activation. $1300.
Reflex Producing four distinct circles of continually rotating dots of green, blue, yellow and red reflected by four mirrors that randomly dance to audio activation. $1594
Spirit Producing multiple multicoloured beams in circular patterns that randomly dance to audio activation. Can also produce two sets of four concentric circles of four solid colours. $1952.

Studio Due from G.U.V.T.
(07) 358 5022
Micro 25 Multicloured beams of constantly moving light. Uses a 12V 100W lamp. $477.
Mini Moon Multiple beams of light rotating to audio activation and coloured by colour wheel. Uses 250W lamp. $1607.
Moon Flower Multiple beams of light rotating to audio activation and coloured by colour wheel. Uses high powered mercury HBO 200W discharge lamp. $2370.
Magic Fly Two halos of multiple beams of light which move to audio activation and coloured by colour wheel. Uses 36V 400W halogen lamp. $1882.
Twin Two outputs of multiple beams that move under audio activation in opposing direc-

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tions and coloured by colour wheel. Uses two 250W halogen lamps. $1868.

AE AUSTRALIA PTY LTD
(02) 896 4033
DJ Series.
ET - 2 Lens Projects thin flat "laser like" beams through sharply focused coloured glass lenses, suitable for use with 4 channel controller. Lenses come in 7 different colours: Blue, Green, Red, Orange, Violet, Pink, Yellow. Lamp Type R7 240V 300W $87.
Helicopter 4 Way Highest Quality, carry handle, USA made direct drive motors, twin circuits, 60 RPM, screw on cap lamp holders, adjustable heads, come in 4 and 8 way. Codes HEL4, HEL8, 60rpm, Dual circuit, fuse protected, carry handle. Lamp Type 4515 6V 30W. HEL4, HEL8. $240 - $330
Micro Rave The Micro Rave is similar to the "Light Emotion" Mini Rave but even smaller 27 x 18 x 14cm, projects beams that change colour and move to the beat of the music. Lamp Type BRL 12V 50W. $368.
Moonflower Micro Mini Moonflower that projects dichroic multicoloured pencil beams in all directions that rotate, the smallest moonflower ever 18 x 15 x 13cm. Lamp Type EHJ 24V 250W. $198.
Motorised Base 360º (provides power to effect) 360º Scanning base, 2 x power circuits, 1 x rotation, 1 x power to light, rotates at 3 rpm Codes B090, B360, 360º or 90º axis, Carries effect weight up to 5kg. $231.
Motorised Base 90º Scanner Rotation. 90º Scanning base, rotates at 5 rpm. Codes B090, B360, 360º or 90º axis, Carries effect weight up to 5kg. $240.
Raggi Micro Coloured (twin lamp) Micro raggi: the smallest version ever of the Professional Series twin lamp Raggi 30 x 17 x 17cm.d Projects 2 coloured pencil beams through each lens that move to the music. Lamp Type ENL 12V 50W x 2. $347.
Raggi Mini Coloured Reflector (twin lamp) Mini Raggi: Economical version of the Professional Series twin lamp double Raggi reflector RAGI, 34 x 26 x 26cm, Projects two unusual beam shapes through each lens, very bright. Lamp Type 64516 240V 300W x 2. $430.
Ropelight Controller - Music Activated 10m Will control up to 10m of ropelight, speed control, sound activated. $40.
Ropelight Controller - Music Activated 20m. Will control up to 20m of ropelight, speed control, sound activated, Three selectable patters, fuse protected, sound activated, $64.
Ropelight - Spiral 10m. As with RLO5 but 10 metres in length, 88 watts. $132.
Ropelight - Spiral 5m High quality spiral ropelight, heavy duty, 4 colour, 4 channel, 5 metres in length, 3000 hour lamp life, 44 watts, 62.5mm lamp spacing, 21mm OD, 15mm ID. Code RL05, RL10, heavy duty, spiral, multicoloured. $74.
Scanner - Highest Quality Scanner High quality metal single Par 36 scanner with adjustable head, 120º oscillation, smooth and quiet scanning action, two tri wheels. Precision movement, quiet scanning action, 120º oscillation. Lamp Type 4515 6V 30W. $74.
Light Emotion
Derby 20 Sharp rainbow coloured beams rotate and give a horizontal and vertical tumbling effect with the beams crossing over at the same time, very bright. Lamp Type EHJ 24V 250W x 2. $781.
Derby Triple Lens. Projects 60 multi-coloured beams that crisscross to the music. Similar to Derby but with three lenses in each window. Lamp Type EHJ 24V 250W x 2. $818.
Disco Strobe Powerful disco strobe, rugged construction with adjustable flash rate. $156.
Disco Strobe Controller This Strc remote will control any number of STRR strobes linked together at the same chosen speed. Features flash rate adjustment, on/off switch, 3 metre cable, LED Mimic Light. $41.
Disco Strobe with Remote Input Powerful disco strobe, same as STRO but with external remote input, rugged construction. Features adjustable flash rate, an infinite number of STRR strobes can be linked together. $182.
Full Moon II One outer ring of white beams and another inner ring of dichroic coloured beams rotate in opposite directions spinning in sync to the music, very bright. Lamp Type EHJ 24V 250W x 2. $818.
Hypermoon Multiple Moonflowers are projected through a dichroic glass prism. The flower changes colour with simultaneous projections of other varying coloured Moonflowers that sweep from side to side to the music with a wide beam spread. Lamp Type EHJ 24V 250W. $740.
Mini Rave Projects beams through a 3 way dichroic prism producing multiple colours that move and change to the beat of the music. The Mini Rave is very bright for its size 37 x 30 x 15cm. Lamp Type EFP 12V 100W. $603.
Moonflower 250 (24V 250W Lamp) Medium sized flower that projects dichroic multicoloured pencil beams in all directions that spin to the music, c/w external 24V power supply, very bright, 30 x 15 x 15cm. Lamp Type EHJ 24V 250W. $430.
Moonflower 300 Economical version of M025, identical to the Moonflower 250 with no external power supply required. Lamp Type 64516 240V 300W. $388.
Moonscan 250 (24V 250W lamp) Moonflower 250 scanning projector with extremely bright rotating Moonflower effect scanning left to right, c/w external 24V power supply, both Moonflower and scanning movements are sound activated, 55 x 15 x 15cm. Lamp Type EHJ 24V 250W x 2. $495.
Moonscan 300 Economical version of PH25, identical to the Moonscan 250 with no external power supply required. Lamp Type 64516 240V 300W x 2. $450.
Phasor 250 (24V 250W lamp) Two semi circle rings of dichroic colours project two half circle coloured cones of light which rotate in opposite directions both spinning in sync to the music, c/w external 48V power supply, 26 x 28 x 14cm. Lamp Type EHJ 24V 250W x 2. $822.
Phasor 300 Economical version of PH25, identical to the Moonflower 250 with no external power supply required. Lamp Type 64516 240V 300W x 2. $740.
Scatterspot Alternative to conventional pinspot. Static Moonflower effect projecting laser sharp pin beams, suitable for use with 4 channel sound activated controller. Lamp Type BRL 12V 50W. $99.
Shark Projects multi chromatic fans of coloured beams that together move upwards and downwards to the music. Lamp Type EVD 36V 400W x 2. $983.
Stormtrooper Projects 10 sharp "laser like" flat coloured beams of light through focused multi coloured lenses which criss cross and rotate to the music. Lamp Type R7 240V 500W. $950.
Professional Series.
Kalima Dichroic colours pass through 10 sharply focused lenses that flash beams from side to side to the music. Lamp Type EVD 36V 400W. $868.
Raggi Double Lamp The same specifications as the Raggi Single RAG1 but with two lamps that project two white or coloured spikes through each lens, 206 beams in total move to the music. Fan Cooled. Lamp Type EHJ 24V 250W x 2. $893.
Raggi Double Reflector "NEW" Advanced version of 'RAG2', with the addition of an internal reflector which produces unusual beam shapes for the centre beams. Fan Cooled. Lamp Type EHJ 24V 250W x 2. $950.
Raggi Single Lamp Traditional single lamped Astroraggi effect, removable base, carry handles, 103 lenses, coloured beamsf. Fan Cooled. Lamp Type EVD 36V 400W. $818.
Rainbow Produces a flat array of colours which rotate to the music. Fan Cooled, Dichroic Filters. Lamp Type EHJ 24V 250W. $479.
Revolver A gobo is rotated inside the unit and projected through an audio activated dichroic prism producing extremely bright changing rich colours of the rainbow that sweep from side to side to the music. Lamp Type ELC 24V 250W. $950.
Spinner Economy Economy version of the famaous Sapro Spinner SPIN. Projects four wide dichroic concentric "laser like" circular coloured beams which move in 3 dimensions to the music. Lamp Type EHJ 24V 250W. $983.
Tricorno 3 Rows each of 5 lenses project sweeping coloured beams in opposing directions that rotate to the music. Fan Cooled. Lamp Type EVD 36V 400W. $793.
Sapro.
Colourscan Controller Semi intelligent lighting projector with manual joystick or automatically musically activated, X & Y movement control, musically activated or manual control of colour change & gobos, 6 dichroic Colours plus white. Lamp Type ELC 24V 250W. $1314.
Colourscan Head Colourscan controller, key lockable, rack mountable, lamp on/off switch, logic control, Built in mic or external jack input. $3223.
Epson 20 Sharp rainbow coloured beams rotate and give a horizontal and vertical tumbling effect with the beams crossing over at the same time, similar to a Derby, a separate transformer has allowed the Epson to be small and lightweight. Lamp Type EVD 36V 400W x 2. $1388.
French Can Can 8 Beams of coloured light in a cone shape open, close, rotate and change colour to the music beat in three dimensions. Lamp Type ELC 250W x 1. $1529.
Funky Projects hundreds of very fine multi-coloured pencil beams in three dimensions to the beat of the music. Lamp Type EHJ 24V 250W. $1479.
Jivelight Double projector that comprises 2 x 8 Gobos and 2 x 7 dichroic colours that change to the beat of the music, beams project onto an eccentric cylinder composed of 16 mirrors that moves in three directions to the beat of the music. Lamp Type ENH 120V 250W. $1736.
LLS 250 The largest of the Moonflowers. Lamp Type EHJ 24V 250W. $1397.
LLS100 Mini heavy duty Moonflower. Lamp Type EVA 12V 100W. $818.
Nancy Double projector that comprises 2 x 8 Dobos and 2 x 7 dichroic colours, 2 separate beams project onto 2 opposing changeable 8 mirrored reflectors that rotate and move in and out at the same time to music. Lamp Type 120V 250W ENH x 2. $2107.
Protid Coloured musically activated powerful strobe-like effect that projects a concentrated beam intersected and reflected through a closed 8 mirror dome, 6 dichroic colours change to the beat of the music. Lamp Type ELC 250W x 1. $1860.
Pyramid 4 x Par 36 lamps reflect onto a musically activated 8 faced pyramid mirror. Lamp Type 4515 6V 30W x 4. $570.
Rumba Same as French Can Can except with 8 Gobos and 7 dichroic colours. Lamp Type ELC 24V 250W. $2025.
Scanlight Scanlight 400 scanning multicoloured moonflower projector with extremely bright rotating beams scanning in 3 dimensions, both Moonflower and scanning movements are sound activated. Lamp Type EVD 36V 400W. $1736.
Scanray Powerful lighting projector with musically activated X & Y mirror movements, 8 x gobos and 7 x dichroic colours, automatic change of colours and gobos. Lamp Type ELC 24V 250W. $1612.
Spinner Projects four wide dichroic concentric "laser like" circular beams which move in 3 dimensions to the music. Lamp Type EHJ 24V 250W. $1736.
Sydney Powerful horizontal double projector that comprises 2 x reflectors that deflect the concentrated beams in three dimensions, 2 x 8 gobos musically activated and 2 x white and 2 x 6 dichroic colours that change. Lamp Type ENH 120V 250W. $1835.
Syncotron High powered effect that features two lamps that shoot out two very bright concentrated coloured or white beams through 9 sharply focused lenses in three dimensions to the music. Lamp Type EVD 36V 400W x 2. $1653.
Superstar.
Comet 2 An advanced version of the usual comet. This comet features two lamps and shoots out two very bright coloured beams through each lens that moves in three dimensions to the music. Fan Cooled. Lamp Type EHJ 24V 250W x 2. $769.
Crosstrooper Projects 20 sharp "laser like" flat coloured beams of light in an "X" shape through focused multi coloured lenses which criss cross and rotate to the music, Bright. Fan Cooled. Lamp Type R7 240V 500W x 2. $818.
Full Moon I Similar effect to the Light Emotion Full Moon II (FUL2) but with only one cone of white beams that rotate to the music and create a solar prismatic effect. Lamp Type EHJ 24V 250W x 1. $645.
Superstar Helicoper Economy1, 4 way Rugged metal construction, full adjustable heads 360º, adjustable heads, come in 4, 6 and 8 way: Codes HEM4, HEM.8. Lamp Type 4515 6V 30W. $215-$295
Helicopter Economy II, 4 Way Similar to Helicopter Economy I but housing is made of heat resistant acrylic, come in 4, 6 and 8 way: Codes HEP4, HEP8. Lamp Type 4515 6V 30W. $195-$255.
Mini Laser Produces various laser patterns to the music beat, extremely small and mobile 20 x 3 x 5cm, sound activated. $562.
Multi Eyes I An advanced version of the usual multi eyes. This multi eyes features two lamps and shoots out two very bright round coloured beams through each lens that moves in three dimensions to the music. Lamp Type EVD 36V 400W x 2. $822.
Multi Eyes II This multi eyes features two lamps that shoot out two very thin flat "laser like" coloured beams through each lens that moves in three dimensions to the music. Lamp Type R7 240V 300W x 2. $769.
Pyramid Economy Similar to the Sapro Pyramid PMID but the reflector is a square pyramid rather than octagonal and the pyramid rotation is much faster. Lamp Type 4515 6V 30W x 4. $397.
Scanlight Budget Budget version of the Sapro Scanlight (SCAN) Moonflower scanning projector that scans in all directions, both Moonflower and scanning movements are sound activated. Lamp Type EHJ 24V 250W. $802.
Scanner Economy I Rugged metal single scanner with adjustable head, clean movement, adj. head. Lamp Type 4515 6V 30W. $66.
Scanray Budget Mini Budget mini version of the Sapro Scanray (SCAR) but with a fixed gobo, very small 36 x 12 x 8cm. Lamp Type 64516 240V 300W. $488.
Skylight I Sharp beams rapidly flash up and down and change colour, built in microphone with adjustable sensitivity. Fan Cooled. Lamp Type EHJ 24V 250W x 1. $736.
Skylight II Very bright with a lot of colour projecting 36 coloured beams through 18 lenses, built in microphone with adjustable sensitivity. Fan Cooled. Lamp Type EHJ 24V 250W x 2. $789.
Spinner Budget I Budget version of Sapro Spinner (SPIN), Moonflower scanning projector that reduces four wide concentric "laser like" circular beams which scans in all directions to the music, scanning movement is sound activated. Lamp Type EHJ 24V 250W. $818.

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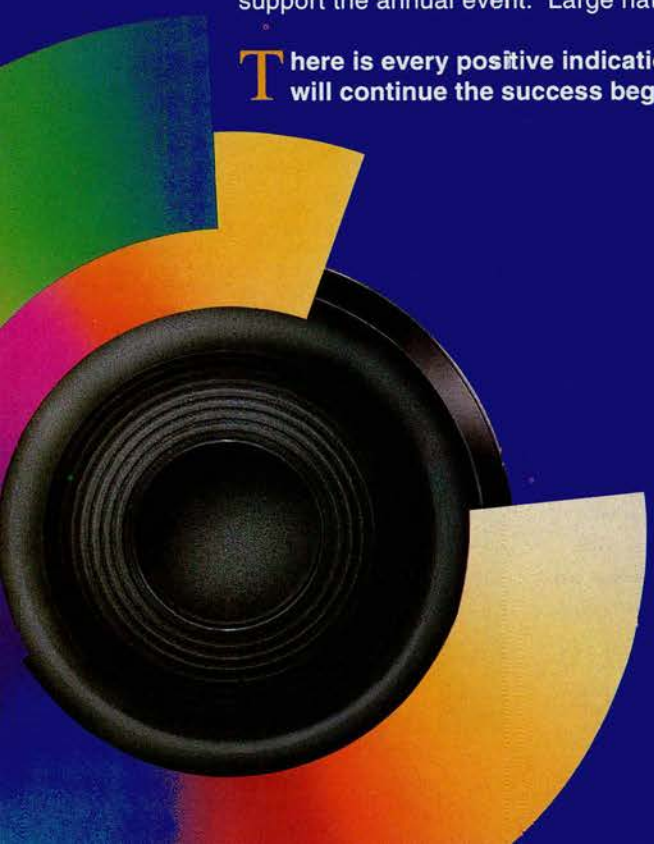
In addition, the Italian Group organised by the Italian Institute for Foreign Trade (I.C.E.) in cooperation with the Association of Italian Discotheque and Theatre Equipment Manufacturers (APIAD), and the UK delegation organised by Professional Lighting and Sound Association (PLASA) along with the British government will again support the annual event. Large national pavilions will be featured.

There is every positive indication that Pro Audio & Light Asia '94 will continue the success begun in 1989.



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CONTRACTING

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NEWS & VIEWS

This issue we bring you three project tales as told by the head of each contracting firm. The trend today is for successful contracting firms to shy away from strict definition of/by market segment - if you categorise yourself too heavily you can miss out on opportunites.

- **SOS Communications** chief Michael White, says the future lies in MultiMedia and Communications. Technicians today need to be multitaskers. "Learn some new disciplines", he says
- **Rutledge Engineering** have installed an Amek Mozart console in the new Southbank ABC complex in Melbourne.
- **The PA People** have finished the Legislative Assembly contract, on time, and on budget, according to Chris Dodds. Their project manager was Stuart McLean.
- Still no official word on the **Brisbane Convention Centre** tender, which closed last year. It is expected to go to Philips, and could be worth $2m+.
- **Jands Theatre Projects** are as busy as ever, a trend of recent years is the proliferation of theatre spaces and A/V systems in schools, according to Chris Johnson. The firm has just completed a major installation at St. Catherine's School at Waverley in Sydney's East, which includes a video editing suite, recording studio, and theatre space.

"Schools are realising there's a lot to be gained from Art's Facilities and sophisticated A/V systems", said Chris. Village are building a lot of cinema complexes in Bangkok and Singapore, for which Jands supply curtains and equipment. They also installed 20 lines in Albury Convention Centre last month.

45k of cable, 300 Bose speakers, and total remote control. Chris Dodds from The PA People explains how his firm arrived at the specification — and delivered the goods.

Darling Harbour Authority - Distributed Audio System

Three Sydney companies were invited to make submissions to the Darling Harbour Authority to provide the design and installation of a distributed Audio System suitable for the wide variety of events which take place at Darling Harbour. At the outset it was decided by the Authority that a design - construct type of approach would be used, with the final submissions eventually being evaluated and a recommendation made by an independent third party.

It was obvious from the one page brief that many different functional configurations would be required. The brief was intentionally sketchy, as a means of encouraging the potential suppliers to let loose in the design process and fully explore the options, particularly in the area of control.

The control system would have to be simple to operate, yet provide generous versatility. Anticipated input sources were to include local events, music, announcements, signals and instructions originating from several sources, most of which would be in the Central Services Facility. In addition, the system should be accessible for program sources in different locations throughout Darling Harbour.

Because there are often multiple activities going on simultaneously around Darling Harbour the speaker system would have to be divided into a number of zones which could be individually controlled. It should be possible to select the appropriate program appearing at each of the speaker zones and outputs from the available sources. This selection will be based on the programs and events in progress. Several different sources should be assignable in various combinations to different zones simultaneously. Several iterations of each suppliers proposals were evaluated. At each stage particular areas of the design were firmed up and other areas identified for further attention. Those on the evaluation team included Gerry Nixon and Ian McGrath from GUVT (DHAs consultants), Chris Plummer (DHA Architect) and Garry Pedler (DHA Project Manager). Some areas that received special attention included: location of the amplifiers,

(continued over)

the mounting brackets for the speakers, and the types of weather protection for equipment. Many options were evaluated for the control system by The PA People. These included a system from Innovative Electronic Designs of the US, and a full custom design from our sister organisation, Creative Audio. Creative Audio has designed and implemented many custom digital control of analogue interfaces, however the changing needs of a site like Darling Harbour led us to seek out a more flexible off the shelf solution. The final submission incorporated a unique combination of IQ-2000 system hardware from Crown International and an integrated control system from AMX. After a somewhat drawn out process, including several months of design post the selection of the successful design, The P.A. people were awarded the contract in late may 1993. A tight schedule of works was set out and work started.

It had been agreed early in the negotiations the DHA would be responsible for the supply and installation of all the cabling, under instruction from the successful contractor. A cable schedule was prepared and included as part of the Contract Document. Over 45km of cable was to be supplied and installed as the DHA part of the project. DHA electricians Brett Electrical took on the arduous task of identifying possible cable runs, drawing through existing conduits, and digging out new routes.

Some three hundred Bose 102 100v line speakers were mounted on the majority of light standards throughout Darling Harbour, except in the Palm Grove area where Bose 402 columns with external transformers were mounted to the freeway pillars.

The speakers are organised in fifteen zones. Each zone is driven by either a Crown MA-1201 or a MA-2401 fitted with an IQ PIP input panel. The amplifiers are installed in five locations around the site- the PIP panel and the IQ-2000 system allow the monitoring of all the important functions of the amplifier from the central Events Office.

Each zone has a selection of processing equipment associated with it. A Rane MEQ-14 2/3rd octave programmable equaliser and an appropriate Bose equaliser for each zone is installed in the central equipment racks. Control of equalisation programs is by MIDI control from the AMX system, while amplifiers at the remote sites are driven by Creative Audio LD-606 line drivers to ensure optimum performance of the signal lines..

The mixer assigned to each zone is a Crown SMX-6 intelligent input multiplexer/mixer, again controlled from the AMX system.

There are eight Local Interface Panels around the Darling Harbour precinct. Each of these local interface panels carries provision for four input sources, four audio tie lines, two video tie lines, and a control port and is installed in a custom stainless steel cabinet, with a stainless steel engraved panel.

The primary user interface for the system is three AMX touch screens. An Electroluminescent touch screen is installed in the Events Office and two LCD versions mounted in waterproof briefcases are supplied for portable use.

Menus have been constructed that allow for immediate and user friendly control of various aspects of the system. On screen graphics using CAD generated layouts of the site are used to select a particular zone or zones to control, while faders and VU meters are us ed to control the Crown SMX-6 mixers. From the touch screens all aspects of the system required for day to day use are available.

Control of various functions can also be activated by the system at pre-determined times and dates while facilities for system take over from the site security office are included for emergency situations.

On site programming and system diagnostics using Crowns IQ Turbo software are possible using the 386/33 PC installed as part of the system in the Events Office. Monitoring of the system is also possible in the analogue domain from a Creative Audio 24 input broadcast monitor panel.

The central control processor is an AMX MPE Master Port Expander, and AMX AXS and AXS mini card frames complete with cards to allow for control of the Crown IQ-2000 interface, Midi ports to control Rane Programmable equalisers, and contact closure outputs to control a Creative Audio DMS-3 Digital Message Store.

For those special events where additional production services are still required, audio and video tie lines are provided to link various locations throughout the Darling Harbour area.

Each Local Interface Panel includes four audio tie lines and two Video tie lines which will terminate at the patch field. Tumbalong Park, the Southern Promenade and the Convention Centre Control Room have twenty audio tie lines and eight Video tie lines each to the patch field, while four Audio tie lines and One Video tie line are provided from Harbourside Shopping Mall.

The system has had an extensive workout during the period from its first trial for the Sydney Olympic announcement through to its commissioning. Events such as New Years Eve and Australia Day have put it through its paces along with consistent use for day to day activities during the summer months.

This system currently represents the most extensive installation of both AMX and Crown IQ systems on a single site in Australia (and possibly the world). With over five kilometres of high speed data cabling (all the systems run at 38,400 baud) we believe the system represents the state of the art in flexible audio control system design. •

Working In China

LaserVision sent a large crew into the largest Asian nation to fitout a theme park -.
***Paul McCloskey** details the un-expected, the bizzare, and the food ....*

After research into the Asian and neighbouring Australian markets, our Chinese client awarded Laservision, the Multi-visual contract for their new Science Fantasy Theme Park based in the South of China.

The objective was to design lighting, sound, video and laser systems to integrate into this new project in a country where hi-tech had barely existed. Furthermore, the challenge was aggravated by the limited skills existing for people to operate or appreciate the technical implications of the equipment they are about to receive. On that basis, it was most important that there was an automation and integration of these facilities so as to protect them during their "knowledge curve" and to be sure they were capable of outputting a high grade of production as commanded by the brisk tourist trade that passes through.

The project was to take five weeks on site with another eight weeks of preparation spanning the Christmas break. This aggravated supply but was seen as part of the

challenge. Where possible, Australian content was drawn upon . Including value added speaker systems from Electra Voice, dimmer racks from Dynalite and of course the Laservision system which is a "genuinely" Australian manufactured product and not just an assembly of imported modules.

An enthusiastic crew departed Australia mid January and went through a variety of processes in order to arrive in China. They cleared customs in Sydney, cleared customs at Hong Kong airport and then exited customs out of Hong Kong to board sea transport. On arrival in Macau, entered customs then travelled to the nearby border where we exited Macau customs, and then had to hand carry our excess luggage for one kilometre across a "no-mans-land" section where we finally entered the China border customs. At this point due to the exotic content of our luggage and no interpreters, most of our equipment was confiscated. At each stage the differences were becoming more apparent, and then we travelled to our final site.

Whilst Laservision is no stranger to Asian culture (as it draws 60% of its income offshore), we were still surprised at the construction techniques we witnessed the next morning. Some two thousand Chinese workers (earning per week what many Australians earn per hour) were like ants crawling over the site with little buckets of concrete climbing up a web of bamboo scaffolding tied together with twine. (Tiny from Showtech had not seen rigging quite like it before!) As one team of Chinese workers would scurry up the bamboo with their little buckets, the other teams would be clamouring down, often over the top of the others. The most obvious aspect of this building site was that it was devoid of machinery. This approach was also reflected in the construction of their massive road systems. Nevertheless, construction was brisk and it was clear that they were not hampered with having to get things straight or level!

Next we waited for our freight which had been pre-sent, and whilst it arrived in Hong Kong within 24 hours of shipping out of Sydney, it was then delayed by the famous "slow boat to China". On its eventual arrival in the port it was impounded by a most bewildered customs department, appreciating much of the equipment had strange names and appearances and did not fit any of the descriptions of products they were familiar with in the past. Items like "laser" held much interest with government officials, including the military, because of the perceived applications of such devices as fuelled by all our science fiction movies that had filtered into the country.

Much explanation was required in writing which, in turn, was then translated into Mandarin and Cantonese. However, most of the technology jargon had no equivalent and there was considerable effort in trying to dilute the function of many of these devices like fogger machines into a understandable format. Why would one want a machine where smoke came out of ? - the Chinese officials would comment. Finally the equipment was released, the entire process including freight having taken about two weeks.

Renewed enthusiasm with the crew resulted in an energetic approach to the numerous chal-

(continued over)

The PUB, but not as we know it!

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lenges that lay ahead of us. As we began to install various equipment we were constantly in a situation where the simplest item (like a fuse, spanner or connectors) was not available in that country or even heard of, therefore, the art of improvisation prevailed.

It was not long before the first case of food poisoning struck. Bill Laney was our first casualty and was taken to the local hospital where "Truck" wrestled with the local doctors to stop them using old syringes with strange substances on his limbs. At this point, I should comment on the food.

As a vegetarian I found it very scary! Lots of rice and things with eyes looking at you. Some of the neighbouring "restaurants", as you approached the front door, had cages filled with a variety of snakes and fury animals which were available for your delight. With the lack of translation, it was often difficult to understand the content of the meal you were being presented with. Very early in the piece I found an interpreter to write down "no eyes, no feet, just vegetables and rice". Many of the crew adopted this safe approach. Our next casualty was Bob Morris and there was nothing we could do but let time take its course.

Initially there were no interpreters at all, this made progress very slow. Enthusiasm on both sides existed but the language barrier and the technology awareness created many delays. Quickly we gravitated to drawing pictures. We used international symbols, where possible, and dealt with the more educated groups which enabled progress. Later we engaged the interpretation services of a young women called Evelyn who helped stream-line the communications, both incoming and outgoing.

As there were many Australian contractors on site and only one incoming fax machine, whenever a fax was received it would be given to any of the English speaking contractors as there was no one on the front desk capable of interpreting it (obviously it just looked like a funny squiggle). Therefore, it was left to the combined Australian resources to internally dispatch the appropriate information. The same existed when people were ringing into China, the hotel reception would just keep hanging up as no one could understand.

As Chinese New Year was approaching there were more and more celebrations and, much to the delight of Jack Moeller, every shop was filled with pyrotechnics. Short ones, fat ones, long ones, skinny ones, big ones, little ones, loud ones, louder ones! It was "pyro" heaven for him and very quickly the crew all joined in the fun and we ended up having many Chinese observing the delight on our crew's faces as the pyrotechnics was a daily event for them in their country and they were surprised at our fascination.

With Chinese New Year approaching what better way to celebrate than with a Banquet, and we knew that this was an important occasion because the banquet offered many delicacies including a plate of various chicken parts. With our hosts sharing the table, they quickly devoured certain sections of the chicken and it was immediately evident that they liked us Australians as they left the best parts for us - the chicken heads, eyes and all!

That was it. I sent emergency faxes back to base requesting immediate red cross food parcels be dispatched. Every TV add for instant food that I had ever seen for the last five years came flooding back into my mind and I often could not remember the name of the product, but I was able to sing the jingle.

Once the equipment was in place, training commenced. This was a fairly smooth transition as we had organised pre-training prior to our departure in Australia. This was very effective as, again, we had to bridge the language barrier and the jargon barrier, but the physical demonstration of "cause" and "effect" followed by practical workshop sessions, allowing the trainees to manipulate the technology and observe the results, quickly allowed them to assimilate the necessary information for their education.

There were three trainees in all, all male, and approximately thirty years of age. They constantly showed a fascination of other aspects of the Laservison office environment from facsimile machines; automatic sprinkler systems (which would magically pop out of the ground at a certain time each day), to devices as common

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Communication is the lifeblood of business these days, which is why Melbourne firm Space Age Communications recently completed yet another major job offshore. Neil Langford details how his firm went about it .....

MTRC PROJECT - KOWLOON BAY - HONG KONG

The Mass Transit Railway Corporation in Hong Kong carries in excess of 3 million passengers per day, on a network of modern underground rail links. On a world scale the system is not large - the enormous number of passenger movements are made possible by world class service efficiency and intelligent use of sophisticated technologies.

Recently, this use of smart technology was extended to include the corporations training and conference facilities. Our company, Space Age Communications, was contracted to develop designs for world class presentation facilities, to support the railways growing operations.

We first heard of the project whilst I was working in Saudi Arabia last May, and I arranged to travel home to Australia via Hong Kong to meet the client. This led eventually to acceptance of our design bid - and to 12 months of intense system design and project management.

Clean lines but extraordinary communications infrastructure under the surface! Interior Design: Davenport Campbell & Partners, Designer: Steven Shaw.

As audio visual consultants for the project we worked with the Hong Kong based project engineering team, led by Steven Shaw of Davenport Campbell & Partners (Hong Kong). I commuted frequently from our Melbourne office, developing a complete needs analysis proposal prior to embarking on system design.

The needs analysis showed a need for many presentation rooms - the list grew as the project was developed, until we documented 18 rooms. Our CAD design team produced over 250 drawings for the project.

The job went to tender in Hong Kong late last year. Our systems contracting group bid and won a major portion of the work, with the design group maintaining project management and site supervision roles. Local AV contracting companies in Hong Kong acted as prime site contractors, plus supplied around half of the required system equipment.

The job came together in March this year, and was handed over to the client in early April.

Site engineering and software creation was by Richard Smith, who lived in Hong Kong for seven weeks during construction and commissioning. Installation supervisor was Andrew Memmolo, assisted by Greg Duncan.

The five major system racks were constructed in Melbourne, then crated and flown to Hong Kong on a dedicated freighter. Each was 45units high and used a steel framed rack from Techmetal in Sydney. Bruno Cappelli and Bryan Adams worked on rack construction in Melbourne, along with

as multi-disk players.

Additionally, since construction had started on Laservision's office extensions, they were witnessed to heavy machinery and techniques such as ramset guns, all of which seemed to be somewhat foreign to them. At the conclusion to their training, a day on Sydney's Harbour followed by the night life was the conclusion to a successful course.

Whilst the crew in China worked consistently to meet the client's deadline of Chinese New Year, there was obviously time for enjoyment, one of the evenings was spent at the local Karaoke bars where loud Australians stand up and unwind. Also, the local "pub" was nothing more than an open shop front with some chairs on the sidewalk and enclosed, again, is a photo of the crew taking a well earned break at that particular location.

It became a popular spot as you could sit down and watch the world go by and it was a source of constant amazement of what people could fit on a bicycle. Not only three or four people on a bicycle, but sometimes a goat, a pig or a couple of ducks. All of them looked uncomfortable but, nonetheless, this means of transport was most effective.

The opening night was apon us and the sea of amazed faces assembled. The laser scribed a story on the sails of their main building and enveloped them in a 3 dimensional fantasy of sound and light. But the best was still to come! With careful liaison and lots of sketches we had been able to instruct the plumbers how to create water fountains with high vapour content. A pre-programmed three dimensional talking head was projected into the mist creating an inexplicable phenomena for the local people. They roared with delight.

Shortly after the successful commissioning came an unforeseen enemy - RATS, as big as your foot. They managed to eat through various audio, timecode and data cables in the trenches. Subsequently repaired they now employ a short sighted security officer with a big gun !

China Veteran List

From LASERVISION-
John Eustace, Marketing and Sales Manager
Simon McCartney, Export and Sales Projects
"Professor" Paul McCloskey, Managing Director
"Barney" - Brett Starkey, Production Manager
Gene Whitlock, Programming
Due to the scale of the project and the specialist skills required, further crew were drawn out of Melbourne, including:
From SHOWTECH
"Tiny" Tim Good, "Truck" Mark Ashby, Bill Laney.
All who provided multi-faceted skills from rigging, lighting, sound installation etc.
From CORPORATE PYROTECHNICS
Jack Moeller, who again provided a wealth of information to the project, primarily in the sound area.
From ENTERTAINMENT TECHNICAL RESOURCES
Patrick McCloskey
From BOB MORRIS ELECTRICAL
"Boner" Bob Morris

anybody else who could solder or lace cable ! This was an amazing construction job - the racks were ordered, assembled and delivered to site in Hong Kong within five weeks or receiving the clients order. Concurrent with this the team built seven more racks for other projects - so many racks were under assembly at one time that our conference room and demo area were stripped and converted into work spaces.

The presentation room systems were high quality and fully featured, yet individually not unusual. The number of rooms, however, was unusual, and placed great demands on project management and tracking. I provided site inspection and co-ordination services, generally hassling all and sundry to get the thing assembled and commissioned in time.

In the end we built five general purpose conference rooms, a boardroom, executive conference room, three training rooms, three syn-

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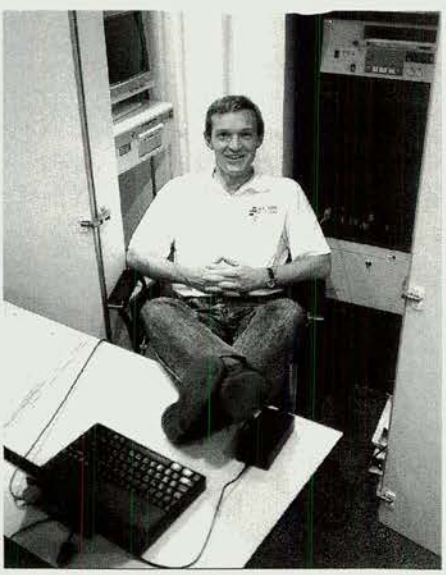

Richard Smith - on the job - clocking up some Membership Miles for Space Age Comm's.

Mayor or Williamstown, Cr. James Farrell, seated atop the racks just before they shipped.

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Radical New Loudspeaker Technology?

This month something a little different after my very recent trip to attend the NSCA Convention in the USA - NSCA, formerly the National Sound Contractors Association has now become the National SYSTEMS Contractors Association very much reflecting the changes that are taking place in the world of Sound Contractors. This year's Las Vegas Expo and Papers showed clearly that being a sound only specialist Contractor would become more difficult and that clients now expected a Systems Integrator, that is a company capable of installing Sound, Video, Multi Media and sometimes Security and Lighting as well as enabling them to work as one System. Another reason for the growing importance of technologies such as Media Link!!!

ABOUT THE SHOW

The end of the Loudspeaker? Not quite yet, but if one company has you believe it, the final clock is ticking. Quantum Sound Inc., mother company of "SERVO DRIVE"™ Sub woofers that promised so much 10 years ago but in reality have still not delivered much, released their brand new technology 'TORQUE DRIVE"™ Full range Sound Reinforcement System that uses NO conventional Loudspeakers yet offers compact dimensions and wide frequency response. What makes this possible is the new (and patented) Focus Field™ (the patent Lawyers must make a fortune out of all these new Trade Mark registrations!) radiators which use a rotary amplitude driver and not a piston as in conventional driver technology. Advantages include a variable dispersion pattern and tight Directivity control. Sounds great but the system is currently only capable of 95dB at 1W/1M meaning even at the recommended maximum of 600W it will fall far short of being loud enough. As one JBL engineer put it, "it will probably replace the Loudspeaker about the same time Cars stop using tyres".

Also of interest at NSCA, was the growing number and sophistication of AV Control Systems such as AMX & Crestron with at least 2 or 3 alternatives appearing including the excellent Interface Controls System from Canada. Again this is part of the tools for "Systems Integrators". Look for the AES-24 to become the industry standard in communications much as DMX has become for the Lighting industry.

I could not finish this column without a word about Las Vegas. If you have not been there, you would find it impossible to believe but even regular visitors such as myself have trouble comprehending the scale and quality of developments there. In only the last 6 months the Luxor Casino has opened a 3000 room Glass Pyramid with a theme park inside, all for $69.00 US a night!!! Across the road from this is the World's biggest hotel, the MGM Grand, with over 5000 rooms and a Disneyland style theme park. Also recent additions include the new Tropicana, Treasure Island (complete with a Pirate Ship War 3 times a night) and a refurbished Circus Circus. Worth the trip to see these alone.

Next Month: AV & MultiMedia. Deadline 15th May.

Hong Kong (continued)

dicate rooms, assembly hall and recording control room. In amongst that lot was also a translators booth, rear projection room, two dimmer rooms, lobby video display systems and two interview rooms with video recording facilities. We are now working on four video conference rooms as an extension to the project.

The whole project is intended to function for only three years - at that stage the client will relocate to a new permanent headquarters building. We have now started design on the new building, again working with the Hong Kong based building design team.

The following list of boardroom equipment is indicative for the project as a whole - every space is very capable. The boardroom doubles as an emergency response and crisis management area, with two-way video and audio to the chief railway controller, and design capability to view images from any of the rail network underground platforms, routed via the netwrok management centre.

We will continue to work with the client for the next three years, refining systems and services to ideally suit the specialised conference and training needs. •

MTRC BOARDROOM:- SYSTEMS SUMMARY

Sony VPH1271 video/data projector, Sony preview monitor, Presentation Engineering video/audio switcher, Kodak Ektapro 5000 slide proj, Navitar projection lens, Shure radio microphones (2), IRP automatic microphone mixing system (20ch), IRP equaliser cards and matrix cards, Countryman ISOMAX lectern mic's (2), Crown ceiling microphones (4), Crown PCC table microphones (12), Bose AM52 stereo speaker system, Bose 102 (70V) ceiling speakers (4), Rane graphic equalisers (2), Yamaha power amplifiers, Yamaha CD and cassette decks, Panasonic multi-standard VHS recorder, Panasonic AG.7500 multi VHS, Sony U.matic video recorder, Inline computer interface and RGB switching equipment, Javelin recording cameras (CCTV), for document imaging and room recording, Kowa remote controlled lenses (with presets), Vicon pan/tilt head (preset type), AMX touch screens (2), AMX "Axcess" control system, AMX software by Space Age Communications, Phillips translation equipment, Dalite rear projection screen, Foil projection mirror, NEC mediaboard (copying whiteboard), Microwave motion detectors by Ex-Or (UK), Gentner audio conference interface - *(our first use of the new digital model, what a great box - Unbelieveable performance!)*

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Random Comment with Duncan Fry

VIVA LAS VEGAS

Elvis quits working at the 7-11 and signs up for the Sound Contractors show

Well, it's that time of the year again. Time for the annual NSCA exhibition in the USA. Last year it was in Orlando, Florida, Geriatric City; this year it was Viva Las Vegas! Still, before we get into that, just what is the NSCA, I hear you ask?

Well, it's an association with a bit of an identity crisis.

Originally it was the National Sound Contractors Association, a bunch of good ol' boys who wired up your average High School sound system and such like. Then, a couple of years ago, to drag their members kicking and screaming into the 90's, it was renamed the National Sound & Communications Association.

Still, even that wasn't enough. This year, with 'multi-media' - video, computers, digital control etc. becoming an increasingly large part of installations worldwide, it was re-named yet again - the National Systems Contractors Association.

All these names don't mean a thing to most of the folks that come along to the show. While a lot of leading edge professionals who are totally multimedia literate come along to see what's new, there's also a whole lot who wouldn't know an RS 232 port if it jumped up and spat in their eye. The ones who give you cards that say - 'Billy Joe Bob's Professional Sound Installations and Sheet Metalwork. Lawns mowed. Peavey dealers'. No kidding - I did get a card like that when the show was in Nashville!

But you've got to hand it to them - these people do run a great exhibition, with very strict rules. No display over 54" high, absolutely no noise, and every stand is exactly the same size. It doesn't matter if you're the largest multinational conglomerate or a backyarder from West WoopWoop - you get a 15 by 10 foot space and that's it. No triple decker stands, no 30 foot dinosaurs breathing dry ice, just a table for you to display your products. It's a great show to work at, and a welcome change in what can be an excessive industry.

And, let's face it, when the exhibition is held in Las Vegas, there is no way it can compete with the town itself, a place where 'excess' has been raised to the level of an art form.

Colin Park from ARX reckons that everyone should visit Las Vegas once, but you need to have an extremely good reason to go there again! And he's pretty right. The place is an oasis of poor taste in the middle of the Nevada Desert. After seeing the movie 'Honeymoon in Las Vegas' I kept looking up in the sky expecting to see a stream of flying Elvis Presleys parachute into Caesar's Palace. It's that kind of place.

Everywhere you look, giant billboards with pictures of semi-naked men and women adorned in the bum feathers of a thousand birds of paradise beckon the unwary.

'Come and see us - we've got the loosest slots in town!' (an interesting concept!) Inside, teams of comatose pensioners sit at slot machines with glazed faces, pouring bucket after bucket full of money through their machine, totally oblivious to their surroundings.

Anyone who's driven in my car would know that personally I'm a bit of a connoisseur of crass, but I have to admit that Las Vegas overwhelms my crassness circuits and leaves me totally washed out. It's big, it's a sea of neon light, it's a place where you can gamble 48 hours a day if you're so inclined. Once you step inside one of the casinos you become so disoriented that within 5 minutes you have no idea where you are, whether it's day or night, or just how on earth do you get out of the place!

Plus for your convenience, you no longer have to get up off your stool to go and change your notes into coins; now there are handy money changing machines right next to your one arm bandit.

No wonder the place is known as 'Lost Wages'. Everywhere you go there is a sea of expectant faces desperately searching for 'the big one' the win that will transform their lifestyle from being poor no hopers to rich no hopers with a single roll of the dice or flick of the card. And, all too frequently, back to scratch again with another roll or flick.

The glossy tourist brochures are full of photos of happy smiling people who have won big bucks, along with the story of how they did it: "I won $60,000 with only my third $100 chip!" My third $100 chip? Can you believe people who waste money at that rate? When a large percentage of the country is already rummaging in the bins outside burger joints for food, other dickheads are throwing money down the toilet at $100 bucks a time! Serves them right if they swapped places. Perhaps the people at the bins are the ones who didn't win on their third chip!

Downtown, the casinos are older and relatively small, although the lights are so bright that it is permanent daylight no matter what time you walk around. Heavily subsidised electricity at ridiculously low rates comes from the nearby Hoover Dam, which is also something awesome to behold, and where the police frequently arrest people who are roller blading on the retaining wall! A 400 foot drop and no safety net!

Away from downtown, though, the new casino/hotel complexes are like medium size towns, in any architectural style you feel like. There's one shaped like the Khufu pyramid, only BIGGER! And including a Sphinx out the front! There's one that has a pirate's ship out front that sinks every hour on the hour; there's another that has a fun park bigger than Disneyland in the backyard; there's even one that has an active volcano out the front that erupts every half hour!

It's truly unbelievable! A hundred yards ahead of this one there's a sign on the side of the road that says 'WARNING - VOLCANO AHEAD. IF YOU ARE DRIVING PLEASE DO NOT LOOK'. You can just imagine Ma and Pa Kettle driving all night in their Winnebago, staring in awe as the volcano belches fire at 140 dB, and running over a busload of nuns and orphans. What was that I was saying about excess? This is excessive excess!

If you're staying in one of these mega places, there is really no need to ever leave the comfortable surroundings of the casino/hotel - everything you could possibly need, you can get get without sticking your nose out of the front door.

And, I do mean everything, since prostituition is perfectly legal in Nevada! Not within the Las Vegas city limits, though, but a single phone call will get you a free limo ride out to the Mustang Ranch, the Chicken Ranch, Mabel's Whorehouse, or any one of a hundred others. Too tired and emotional to go out? Don't bust a gut - they'll send someone to your room. All credit cards accepted!

My mate Col is right, though; Las Vegas is a place you have to see. Just as long as you remember one thing - The only way to leave there with a small fortune is to start off with a large one!et after bucket full of money through their machine, totally oblivious to their surroundings. •

**Dunk is a director of ARX in Melbourne.*

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Peavey PA system mixer & speakers as new, cost over $3000, sell $1500 (054) 426 431

Peavey speakers model 115H, 300Watt, bass & horn speaker, ideal for bands or mobile discos, in new cond. $800 (018) 170870, (03) 3063103

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Roland SRV2000 $700, DSP5 MULTIFX $700, SEQ331 $350, Bass PreAmp $150. Sydney Concert Light & Sound (02) 550 3828 (008) 804 994

Ross syst. x 2 spkrs, 300W RMS plus Perreaux E2000 amp, 300W RMS, $750 ea. $1400 lot. (03) 309 0545

Sennheiser microphones ME40 and ME20 caps with power supply, superb condition. $550 (049) 29 1948

Sennheiser wireless microphone, Microport Solo, frequency 36.7, with case, silver, EC $700 (03) 571 6610

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Shure SM10A head microphone EC $162 (03) 306 5028

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Shure SM58 microphone includes lead. EC $200 AH (03) 754 6016 BH (03) 7202177

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Soundtracs 16/4/2 3 Aux Sweep Mid $1000. Sydney Concert Light & Sound (02) 550 3828 (008) 804 994

Speaker, JBL bin with 15in speaker and horn, $650 o.n.o. (02) 772 7574 or (02) 831 4538 or 018 24 7105

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Speakers, 2 x JBL 2205A 15inch speakers in carpeted box with corners & handles. Ideal for Bass/drum fill $715 (03) 357 1020

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Tascam 688 midistudio, 8 track recorder, 20 input 10 channel mixer, smart FSK, digital patching, wizzy wheel, roadcase, etc. Excellent $3900 (03) 521 2626

Tascam M-216 16//4/2 2 Aux 3 Way EQ Mid Sweep Mint $2000. Sydney Concert Light & Sound (02) 550 3828 (008) 804 994

Teac A3440 professional 4 track reel to reel, Akai Midi Digi sampler S612, driverMD280, Teac mixer 2A $500 (02) 447170

Technics SL1200, brand new with cartridge, still boxed at $800 (02) 50 6908 or 018 22 1737

Theatrelight Showmaster 36 with Demux and Spare CPU $2600. Sydney Concert Light & Sound (02) 550 3828 (008) 804 994

Theatro 1200W Followspot with Colour Changer & Stand $1200. Sydney Concert Light & Sound (02) 550 3828 (008) 804 994

Urie 1178 Stereo Compressor $1800, 539 EQ Mint $450 ea. Sydney Concert Light & Sound (02) 550 3828 (008) 804 994

Valley People Rack 2 x Keepex II 1 2 X Gainbrain II and PSU In Mint Condition $2200. Sydney Concert Light & Sound (02) 550 3828 (008) 804 994

White 4400 (The Best) $3000 the pair, 4660 $900. Sydney Concert Light & Sound (02) 550 3828 (008) 804 994

Yamaha 916 16/4/4 $3000. Sydney Concert Light & Sound (02) 550 3828 (008) 804 994

Yamaha EMX2200 mixer, 2 Yamaha KS531 speakers, 2 SM58 mic, leads and stand, $4600 (02) 605 9120

Yamaha KM802 mixer, 2 mike, 6 line, 3 FX Sends, 3 stereo returns, $350 o.n.o. (02) 605 1203

Yamaha MT3X 4 track recorder, can programme up to 10 tracks, 6 inputs, 2 sp. record/playback, variable pitch control, DBX noise reduction and midi compatible, as new, in box with manual $500 BH (03) 6320044 AH (03) 899 0327

Yamaha MT3X multi track recorder & mixer, 2 speed DBX, 1 yr. old, GC $650 (053) 362641

Yamaha MX-3, 4 track mixer/recorder, very low usage, perfect condition, $890 (02) 958 3089

Yamaha Rev 5 digital reverb. in Ex. Cond. with remote control $1350 (059) 864 717

Yamaha SPX90 multi effects unit $600 (03) 534 5910

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Casio FZI 16 bit sampler, 1.5Mb memory, 61 key keyboard, hardly used, with original packaging. $750 (02) 300 0064

Casio keyboard Tonebank CT670, excellent condition, including transformer, $600 or offer (02) 8876 2090

Drum machine, Alesis HR-16B with extra chip, MIDI input, 12 Mths old, retail $695, $300 no offers. (02) 982 9204

Drum machine, Oberheim stretch DX midi, $260 (02) 609 4265

Drum machine, Roland R8, the best, 16 x memory expansion, carry case $700 (02) 871 3903

Drum machine, Roland TR-626 rhythm composer, excellent cond. $500 (002) 411 1779 BH. Tim

Emax II 8Mb RAM, 200Mb HD, rack mount $4000 (02) 605 7710

Equipment for Sale. Amiga 500, hard drive, 2Mb RAM, 2.0 system, printer, monitor, MIDI sampler $1200, Yamaha Clavinova piano $2100, Kawai Pop-Synth module $250. $3450 the lot. (02) 44 4527.

Midi data disk and sequencer, Kawai Q-55, plays and records any format sequences with no loading time, as new condition. Still under warranty. $530 neg. (02) 567 3046

Roland D20 keyboard with sound programmer, extra sound software, and 60 watt amplifier, $980 (02) 691 7589 BH or (02) 689 2417

Roland MV30 sequencer, as new, 1Mb memory, manuals and stand in box $2700 (02) 523 1118

Yamaha DX7 11-FD synthesizer/keyboard, with in built 16 track sequencer and disk drive, plus manuals, excellent condition, must sell. $1200 o.n.o. (02) 516 5974 a.h. or (02) 561 2426 b.h.

Yamaha FX500 effects processor $450, Yamaha RX200 bass with Jackson active pick-ups $350 neg. (02) 625 5429

Digitech twin tube, GFX1, multi effects unit, valve distortion, 7 band equaliser, midi with foot switch. $850 o.n.o. (046) 55 2485

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Fender twin reverb valve amplifier, vibrato, foot switch. Ex. cond. $1200 neg. (02) 629 4032

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Laney quad slant front 4 x 12in speakers, with cover, exc. cond. $500 (02) 911 2516

Marshall Combo, 50 Watts, (2) 12in Speakers, $950 o.n.o. (02) 319 4694

Midi Patchbay merger, Nexus plus, 2 in 8 out $170, Akai midi programmable note separator ME25S $130, both neg. 015 27 8724

Midi sequences, over 500 titles, $200 the lot. (02) 980 6719

Notator V3.16 for Atari ST, free MIDI files included, $450 (02) 319 2395

Roland E30 top of line stereo MIDI keyboard, 48 user programs, 128 sounds, with style cards, $1195 (02) 520 6855

Roland E70 intelligent synthesizer, $1500 o.n.o. (02) 746 7307

Akai S950 sampler, fully expanded memory, with box and manual $2200 o.n.o. (02) 30 3875

Carlsbro bass amp, 150 watts system with 200 watt stack G.C. $550 (03) 580 6662

Emulator EIII stereo sampling keyboard with Flightcase, 8 Meg RAM, 40 Meg HD plus onboard sequencer, E.C. $6650 (03) 531 7480

Ensoniq EPS16plus, with built in 24 bit FX & 300 discs (1000 sounds) $2500 AH (003) 827 5752

Ensoniq ESQ 1 keyboard with built in sequencer, E.C. $760 BH (03) 274 0277 AH (03) 417 6950

Fender Super Twin Amp, E.C. 160 watt $750 (03) 333 1814

Ibanez Roaster RS430 with case 1 Roland Cube Chorus Ampa, 1 Bass GE10 Graphic equalizer 1 Boss BE5M programmable multi effects board all leads incl. All E.C. $1350 (03) 360 0304

Lab system base amp 400 watts, rack mounted in SKB roadcase $1200; 1 Ampeg 4 x 10 speaker box $900. 1 JBL 15in bass spkr. box $400 (03) 817 5993

Marshall JCM 800 head reverb and modified distortion channel, effects loop & foot switch $1080. (03) BH 487 8888 AH (03) 846 3590

Marshall JCM 800 amp. 50 watt split channel, VGC $750 plus speaker box, 2 x 25 watt Celestion speakers, GC $200 or $850 the lot. (03) 347 7724

Marshall Quad Box 4 x 10 Celestion speakers 140W RMS $450 AH (03) 529 2142

Peavey Mark 4 bass amp VGC $750, EV bass bin 1 x 15in, 1 x 10in speak. VGC $500 (059) 646690

Peavey 2 x 12 speaker box with stereo guitar enclosure. G.C. $500. (03) 523 6389

Peavey 400 stereo chorus amp. E.C. $1000 015 316 061 or (03) 357 1601

Peavey 5150 Stack EC $2700(0059) 987 244

Portable DAT machine, Tascam, DA/P20, E.C. $1300 (03) 589 6467

Quad Box G.C. 4 x 10in Celestians, (new) $520 BH (03) 693 5171 AH (03) 885 0501

Roland amp. Jazz chorus, 120W, VGC, dig. delay $760 (03) 302 1063

Roland Jazz 120, Guitar & Keyboard amp, E.C. $950 (03) 555 9742

Roland Jazz chorus 120 amplifier. Ideal for keyboard or guitar amp. E.C. $950 (03) 870 4451

Roland original MP0401 interface for IBM compatible $180 018 558 852 or (03) 754 8424

Sequencer Kawai Q55 16 Track as new. $350 (03) 525 3674

SMPTE - Midi interface, by Passport for Atari computers, syncs computer sequencer to video or tape $150 (03) 435 2080

Speaker bass musical instrument Altec 421-8H, Series II, 200watt, G.C. $200 (052) 532 231

Yamaha B212 100w guitar amp, dual channel, distortion & reverb, foot switch control, VGC, home use only $530 (03) 386 1469

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MUSIC MI NEWS & UPDATE

AMA TRADE SHOW FOR MELBOURNE

The Australian Music Association will host the 1994 Melbourne Music Expo, at the Sports and Entertainment Centre from October 22-24th. In its public hours, the show will concentrate on recruiting new players - it will provide opportunities for music educators and societies to promote their organisations and advise the public about learning opportunities. The AMA will host a Trade Day on Monday October 24, which will provide dealers with an ideal Christmas buying opportunity, they say.
Call the AMA on (03) 534-0144.

QLD PROMO ON

A meeting in Brisbane last month enthusiastically embraced the AMA's proposed music awareness pilot programme for Queensland. The music products industry is concerned that the number of people taking up music is falling, so the programme is aimed at addressing that.

Up to $50,000 of AMA funds will go into the programme, matched dollar-for-dollar by Queensland retailers and Distributors. A series of generic TV and Radio commercials will be made in conjunction with Life Be In It, who market many lifestyle activities.

Committee member Col Barnes of Gold Coast Music said "This can do nothing but good for the industry- collectively redirecting a small portion of our marketing budgets will be far more effective than trying to do it by ourselves".

Buyers Guide: Keyboards.

We apologise to readers who may have been looking forward to this annual survey. Sadly most distributors involved were unable to provide sufficient information by the 15th of April - our deadline - so we took the decision to cancel this particular Buyers Guide.

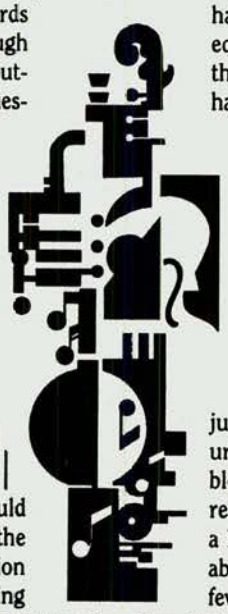
Melbourne Music ReSellers Surveyed, Product Lines Move Towards Software

Music Retailers Identify Trends

Connections Special Market Report by BARRY BARDOE

Some readers may recognise my name from Juke magazine (RIP). In that publication I was lucky enough to review a diversity of musical products, and got to meet a lot of people involved in getting these products out to the consumer. I was very pleased to be able to draw upon this in my debut for Connections! My mission was to talk to a range of Victorian music stores, and get a generalised overview of where it's all headed. There is no doubt that we are witnessing some big changes in music technology, especially in the area of how music is actually being put together, and stores that don't keep pace with the revolution will really notice a reflection in turnover.

I was given seven questions to ask each store and my first stop was **Music Junction**, Blackburn where I spoke to Stuart Hosking. Firstly I asked what was the top selling technology line for the last four weeks. Apparently the Ensoniq TS-12 has been very popular, and in response to my second question, Stuart believes the trend in sales will be towards software. He claims sales have 'gone through the roof' as people increasingly use computers for writing music. My next two questions involved which wholesalers have given outstanding or very poor service, and he declined to answer that, as did most other people I spoke to.



When I asked him if the store was expanding, contracting or otherwise, he claimed Music Junction was definitely growing. In support of this, is the fact that they have added new staff recently and Stuart is pleased to say that he is now full time, whereas he was previously employed on a part-time basis. The store now boasts two keyboard experts which should see them well placed to keep up with the explosion of technology. Stuart's prediction for the future of music equipment retailing really accents the need to keep pace of the growing demand for software as well as the ongoing and steady demand for conventional instruments. He also believes the next few months will reveal some great new things for keyboards.

Next up I spoke to Phil Lowe at **Brash's,** who are one of the bigger concerns. He also mentioned software as being the area that was really expanding. He sees a big shift away from things like four track recorders into the area of computer based music, keyboards and soundcards. Guitars and amps have been steady of course, but perhaps the 'unplugged' phenomonen can explain the upsurge in acoustic sales. All the traditional instruments have been maintaining their market share. He didn't want to be specific about wholesalers, but claimed that Brash's was maintaining its market share at the moment, but will definitely be expanding by getting into new markets such as the software explosion. Staffing has been stable, and as for the near future he can only emphasise the importance that software will have for music retailing.

At **Allan's**, Mark King has recently taken over as manager of the musical equipment sales section, and he too mentioned software. He also claimed Roland keyboards were doing especially well. The big trend lately has been for home music composing/recording equipment, such as beginner's software and hard disc recording. As for wholesalers, he claims to get along pretty well with all of them and has no specific complaints. The musical equipment sales section is expanding, although they don't carry drums, and staffing has been quite stable with the exception of the change of management. Mark sees the future as being pretty healthy with increased sales expected for software and brass instruments. The latter will be aided by a new brass specialist. He also expects PA equipment to increase along with equipment required for home studios.

Moving right along, I spoke to Tony Ughetti of **Davis Music.** Davis were originally located in the city, and have only just moved to Footscray in the Western suburbs. Tony claims a 'triad' bought out their block and doubled the rent, so they had no real choice. After ninety-three years it seems a bit of a shame, but the new premises are about three times as big. Also there are very few stores servicing the Western suburbs, so Tony believes that although it is reasonably quiet at the moment, it will grow quickly as the word spreads. At the moment he is selling a lot to schools, so he singles out violins as a big mover. He claims Australis are a very good wholesaler, and is not shy about discussing the bad ones. The worst offenders are wholesaler/retailers in his opinion because they continue to undercut retailers, then expect the retailers to continue to buy from them. He was critical of

(continues over)

Music Retailers (continued)

Lamberti Brothers, and has reached the point where he has considered delving into wholesaling himself. He doesn't like this idea because he enjoys retailing, but considers that one day he may have to do it. The store is expanding, and staff has been stable but he points out that in a new location, with very little competition in the area, things can only improve, although it would be hard to generalise too much about what areas to expect this in.

Pete Robinson at **Dynasound** claims there is a 'resurgence in acoustic guitars', and in general terms the trend has been away from groups wanting equipment for live work, to individuals wanting equipment for home use. He says this mainly comes in the form of 'add ons' to existing hardware. He mentions Roland as offering excellent service and always have stocks of equipment available if they need something quickly. Dynasound try to not deal with wholesalers who cause them stress and have therefore 'tailored down' the companies they deal with. The store is expanding through diversifying. They now have 'indie attic' which has a range of clothing and independant recordings for example. As for staff, they've had the 'same bunch for a while' and this Pete attributes to the establishment of strong customer relations and having good stock in the shop. In the short term future he sees small PA's as being a growth area, and possibly smaller amplifiers. This reflects an upsurge on the live scene, especially for smaller acts.

Simon Gardiner at the **Music Inn** has a steady turnover of guitars and amps. With the school holidays, he's seen a slight drop in school generated demands, and interested kids hanging around the shop....not necessarily buying a lot! He declined to comment on wholesalers, and says that the store is holding its own although the last two years have been 'tough'. About six months ago someone backed a truck through the front of his store but as he points out, that is to be expected in a retailing industry that has an element of risk. He's finding that profit margins have decreased while the competition has increased making it 'tougher' all round. His staff have been stable - it's really only him and 'a couple of part timers' - and in the short term he sees it as getting worse before it gets better. But as he cheerily points out, "that's life in music retailing!"

At **Troy Music** in South Yarra, I spoke to Luke Troy who also pointed out that software was the big growth area. Guitars and keyboards have also been selling exceptionally well. He cites Yamaha as one of the best wholesalers, and was critical of Lamberti Brothers. The store has doubled in size and is expanding while the staffing has been stable. He believes that the future will see software become a major component of their turnover and believes the potential is 'unlimited'. Most other lines have been selling at the usual rate, although the store hopes to make an impact on the drumming marketplace in the near future.

• *After speaking to everyone a few things became clear. Firstly, software and hi-tech sales will be the boom area. The accent seems to be on the individual rather than the group, and all sales are reflecting that at the moment. Perhaps this will diminish to some degree in the near future as retailers are already noticing a bit of an increase in PA sales.*

Clearly the bigger stores get the best deal from wholesalers, and I was given many examples of how smaller stores have difficulties getting their needs met. **(But they wouldn't elaborate? Typical. –Ed)**

Despite the recession, almost everyone was optimistic about the future. It seems music composition and performance is becoming more and more popular and accessible. Staffing seems to be pretty stable across the spectrum. As Pete Robinson at Dynasound pointed out, people who know their stuff are worth hanging on to, and they also tend to seek out stores that have good stock and client relationships. Once a good situation has been found in music retailing it seems it's mutually beneficial to retain it.

I enjoyed speaking to such a diversity of stores, and I think I'll start enquiring about software....can I program a guitar solo?

'On Line' isn't just for computer dweebs and geek talk anymore. according to ***Julius Grafton.***
It's where switched on vendors and flocks of technical end-users hang out— and you can too!

CompuServe: door to the Global Village

Everyone in the music trade has access to a computer of some kind, and these days a modem too. I must confess my modem sat around mostly unused until I found CompuServe, an information network. Why? Because I didn't want to leave my computer and modem switched on 24 hours a day to receive messages and material. CompuServe changed that.

Not only can I log on whenever I like, but when I do I am tempted to roam. And what a choice there is, for besides the infinitely useful direct connection to SABRE, (which lets me into a global airline reservation system and check flights to and from anywhere in the world), there is a myriad of music and computer based forums.

There are three MIDI forums, where vendors lurk amongst other users and even midiots like me, and the question and answer messages can cover any and all possibilities. For example, MIDI A vendor forum includes E-Mu systems, Eventide, Opcode systems, Turtle Beach Systems and others.

On MIDI B you find Lexicon, Mark IV Audio, Mackie, and many others. MIDI C is where Soundcraft, Roland, Steinberg Jones and more can be located.

The reflex reaction to 'going online' is WHY ME? Well, why not? There is one easy first step, and that is to call Fujitsu Australia, the local network hosts, who will send you a starter kit floppy disk for your Mac, Atari or PC. This is a neat little application program that will configure your modem, and set up your gateway to the system. It costs $31.50, postage included. They ship and bill you on a creditcard over the phone if you like.

Then, once you've got your starter kit, you follow the instructions and join up on the spot. You pay $14 per month basic fee, and 25c per minute you are actually online. A little more for some forums. This isn't too bad, because after a short while you get swift and proficient. You do not need to be online for long either, because you can grab interesting stuff to file on your computer and read later!

You also get other people leaving messages, and even whole files and demo software on line for you. This aspect of Compuserve is still under investigation by your writer, but I've already met a gentleman whose firm almost runs on CompuServe - they leave quotes, tenders and all manner of material on the system for each staff member. The staff member is alerted of incoming mail when they next log on, and can 'grab' or download the waiting files there and then.

There are serious reasons why this kind of system is becoming so popular. Primary amongst these is convenience. You need not continually monitor your computer for incoming material, which is what you must do if you solely rely on a modem hooked up continually to a phone line. Not to mention the need for a free phone line, if you must have a modem on line all day. With CompuServe you need only hook into a phone line when you are ready.

Using CompuServe is like having a great big message board or file server in the sky, in fact it's a mother of a mainframe computer somewhere in the USA, to which you connect via Fujitsu in your state.

Aside from the E-Mail message sending and receiving ability, the 'talk back' Forums cover the length and breadth of human interest. There are 65 pages of them in the directory you get when signing up.

If you are involved in the 'products industry' as Rob Walker calls it, you should be on line. Even if you never use the system in an interactive kind of way, you should still go in and look at some of the forums, because this is where end-users ask brutal questions and dob on distributors without fear of a libel writ!

When you do, drop me a line. My CompuServe number is 100242,3662.

Fujitsu can be reached on 008-025-240.

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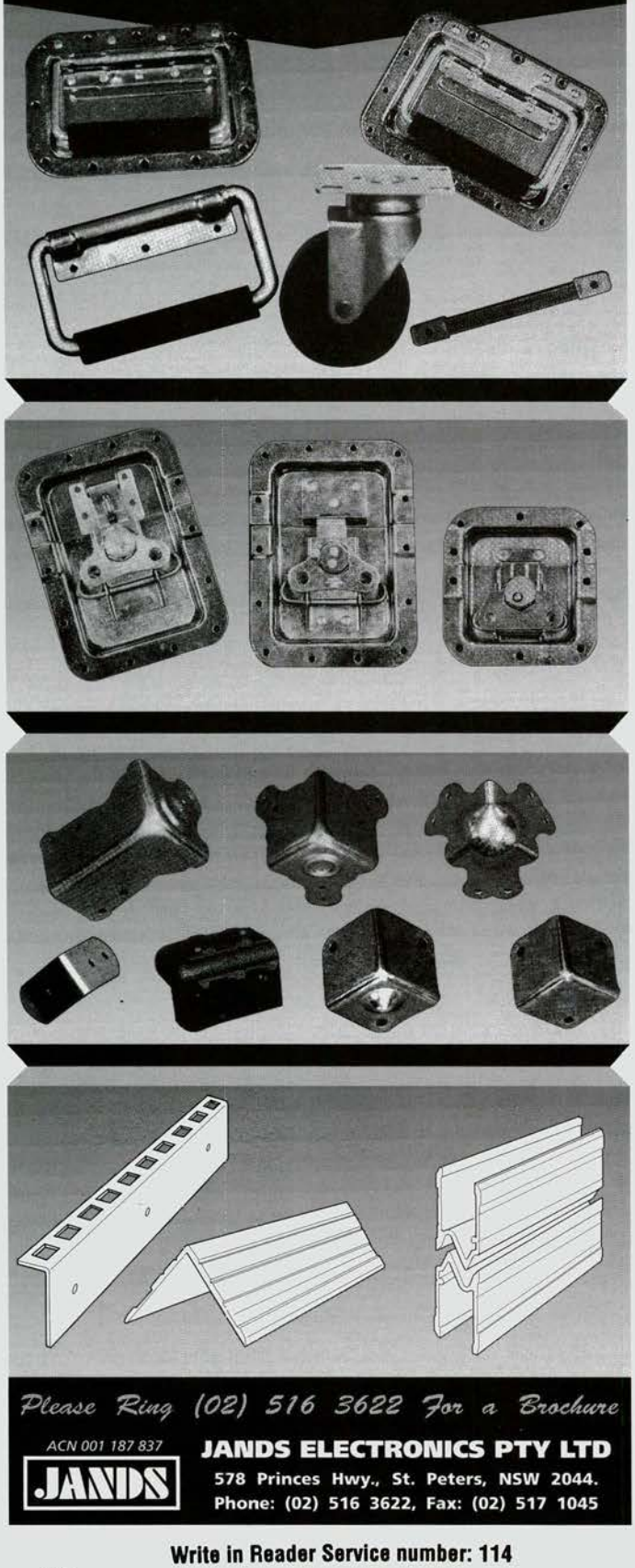

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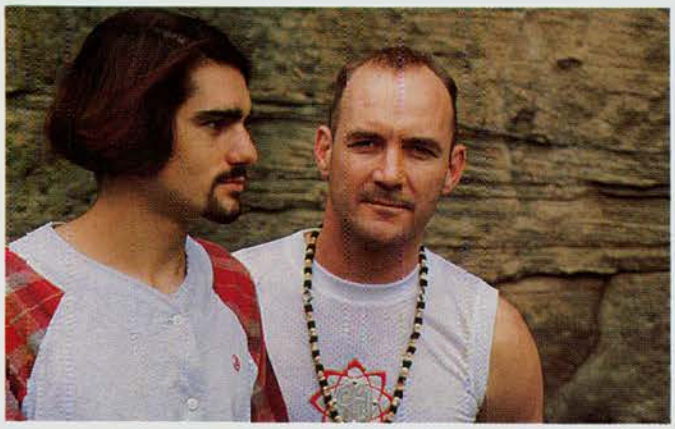

BAND TALK

Vision Four 5

Musical Description: Dance Music with Live Interactive Video production.
Members: Noel Burgess (Music), Tim Gruchy (Video & Interactives
Management: VOLITION.
Recording Deal: VOLITION.
Fanclub: Yes!
Worst Gig: Forgotten! (Obviously this outfit doesn't work live very much - or are not being 100% honest here! -Editor)
Best Gig: Big Day Out, Sydney 1994.
Interesting Gig: Rat New Year party. Sydney
ENGINEER: Ben Suthy
Keyboards: Mac SE/30 8/40, K2000RS (10mb, 16mb), Roland TR909, TR303, D50, SH01, Yamaha U50.
Video: Amiga 3000 with Live! board.
Fav. Music store: Aust. Academy of Music, Brisbane. Service is prompt & intelligent.
Fav. Production Co: 3200 Lighting, Sydney, they are on the edge.
Final Word: Rock and Roll is dead!

Strange Idols

Music Description: Contempory.
Players: Kieren Colville (guitars), Scott Wylie (vocals, keyboards), Justin Heazelwood (Drums, Perc)
Recording: RFM Records
Publishing: Maximum Music
Success to date is due to: "Our accountant and our enormous talent and magnetic personalities ..."
Engineer: John Bee

Most Interesting Gig: Annual ball for the Fletcher memorial home for incurable wasters of life and limb.
Crew Names: Ferret, Poppy, Hulk, Badger, anything you want
Fav. PA/Production Co: We love youse all
Fav Music Store: Harbour Music (Sydney), because the staff are friendly and shower regularly.
GEAR: Guitarist- '67 Fender Telecaster, Peach amp, Quadraverb, Marshall quad, size 32 Levi's (tight).
Bass: Fender Precision, Trace Elliot rig.
Keyboards: Korg Wave Station, Akai S950 sampler, Atari 1040 ST computer.
Drums: Tama rockstar pro custom, Pearl snare, Sabian hats & ride, Paiste 20", Ziljan crashes.
Microphones & Uses: Shure SM 58, Beyer M88. Uses? Sounds rude!

The Power & The Passion, by Lesley Sly. $35 from Ausmusic

An Aussie Industry Book that got Dave Gibson going ...

"So you want to be in the music business. You may have the passion but do you have the power? Talent isn't always enough.".

I was first introduced to Lesley Sly's book in August/September last year as a result of an article released by one of the media outlets, wherein her book was described as an expose into the problems and biases experienced by Australian females in the entertainment and specifically the record side of the industry.

Having been involved with the industry for some thirty plus years as a recording studio/record company owner, record producer, artist manager, booking agent, etc. and as a presenter of seminars on the industry, I did not believe that there was such a degree of bias as presented in the article, so I decided to obtain a copy of the book to see why my long held perception of the industry was so wrong.

I didn't realise at the tie that to obtain my copy would take me about three months, mainly because every bookshop I visited could not be convinced that because of the title, I was not really after a Mills and Boon novel. On eventually obtaining my copy and reading the index and first thirteen pages, I realised that the book was going to be a lot more than a book about women's problems within the recording industry. So, on the next weekend I read the book from cover to cover and after the first few pages I was surprised that I was reading things that I had either forgotten about, had taken for granted or had not previously thought were important enough.

Every time I read the book I discover something new that I can include in my seminars and add to my general knowledge of the industry.

What do you know about Advances, AMCOS, Booking Agents, Container Charges, Guarantees Against, etc.? Nothing or very little? Then I suggest you rush out and buy a copy of the book.

The book is not written in the normal text book style, rather has been compiled by interviewing more than 150 industry experts and power brokers (Lesley, why was I not contacted?), many of whom have gained their degree, like myself, through the 'school of hard knocks'. Their thoughts and opinions were then broken down into chapter and topic headings and the book presented as a anecdotal type book.

This is a boots and all book and although covering many very detailed and sometimes difficult topics, from getting started to artist management, the publishing and recording industries and the law through to equipment purchase and hire, etc. all in great depth.

The book should definitely be compulsory reading for any artist or songwriter who is considering signing a record, publishing or management contract or releasing a privately financed recording.

-Reviewed by David Gibson.

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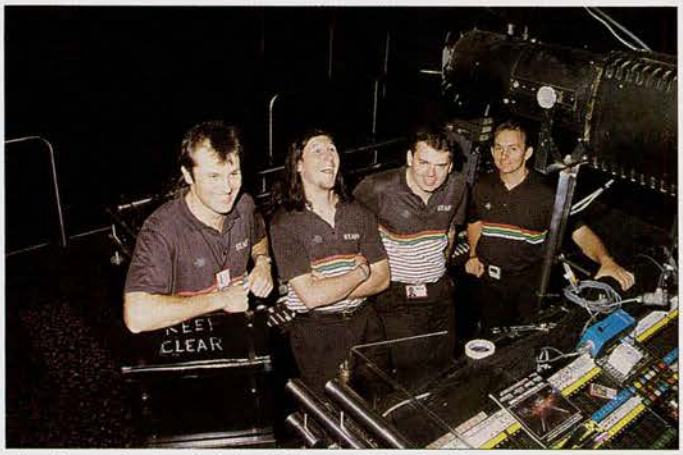

The Crew, clustered at the FOH area, Reactor One room.

Dale Bax EQ's foldback

Panthers is Australia's largest registered club, and one of the largest entertainment facilities in the land. Head out of town on the freeway and set cruise control for an hour. Just before the dusky blue hills that denote the start of the Great Dividing Range appear through the setting sun, leave the freeway at Mulgoa Road. Panthers is the largest lump of real estate you'll find as you head into Penrith, truly a satellite city of Sydney.

More fully known as Penrith Rugby Leagues Club, Panthers is set on the Hawkesbury River plain and is surrounded by valuable franchises like McDonalds and Sizzler restaurants, Panthers Motor Inn, and several outdoor sporting facilities unlike most. There is a cable water ski, a golf driving range/lake, and tennis coaching— amongst much more. It's almost a city!

This is a focal hub of a community quite removed from the Sydney suburban throngs, a real Australia, if you like, where family values are strong, where men are men and 'The Footy' is the holy grail. Indeed the Penrith Panthers did top the league for several years, the players are stars in the main street of Penrith, huge men who like to relax at — The Club.

FACILITIES. Panthers has a large band room/disco called Reactor One. The club was fresh and new just 10 years ago, having moved from another site. Reactor One has had several refurbs and three complete changes of sound system since! It boasts perhaps the most comprehensive in-house live sound, lighting and video system of any venue in the greater Sydney mass-sprawl.

Reactor One trades with live bands on Friday nights, and other nights with pure disco and specific youth functions. Upstairs in the main body of this modern building are other specific spaces, notably a second 'band' room (at least on Friday nights) called Oasis, and a 'mature' disco called Reflections. This room overlooks the flood plain, with distant views of the lights on the hill. It's quite romantic up there, with young marrieds and even their parents getting down to milder versions of the same music pummelling the punters in the Reactor.

To fully put you in the picture, the club has plenty of food options, ranging from a bistro (where the crew eat), to a steakhouse and an upmarket candle-on-table, romance-is-in-the-air, Fillet-Mignon-wrapped-in-bacon type establishment on the top floor. Next to a real, genuine cocktail lounge with resident crooner.

The engine room of the joint is the gambling hall, full to the horizon with slot machines. In fact you can see the curve of the earth in here. Without it you don't have the rest, for the coin kingdom feeds the entertainment machine, which is what got them here in the first place. Or is it the other way around?

FEE FESTIVAL. There is a long story behind the fittout of this club. Entertainment Director Ross Cunningham didn't really want to delve into it, because these days he has a stable, resident crew, who he trusts. It wasn't always like this.

Up until recently, this club purchased sound, lighting and video equipment from a vendor who recently went bankrupt. This vendor had a stranglehold on the place, only once broken by another vendor *(the writer of this story)* who installed a complete PA system - the second in 10 years - in 1986. Now, treading gently across the paddocks of libel-weed, it could be said the club was in the habit of paying out a lot of money very regularly for equipment and replacement lamps, speakers, repairs - an endless chain of things.

It wasn't ill-gotten, mind, just perhaps a case of 'oh, leave it to Mr. X, we must need this, so OK, we'll pay the bill'. Now, this story mustn't be misconstrued as inferring anyone -anywhere- is incompetent. Rather, it attests to the salesmanship of the recently departed vendor/supplier. Unparalleled in modern times!

What has developed today is that the house crew have slowly built up a working level of trust from the management, because they know what they need and they know where best to buy it. So instead of one vendor walking in each Friday with a slab of 'things required' and billing accordingly, the crew shop around.

Cameron 'Potato' Hipwell rigs

The crew are: *Jeff Tait, Cameron Hipwell,* and *Wayne Campbell,* with part timers *Dale Bax, Dominic Cutcliffe* and *Greg Myles.*

GEAR. PA: Reactor One has a Yamaha PM1800, 40ch mixer, with a stereo EV Manifold PA. It is quite an arse kicker, with effects, mics and a five send foldback system from a 2408 desk.

LIGHTS: The house system is driven from a 60ch TheatreLight desk, of which the first 36 channels are wired to stage dimmers, the rest operate the disco lighting. There are 48 Rays and 32 Par 64 cans, and a host of peripheral things - but no moving lights.

VIDEO: Not high tech, but effective. Two cameras, an M10 Panasonic vision mixer, some VHS players, a rear projection screen on stage.

ATTITUDE. The crew have fitted out the band room with TV, pinball and mod cons. They stage a proper lightshow and even make a demo video for visiting bands. Upstairs the Oasis and Reflections rooms have been continually worked over, in a technical sense. This is a model of the attitude a house technical crew should display. **•Julius Grafton**

"IT SANDS GOOD TO ME."

My company, for several previous years, had been contracted to do the annual 'Battle of the Bands' concerts for the local radio station.

A promotion would be held over four weekends at various beaches on the Ninety Mile Beach in Victoria. The day's format would involve having a band open and close the event, a number of competitions; the usual product giveaways, and perhaps more importantly, include a judging of a Miss Beach Girl contest. Access to the beach was via two 4WD's which would ferry equipment from the carpark to the actual beach location, and distinctive T-shirts would be supplied to all personnel. Drinks would also be supplied 'apres-gig'.

A scaled down rig would be adequate for the job, I was used a Jands JM6 20 channel desk and J600 amplifiers. FOH was a pair of W bins and some inverted Yamaha S1115 foldback wedges for top end. It worked well.

The month quickly passed and towards the end our team had gotten the setup and packup down to a fine art. In some areas we had to run extremely long extension leads up to the local surf lifesaving clubhouse, but where this could not be done a generator was used. I got a suntan, we actually started to like eating Peter's Skonas which were always left over at the end of the day. (We previously had joked that they tasted and looked like, frozen vomit.) We made the acquaintance of a large number of friendly young ladies who had unfortunately missed out on 'the big one' and needed lots of TLC. We also became extremely fit lugging gear uphill through loose sand.

The band sounded good and boasted its very own 'stunt drummer'. This title followed a rare display of acrobatics by him one particular day. The portable stage that had been supplied was long and narrow and had obviously been designed by someone who was very interested in the beachgirls segment. (I don't blame him.) This meant that the drum kit could only just squeeze onto it and even then the drummer's stool was precariously perched near the rear edge of it. This did not cause any concern until one sunny day in January; the band were going through one of their sets...a light breeze was blowing and the response from the crowd was good. Suddenly, midway through 'April Sun in Cuba' the drums stopped playing. All eyes went on the drummer but he had physically disappeared!...what the..?.!

A few seconds later a rather sheepish and embarrassed drummer's head poked up from behind the stage with his stool in hand. He climbed back up explaining that during one energetic roll round the drums he had found himself doing a half pike with a double somersault. It was a great crowd pleaser!

So what was the great mistake in this seemingly pleasant story? Well this did not fully emerge until the end of the month when I went to clean up the gear.

The mixer faders were clearly not as 'responsive' as they had previously been. The towel which I had put over the mixer had clearly not been entirely satisfactory! When I realised that the desk would need a complete overhaul, I took it to my local trusted technician. He rang me later with the news...every pot had varying degrees of sand in them and in some the sand had damaged the tracks...recommendation? Replace all 23 pots.

Fair enough I thought, besides I had bought it as an ex-hire desk and the standard pots in the JM6 were pretty basic anyway...now would be a good time to upgrade them. But it didn't stop there! All the foam in the desk's roadcase had trapped sand and so needed to be ripped out and thrown away. The bare wood was then vacuumed and new foam installed.

Some of the mike stands had been heavily corroded by the salt and had to be replaced. The microphone and speaker cables suffered a similar fate; despite pulling them completely to bits and reassembling them. The three pin female cannon plugs were a pain because the grit had to be blown out of each pin hole. It took ages to do this. The grease in the Session catches were gummed up with sand; where Gaffa tape was used on the cabling it also attracted sand. The speaker boxes, particularly the wedges, were chock-a-block with it. I literally tipped it out of the enclosures! SAND! SAND! SAND! It drove me nuts. The amp rack was also full of sand, the three cooling fans in it had done an exceptional job of gathering and dispersing the stuff throughout the amps! The ballbearings in the wheels on the roadcases had to be washed in petrol and regreased.

Then there was my truck! Having found its way into all nooks and crannies in my gear, it then proceeded to migrate to all areas and equipment in the back of my vehicle. It was a nightmare! The lessons I learned that Summer were not forgotten. Even to this day if someone uses the phrase 'the S word', I think of S for sand.

I subsequently went on to do two other summer beach promotions with the station and while sand was always a problem, I had learned my lesson and was able to significantly reduce sand ingress through the following measures:

#Sealing the mixer by wrapping it in clear plastic. Leave spaces around any vents to prevent mixer components overheating and leave enough slack on the top so that you can operate the control through it. Put a large light coloured towel over this for additional protection and to reflect heat from the sun.

#Avoid Gaffa tape at all costs. In the hot sun it bleeds and when it is removed leaves behind a sticky residue which attracts and is difficult to remove.

#Keep everything as high off the ground as possible. Otherwise, use sheets of ply to act as a floor/sand buffer zone for equipment.

#Wash all your gear down after every show.

#Get all electronics - particularly your mixer - checked over and cleaned as soon as possible. Despite all precautions, sand will find its way in. "The fineness of the sand is directly proportional to the size of the hole it encounters in your defences."

• **From Greg Hansford.**

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THE PA PAGE

Whoa ... It's the Michael Orland (patented) Light Up Your Horn device– !

About 10 years ago, my technician friend was asked to repair a Bose 802 speaker cabinet. He was surprised on opening it to find it contained what looked like Volkswagen headlamp globes. He declared it to be a clever application of a simple phenomenon. As the filament in a light globe glows, its resistance changes from negligible to substantial.

By using the globes as integral components within a passive filter system, the Bose cabinet is able to alter its high end response according to the power being fed in.

O.K. so far this is pretty dry, uninteresting reading. But if you own or maintain any sort of professional speaker system, what follows may be the most exciting thing you have read, including the letters pages in Penthouse! This same phenomenon can be used to protect high frequency horn diaphragms! With care and commonsense, you may never have to replace another diaphragm!

The globes should be wired in circuit between the amplifier and the passive crossover before the horn. If the crossover within the cabinet is both high and low pass, that is, if it is not only filtering lows away from your horn driver, but also filtering highs away from your low frequency speaker, then care must be taken to separate the inputs of the two, which are usually joined in a passive system.

Typically, by tracing the positive wire from the input of the cabinet, you'll find the point at which it joins the crossover leads to both a capacitor and a wire leading to an inductor or "coil" (Fig.1). The idea is to wire in the globes before the capacitor which eventually leads to the horn without affecting the path to the coil which invariably leads to the low end speaker (Fig.2).

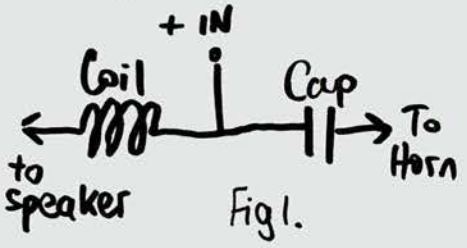

Fig 1.

The above diagram refers to a system of globes which I have found (more through trial and expensive error than theory and formulae) protects all my own particular horn diaphragms, both front of house and foldback. The globes are 12 volt 18 watt tail light or "festoon" type, available from any auto parts supplier.

I find the most convenient way to install them is by gluing six at a time to the inside of a handle and running wires to and from the crossover. Mount the globes in pairs with a small splodge of silicone and allow to set overnight. Wire 4 in series/parallel as per Fig.2, leaving a spare pair.

As power is poured in, the globes will glow, measuring a higher and higher resistance. The higher the resistance, the less power the amplifier puts out. What we have here is a passive limiter. In extreme cases, the type which might otherwise burn out or shatter the horn's diaphragm, the globe may act as fuses and blow first. This happens to me every six months or so. Easy fixed. Unscrew the handle and move the connecting wires from the blown pair to the spare pair. This exercise will cost you about two dollars. Most horn diaphragms can cost anything up to three hundred dollars.

The globe system has saved me thousands over the years. I acknowledge that other forms of protection are also available, such as polyswitches, but in my own experience, nothing matches globes for cheap effective insurance. I believe they should be fitted as standard to all speaker cabinets manufactured for professional use. This is already the case with all "Yorkville" and American "Soundtech" systems, which makes a great point in their favour for prospective purchasers. The only real reason I can think of why other manufacturers refuse to follow suit is because of the huge profits to be made in replacement diaphragm sales.

And if P.A. owners are to provide their crews with wages and conditions that would make a high court judge want to trade his wig for a pair of Stubbies (greetings to everyone else who has received THAT letter) then these sort of tricks can make the difference between being **in** or **out** of business.

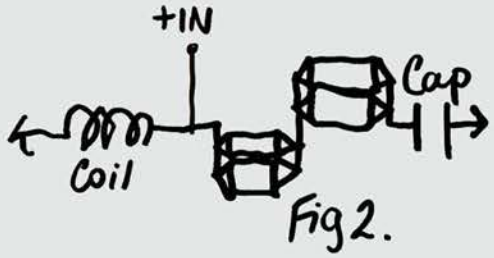

Fig 2.

• **Michael Orland, The Public Address Company.**

Coming soon: Michael details WHO charges WHAT for recones and diapgragms ..... Ouch! It hurts.....

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