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Connections

AUSTRALIA'S ENTERTAINMENT & TECHNOLOGY MONTHLY



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MACKIE -V- BEHRINGER
Court action alleges mixers copied

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Michael Letho on Aphex 107
VIP Projector, EV's new X-Array PA, and more!

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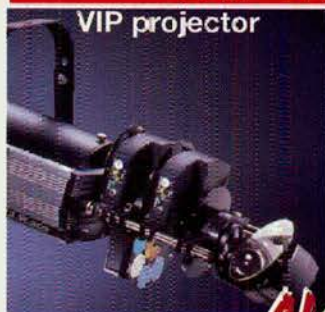
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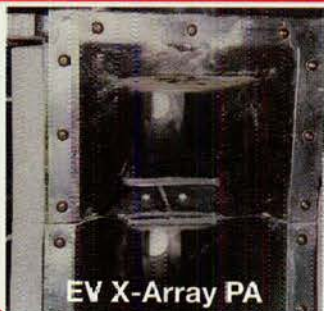
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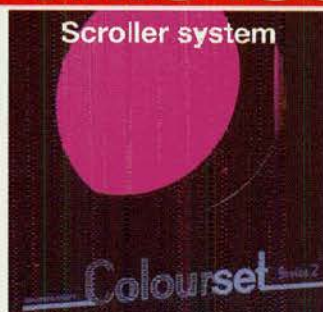
REVIEWED IN THIS ISSUE —



VIP projector



EV X-Array PA



Scroller system



Powered mixer

Also - Jands touring rack and Aphex TubeEssence

MIXERS COPIED?

Behringer to fight conspiracy claims

By Julius Grafton

How much of a coincidence is it that many of Behringer's mixer products look extremely similar to those designed and built by Mackie in the USA?

Mackie Designs Inc allege that Ulrich Berner Behringer, 'a citizen of Switzerland' conspired with giant American retailer Sam Ash Music Corporation and Sanson Technologies Corporation to copy its mixers.

The allegations are contained within a statement of claim heading a legal action against Behringer, Sam Ash, Sanson and others, claiming damages for breach of copyright and trade mark infringement. The legal action has been brought in the US District Court at Seattle, Mackie's hometown. Behringer have responded, promising to fight the action.

Last year Aphex (USA) won a substantial amount following a complaint in a German court against Behringer, alleging that they had misused some Aphex proprietary right.

Mackie's claim states that in 1993 Behringer approached Todd Wells of Soundtracs in the UK, to form a joint venture but were rebuffed. Later that year, Sam Ash representatives met Behringer at the Intercontinental Hotel in Düsseldorf, Germany. At that time Sam Ash was a Mackie distribu-

tor in the USA.

Mackie allege Sam Ash provided Behringer with a 'copy template', in effect a new 8 Bus Mackie mixer. Remarkably the claim also alleges Sam Ash made available a million dollars in funding for manufacturing of mixers by parties appointed by Behringer.

The million dollar fund was, Mackie claims, used to provide letters of credit and payment to firms in Hong Kong and China, who were suppliers and manufacturers of the copy Mackie product by this time called the Eurodesk MXE000. Completed 'copies' were to be shipped direct from China to Sam Ash.

With the largest trade show in Europe Music Messe to be held in early 1994, a deadline approached. We quote directly from the claim, in which Mackie alleges: "the Behringer parties removed the knobs, potentiometers and faders from the Mackie 24.8 mixer obtained from Sam Ash and glued them on to the copies metal chassis, together with other parts copied from the Mackie mixer".

In coverage of the 1994 Musik Messe, Connections reported on similarities between Behringer and Mackie mixer products.

Behringer accuse Mackie of false statements, and assert Mackie have no patents on any electronic (continues on page 7)

● How the new EV arena PA almost got away EVI do Asian demo tour



SINGAPORE: EVI Audio, the newly renamed international conglomerate that was Mark IV Audio, have just completed a major product tour across the region.

Primarily a vehicle to introduce the new EV X-Array PA system, the tour also showed dealers the new Midas monitor console the XL-250. The tour also strongly asserted that EVI Audio is a strengthening player.

Starting in Sydney, the tour moved north through Singapore during the PALA trade show, thence Hong Kong and Beijing before finishing in Tokyo at present time.

Our 'First Look' review of the X-Array is in this issue, but an interesting aside was revealed by Harry Witz, CEO of DB Concert Sound in Chicago during the Sydney release.

"Working on the DS-9 speaker

project (X-Array was code named DS-9) over the past two and a half years, I was wondering if it was ever going to happen. In fact I even researched equivalent systems".

At the PALA show in Singapore it became apparent Harry did a little more than research, because NEXO had a new system on show featuring a close approximation of the very sweet rigging system utilised on the new X-Array!

The new Nexo system is shown at left.
-Julius Grafton

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PLASA explains

Members were told at the annual general meeting of PLASA last month in London, that former CEO John Offord had been terminated. A 2 page statement was released, detailing the circumstances which wholly related to internal disputes. No immediate replacement for Mr Offord will be sought, with Matthew Grittiths acting as interim CEO.

Export Group targets China

A group of Australian manufacturers has been invited to join the ENTECH Export Group which was created at the 1995 ENTECH.

Around 30 manufacturers seek to export products in the audio, lighting, staging and vision sectors which form the Australian entertainment technology industry. Consultants and engineers are invited to join.

The purpose of the group is to act as a support and networking facility, to attract government support for export activities, and to better develop overseas trade for our industry - including technicians.

A trade mission to the new Shanghai Sound & Lighting trade show, run by P&O Events is planned. The show is considered the first real trade show opportunity within China, offering sensible marketing, some copy product protection, and provision of interpreters.

This is scheduled for early April next year, prior to ENTECH. Interested firms can contact Caroline Grafton on (02) 9876-3530.



Soundcraft challenge PM, XL4

SINGAPORE: Finally Soundcraft have an answer to the PM4000 and to a lesser degree the Midas XL 4. The prestige flagship live mixing console business is lucrative, with price tickets ranging from A\$75K to \$150K.

Soundcraft stumbled with the previous offering, the Europa, an excellent console which was too large and at over 400kg too heavy.

Despite this they sold some 300+ examples, mostly for installations.

Series Five is on the money, with all the features currently in demand for professional use. These include 12 auxiliary sends, 10 VCA masters, MIDI snapshot mixing memory, 10 matrix outputs, 3 groups, ICF panning and flexible input module configurations.

A new dual power supply has

thirty percent headroom, even with the largest frame configuration of 56 channels.

Soundcraft were pointedly comparing Series 5 with the PM4000 at its launch in Singapore, which left me thinking another mixer is in the pipeline with onboard dynamics, (gates and limiters) missing in the Series 5. The Europa had onboard gates but no limiters.

~APPOINTED~

Chameleon Touring Systems have appointed **Pip Robinson** as their Production Coordinator. Pip was previously General Manager at Grafton Lighting.

Doug Wilkerson Corporate Director of Sales for Community professional Loudspeakers (Chester PA) has announced that expat Australian **Ian Thacker** has joined Community's sales force initially in the position of Eastern Regional Sales Manager. Thacker comes to Community from Klipsch Professional where he

served as their Sales and Marketing Executive. Ian Thacker recently said 'As a competitor I have long recognised Community's accomplishments and hold the organisation in high esteem!'

~MOVED~

Allison Audio (technical fix shop) has moved to new premises at Unit 6, 750 Pittwater Rd Brookvale. New name: Allison Electronic Services. Phone and fax remain the same, Call +61 2 9905 5515, fax -51 2 9939 2341.

Universal Lighting & Audio

(NuMark, Abstract, JB distributors, Australia) have a new address: 26 Commercial Drive, Southport QLD 4215. Their new postal address is PO Box 669, Ashmore City, QLD 4214. Telephone and fax numbers remain the same: call +61 7 5552 9922, Fax +61 7 5532 4155.

East Coast Audio (Aphex distributors in Australia) have moved to new premises: Unit 2, No. 20 Commercial Road, Melbourne, 3004. Call +61 3 9821 4747, Fax +61 3 9821 4994.

more>>>

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Phone: (02) 9876-3530

Fax: (02) 9876-5715

E-Mail: Mail@conpub.com.au

Editor: Julius Grafton
Email: julius@conpub.com.au

Assistant Editor:
Cariona Forcer
Email: cariona@conpub.com.au

Journalist: Daniel Cole

Writers in this issue:

Madeleine Murray, Duncan Fry, Michael Orland, Jacqueline Molloy, Steve Moles, Andy Ciddor, Stephen Wickham, Mandy Jones

US ADVISER: Buck Freeman

Circulation: Nicole Morris
Finances: Jenny Royal
Artwork: Sharon Miceli

Advertising:
DIAL 1-800 635-514
Caroline Grafton.

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Industry News

Celestion by air~VFR with bumps

MT. GAMBIER (S.A.): Graham Rowlands from the Electric Factory in Preston Victoria recently decided on a more direct route to his client Phil Fraser of Philtronic in Mt Gambier—a light plane.

David Rees from Sound Solution Australia was the pilot and all arrived safe and sound. Graham

Rowlands was showing the latest range of Celestion KR speakers to Mr Fraser whilst David Rees is the Victorian Corporate Audio Dealer for the Celestion range of sound reinforcement cabinets.

No sick bags were required!
From Left to Right: Phil Fraser, Graham Rowlands and David Rees.



Shrape International second-hand pro-audio brokers and distributors for Joe Meek Audio and Mutronics have relocated. New contact details: 29 Wilson Street, Harbord, NSW 2096. T +61 2 9939 4004, +61 2 02 9939 4007.

Tanby Audio Visual are now known as Optel Audio Visual. They have also moved to: 322 Lord St, Perth WA. T +61 8 9328 2366, F +61 8 9328 2954.

New fax number for **Roderick van Gelder** of Lighting Design & Production Management and

Heads! Stage Safety Innovations: Fax +61 2 9362 1509.

~CORRECTION~

Contact Details for event, technology and management company **Technical Productions** were almost correct last month. This month they are absolutely correct: Suite 13, Level 2, 51 Spring Street Bondi Junction NSW 2022. T +61 2 9386 9494, F +61 2 9386 9490. Website: www.techprcd.com.au

News desk: Fax +61 2 9876-5715, or email mail@conpub.com.au

DEALS!

Where we advise you what's HOT this month

✓**SONY AUSTRALIA** have price reduced their popular MDM-X4 mini-disc multitracker. Recall if you will that Yamaha, Tascam and Sony now all offer this style of product. Sony say the MDM-X4 will now retail for A\$2,295, down \$200. See your Aussie Sony dealer about this!

✓**TECHSCAPE** have a new package deal with four MADSCAN 305HP moving lights (the groovy coloured look-

ing ones) AND a MAD 4-1 controller for A\$3000 inc. tax. Dial 1-800-773-187 for more (in Aust).

✓**ULA** must have seen the above, they offer 4 Abstract Futurescan 1CE moving lights with controller: A\$2899. Call +617 5532-9922.

✓**SHRAPE INTERNATIONAL** have reduced the retail price of the Joe Meek VC3 pro channel. It drops from A\$750 to just A\$625. Call +61 2 9939-4004.

Send us your DEAL news, Deal Dept, Fax +61 2 9876-5715

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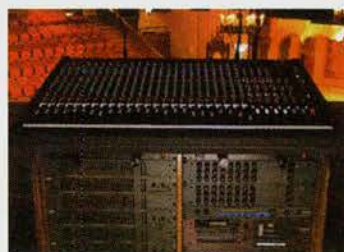
Our Century Series consoles are built to exacting standards from top quality components. They're also a talented bunch. They have to be, whether mixing sound for the world's greatest athletes at Atlanta's Olympic Stadium, on Broadway with the award winning musical "Rent", on TV's "Rosie O'Donnell Show" or on tour with country sensations Brooks & Dunn. And now here in Australia with Broadcast Rentals of Melbourne who used their desk for Star TV's telecast of Wimbledon 1996. So, if you want your system performance to reach olympian standards, call us.



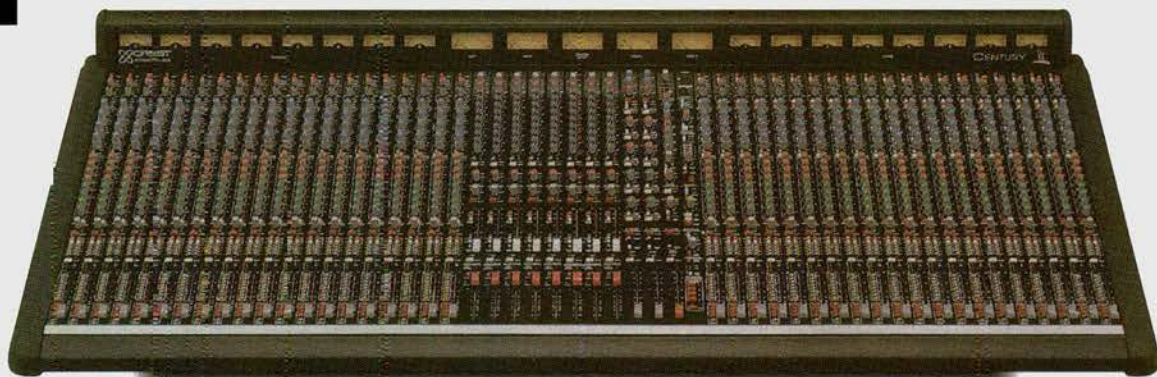
Olympic Stadium, Atlanta

best

part



Scottish Rites, Milwaukee



SMPTE'97

The Vision is Forward. By Daniel Cole

SYDNEY: Darling Harbour Exhibition and Convention Centre was the venue for the SMPTE 1997—the Sound Motion Picture Technology Exhibition. Halls 1 and 2 were given over to this bi-annual event whose primary aim is vision, both future and technical. Whilst this is SMPTE's 'focus', a range of off-shoot technologies were present also from data to satellite to audio. In the main, SMPTE is an opportunity to access key technology and people in the film video and broadcast industries. There were two forums for this: the exhibition where 'tyres are kicked' or appraised, and second, the conference which looked at issues pertaining to current issues and trends.

'Everything is run by the Australian section of SMPTE,' said John Maizels, Chairman of the SMPTE Exhibition and Conference. Mr Maizels is an elected member of the board whose 'day job' is with IBM as their Broadcast Solutions Manager for the Asia-Pacific region. You could say he's 'across' broadcast technology. He continues,

'Although the conference and exhibition was aimed at the broadcast industry generally, we are mindful of where we come from, so the event was structured towards technology that relate to moving images.'

94 firms were represented, spread over two halls.

'There was quite a lot of audio this year—which we were very glad to see—and the whole event had a very business-like aura about it. This year there were good showings particularly from people like Sony, Philips, Tektronix. Some of the supply houses like Magna Systems had a very big investment in booth space and product, showing their wares in an extremely professional way, even

down to the small stands like Yamaha. They took out the best Small Stand—a good use of small space and Avid took best Medium Stand.'

Much of the equipment on display is high-end precision gear either from industry stalwarts to new formats and associated hardware. 'We are in an environment where the technology is changing so rapidly that nobody can really keep track of it.'

'There are major shifts in the area towards digital and many people are starting to realise that the presence of the internet—large scale exchange of data—means that they have to start thinking not only in typical film/video tape terms, but in data terms.'

According to Mr Maizels there is now a huge swing towards the 're-purposing' of archive assets where companies are considering how to best achieve value from their libraries, turning them into an asset rather than a liability.

Overall attendance was 6600 spread over four days. 57% of this attendance derived from the film, television and video industries whilst radio and audio accounted for 9%. Multi-media accounted for 12% and data, telecommunications, internet, satellite and other industries were the rest.

'Attendance is up- we felt very good about the number of people coming through who were going to make serious buying decisions.' Said Mr Maizels. This is supported by post-event figures which suggest 60% of attendees either had direct or indirect purchasing influence or authority.

SMPTE's conference 'New Technology, New Opportunities' was held this year at the Wesley Centre during the show. The conference offered tutorials and technical presentations and attracted around 500 delegates.

Mackie Digital Console Debut

SINGAPORE: Marking good time since the first showing in January, Mackie have demonstrated an 'almost' complete example of the Digital 8 Bus mixer. The mixer was shown at the PALA trade show with automation control driven from a PC — as opposed to final control from within the console itself. Expect this by Christmas.

The console was then flown south for a successful demo tour arranged by Australian Audio Supplies in July. Industry professionals from the live sound, studio and broadcast sectors rolled out in impressive numbers to see the new console with other Mackie products, at functions in Sydney, Brisbane, Melbourne and Adelaide.

Crestron returns to Australia

Crestron Electronics Inc of U.S.A. have announced the appointment of Soundcorp Pty Ltd as sole Australian Distributor of its Control Systems products

Crestron systems are a major player in electronic control for audio, video, lighting and associated systems. Soundcorp will develop the Australian market for Crestron to the level it enjoys worldwide and Soundcorp will appoint a network of dealers in capital cities in all states. Dealers will be awarded franchises for Corporate Professional or Domestic applications.

• **Contact Soundcorp on +61 3 9416-1066.**



Mackie -vs- Behringer

(continued from page 3)

circuit used in mixing consoles, and that the consoles manufactured by Behringer and Mackie include nothing but public domain circuitry representing the general state of the art.

Further, Samsco state that the complaint is without merit, and Sam Ash CEO Richard Ash says his firm has been a Mackie dealer having sold US\$3m of their consoles in the past 12 months. He is also a stockholder in Mackie, which is a public company. 'Contrary to claims by Mackie, neither I nor any of my companies have ever made any investment in Behringer'.

Behringer's Australian distribu-

tor is Music Link. Their marketing director John McCubbery told Connections he has visited the Behringer engineering department, which "contrary to rumour actually exists and is huge and there are a lot of smart guys there".

According to Mackies claim, the market for mixing consoles worldwide is approaching US\$1 billion, and that since the firm was started by Greg Mackie 'in his bedroom', Mackie have sold over 250,000 mixers worldwide.

Mackie's court action claims damages for actual loss in the amount of US\$109,000,000 against 'the Behringer parties', this has been increased to US\$327,000,000 plus costs.

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Singapore tradeshow delivers

PALA draws serious numbers and confirms its position despite exhibitor misgivings

The PALA tradeshow held in July attracted a genuinely useful trade attendance. Indeed the show has its detractors, who argue that it is not a good venue and that show management are not tuned into the audio and lighting industry.

Connections returned to PALA after not attending last year, following a disappointing experience in 1995 when we exhibited there. At that time some contractors and some organiser staff were outright useless, the transport arrangements from the venue (near Sentosa) to town were hopeless, and the attendance was thin.

What a difference two years makes. This year the attendance was easily double that of two years ago, which is the primary factor attached to the success or otherwise of a tradeshow.

The organisers have brought back the previous operator of the event, Alan Suen, who understands the industry. He at least could be relied on for assistance when others could not. He did in fact greatly assist Connections when a carton of several hundred business cards we collected from visitors disappeared overnight. He

arranged cleaning staff to search the rubbish skip outside in the blazing heat. Thank you!

The ground transport is still hopeless, the organisers have a shuttle bus you must book in advance. Failing that, the taxi queue can take up to two hours to clear.

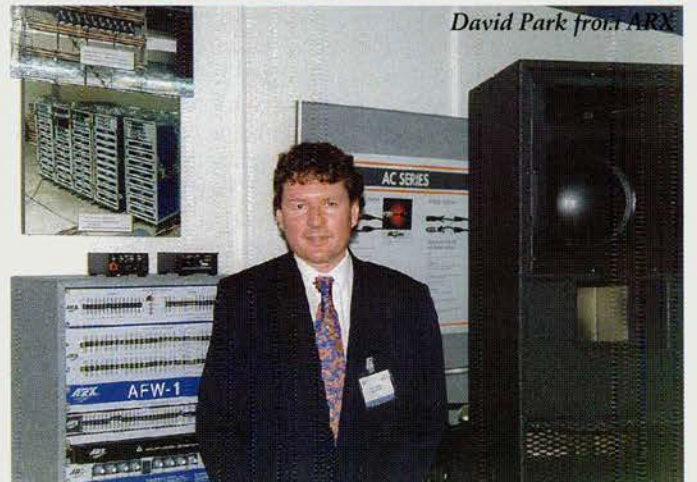
Then there are the incessant announcements blasting over the PA. "Attention exhibitors! You are invited to a cocktail party...." etc. Not just once, but seemingly every hour, and at high volume. It breaks business conversations.

Speaking of volume, the noisy hall was there again too, why - oh why - do they persist with this?

Anyway as stated the issue is business, and a goodly number of firms from the south were there crunching the numbers.

ARX are probably the largest exporter of pro audio out of Australia, they had the tag team working again, Colin Park had the end-to-end meetings, while David Park (pictured at right) manned the stand of their distributor, AUVI. WA distributor Ian Ross was on hand to help too.

LASERVISION had a nice
(continued over)



MAJOR TRADE SHOWS

- **PLASA 1997**, Sept 7-10th, London. Call +44 323 410-335
- **AIMS '97**, Aust Int Music Show.
NOTE NEW DATES Sept. 19-22. Ph (03) 9867-4222
- **PACIFIC MUSIC CIRCLE**, Sept. 20-25, Sydney. Ph +61 2 9380-6864
- **AES 103rd**, Sept 26-29, New York. Fax +1 212 682-0477.
- **LDI 97** October 24-26, Las Vegas. Ph. +1 212 229-2965
- **REPLItech Asia**, new dates: H K, Nov 5-7 Fax +1 914-328-2020
- **Vision & Audio 97**, Nov. 4-6, Earls Court, London.
- **SHOWBIZ EXPO**, November 13-15, Melbourne. Ph +61 2 9318-3806

- **NAMM 1998**, Jan 28 - Feb 1, LA Convention Centre. Ph. +1 619 4E8-E0C1
- **LUMINAIRE ASIA '98**, February 19-21, Singapore. Ph +65 431-229E
- **MUSIKMESSE**, March 11-15, Frankfurt. Fax. +49 69 7575 6433
- **SHANGHAI PLASA**, April 14-16. c/o Connections +61 2 9876-3530
- **ENTECH 1998**, April 22-24, Sydney. Fax + 61 2 9876-5715
- **NSCA Expo '98**, April 27 - 29, Las Vegas. Fax +1 319 366-4164
- **AES 104th**, May 16-19, 1993. Amsterdam. Fax +1 212 682-0477.
- **PALA**, July 15 - 17, Singapore. Ph +65 227-0688.
- **AES 105th**, Sept 26-29, 1993. San Francisco. Fax +1 212 682-0477.



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Compare the feature set, compare the specs, compare the price, but most of all, let your ears be the guide. You'll pick the FR Series amplifier.



beyond into big, ugly reactive loudspeaker loads. Feedback from an amp's output section tells its front end how to behave.

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MACKIE

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Write in Reader Service Number: 170

PALA cracks the numbers

(continued from previous page)

static display with no less than four staff on hand. Their major installation at Sentosa was just across the way, which is a brilliant sales promotion. According to Gale Thomson the firm is very active in sales in Asia.

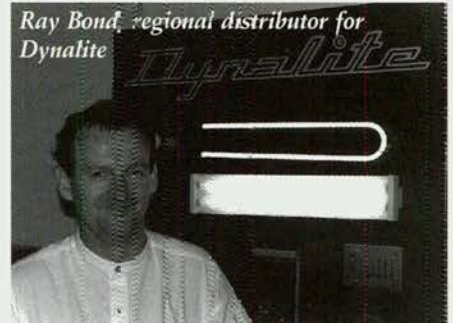
ABBEY SOUND were making their first export mission, Ross Nicol reports considerable interest in their Red Powerpack integrated PA system and powered speakers, from some larger regional distributors.

DYNALITE and **LSC** were represented on the stand of their distributor, Te Deum - owned by ex-pat Australian, Ray Bond. He reports an escalating series of projects in the region, where Dyalite are virtually market leaders in architectural dimming.

PENN FABRICATION also enjoy growth in the region, Andrew Rushen (who runs the Australian division) reports that their hardware sells even in countries where cheaper 'copy' case hardware is common. Fabricators learn quickly that saving a few shekels on the hardware is dumb when the whole case is affected. Their stage roof and truss also sells.



Petros Georgiades and Ross Nicol from Abbey Sound



Ray Bond, regional distributor for Dyalite

ORACLE LASER PRODUCTIONS had the whole demo thing happening. They were crunching business when I visited, which is always nice to see.

AUSTRALIAN MONITOR are trade show veterans, having started export in 1987. Hymie Myerson was enthusiastic about his new range of amplifier modules for powered speakers. These are not made by Australian Monitor, rather they are distributed through AM Sono, who he represents, and are made in India. For as little as US\$70 you get an amp - just fit it into the back of your speaker box!

MEYER had support from Steve Devine (Richardson and Devine), **MACKIE** enjoyed the company of Dave Croxton (Australian Audio Supplies) and **SONIC SOLUTIONS** Asia hand Terry Marshall (an Australian) was on hand to support the local agent. Ian Woodhouse (from Horwood) was on hand supporting **ATLAS SOUNDOLIER** for whom is

Terry Marshall, from Sonic Solutions



is the regional representative.

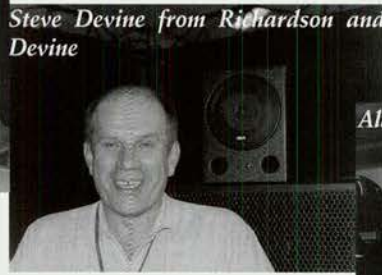
VISITORS I observed included the Stevenson's from Production Audio Services, David Sloss (Studio Connections), Jeff Bol-Jands), Phi Webb (EV), Cuono Biviano (ULA), Drago Troy and Billy Mawer (CMI), and a large team from BOSE (Australia). However I saw few Aussie technicians and consultants.

Rory Miller from Stagecraft (WA) was drugged and robbed at his hotel. Memorable.

All up, a good turnout - and a welcome reversal of fortune for the organisers! -JG



Cuono Biviano from ULA with new Abstract mixer



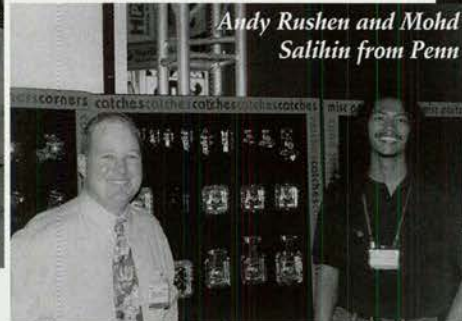
Steve Devine from Richardson and Devine



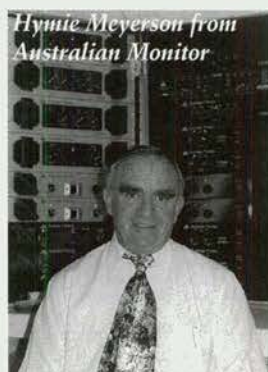
Alan Graham from LSC doing The Demo



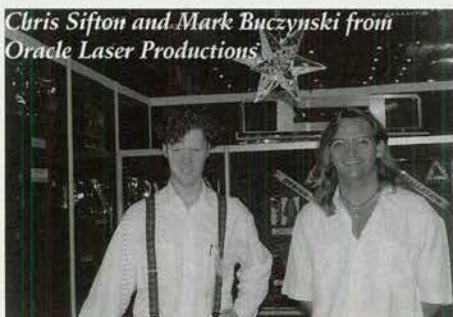
Brian Stan, Manfred Reimann, and David Croxton at the Mackie stand



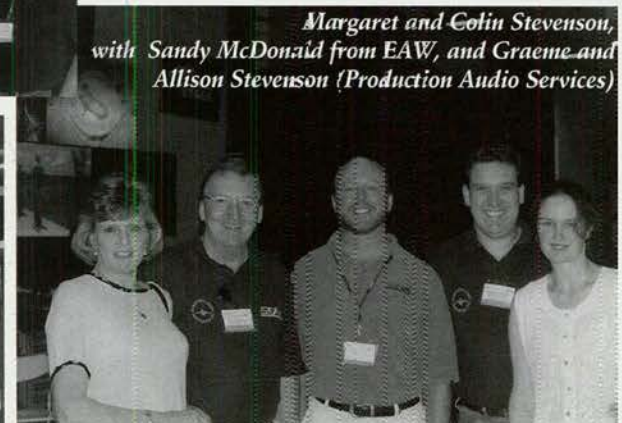
Andy Rushen and Mohd Salihin from Penn



Hymie Meyerson from Australian Monitor



Chris Sifton and Mark Buczynski from Oracle Laser Productions



Margaret and Colin Stevenson, with Sandy McDonald from EAW, and Graeme and Allison Stevenson (Production Audio Services)

MORE NEWS P18

X marks the spot

By Julius Grafton



Mid/high box shown above and at left

EVI unveil new EV PA- it's more than a Manifold replacement

In the formative days of the large concert PA industry, the market leading hire firms (American) all built their own speaker boxes. Some even built their own mixing consoles. Then when several went broke under the weight of R & D and manufacturing outlays, the industry started to look at 'turnkey' products.

This is why JBL and EV were late into the concert box market, although some could say EV have more presence in the complete box business more longer, via the existing and populous Manifold product, now in its second decade. JBL however make the drivers for more of the 'proprietary' systems (like PRISM and Clair Brothers S4's).

Understand that the myriad of JBL Array and EV Deltamax models don't count in the 'concert box' sector, even although I hold you could readily use various models from either of these ranges to successfully handle almost any sized concert.

Benchmarks in concert PA are now available from EAW, Turbo, Meyer, Apogee as well as JBL and EV. Which means every one of these firms, and indeed many others as well, offers true a 'concert speaker system'.

The current requirements logical, and works in this order:

- Tight and controlled dispersion ('Q') for better environmental control;
- Less weight;

- Less size;
- Preferably as much or more SPL (sound pressure level) power than you ever thought possible;
- and—
- Options like frontfill boxes and long throw boxes.

ENTER THE X

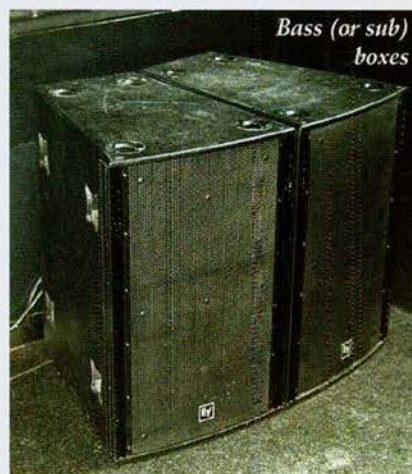
With typical American understatement Electro Voice rolled out a pre-convention of the new X-Array system, for the Asia/Pacific market in July. The southern region event was extremely well attended with most of the major hire and production operators from Australia and New Zealand on hand.

EVI choose the newly completed Evan Theatre in the Panthers Entertainment Complex near Sydney, which gave a reasonable environment and flying facilities, with which to debut the system. Heavyweights from the EVI mothership and from DB Sound in Chicago gave the background and introduced this years latest marketing terms to a generally accepting but savvy audience.

Then Harry Witz from DB climbed behind an X-200 console for a live demo, comprising a female vocalist from Chicago who sang live to multitracked backing, mixed at the desk. 8 songs ranged from vocal over acoustic guitar through different styles based around contemporary rock music, during which as promised the SPL slowly rose to 115dB at the mixing console.

X-ARRAY SPECIFICS

This is a 2 box PA system (with options) which delivers 'The Current Requirement', specifically high 'Q', low weight, small size



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Write in Reader Service Number: 130



Rear main rigging device, hinged. Connects one cabinet to the next, removes quickly.



Harry Witz, CEO of DB Concert Sound (Chi-

EV X-Array. (continued)

and big power. Development mainly happened through DB Sound in Chicago who have many EV Manifold systems, typical of which was last seen here with AC/DC and was the subject of a review in our December '96 issue.

The Xf is the mid/high cabinet, it is loaded with 2 x 12" (304mm) speakers and 2 x high frequency drivers. It operates from 120Hz to 20kHz. The Xs sub is loaded with 2 x 13" (457mm) drivers. It works from 35Hz to 160Hz. Both boxes share the same external dimensions; 23" (584mm) wide at front, 13" (330mm) wide at the rear of the trapezoid, 30" (762mm) deep and 36" (914mm) tall. Best of all the weight is around 20Cib (90kg).

Each cabinet is trapezoidal with stacking cups top and bottom, and four carved carry handles on each side. These are designed for lifting in either horizontal or vertical planes, and allow a rigger to climb up the side of a stack if required. Best of all carved handles without a carry bar prevent inadvertent use of the handle as a flying device. Because you never ever hang a speaker from its handles!

The rigging system is very contemporary and is wholly situated on the front and rear, which means there are no rigging points on the top and bottom of the cabinets. So they can snuggle closer together, which helps arraying. They have built in vertical rigging extrusions, you join them at the rear via a slot in hinged external rigging device, and adjust the angle of the front of each row via different lengths of steel rigging straps. Steel runs from top to bottom of each box at each rigging point. It's fast to use.

Q AND COMPONENTS

Dispersion is everything, the Xf 2 way mid/high cabinet delivers 20° vertical dispersion and 40° horizontal. Which is fairly tight, by way of comparison a Turbo Flashlight does 25° x 25° and a Turbo Floodlight 25° x 50°.

There is a hitherto unmentioned extra model, which offers a medium dispersion. It is called Xn, and delivers 40° vertical and 60° horizontal dispersion. It has the same external dimensions as the others, but is loaded somewhat differently as it is a 'full range' box with low (1 x 18"), mid (1 x 12") and high (h/f) elements.

Current thinking is this Xn model is most likely to be less used than the two cabinet combination of Xf and Xs. Amplifier configuration (see text later on) also trends towards Xn being a 'special tool' rather than the main event.

The science inside X-Array is interesting. There were all kinds of words used at the release, but the ones

which seem to count relate to the high frequency horn assembly. Mike C'Neil (R&D director, acoustics) from EVI talked about Ring Mode Decoupling, which is his term for what happens to the high frequency horn in the Xf. When a low frequency sound wave from the woofers passes by the high frequency horn it can produce acoustical resonance in the horn itself, perhaps at 700hz. This can naturally mess up the response and performance of the system. Mike says, and most in the audience readily agreed, that if you spend vast amounts of time equalising two different PA systems for dead flat response, they will still sound different. His argument has it that if you have mechanical or acoustic problems, you cure them with mechanical or acoustical - not with electronics.

The dual high frequency drivers are a new 3" (76mm) Neodymium type, called ND5-16 with a 1.4" (35mm) exit throat. They mate on separate high frequency horns which converge at a Resonance Decoupling Aperture - essentially openings behind the horn flairs which detune the horn against bonk and hcnk caused by the low frequency actions.

The dual 12" woofers are also new, with a Neodymium magnet and a kevlar cone. There is a lot of theory about mechanical durability, sensitivity and cone surround resonances, but as always the proof is in the listening, followed by destruction testing.

Naturally the 18" woofer used in the sub (Xs) is also all new.

POWER

A very important feature is that two amplifiers drive four boxes. This is efficiency at work. With 2 identical amplifiers you have four channels of amplification, all with the same output power. Channel one drives 2 x 18" woofers in one sub, channel 2 drives 4 x 12" woofers in 2 x mid/h boxes, channel 3 drives the 4 x high frequency drivers in the same 2 x mid/h boxes, and channel 4 drives the remaining 2 x 18" woofers.

How much power, as in which amp you choose, is pretty much dependant on your usage patterns. If you were inclined to use smaller systems then you would buy bigger amps to get a headroom advantage. If you were DB concert sound in Chicago, you'd compare lots of amps and buy the ones that suited huge systems. They choose EV P3000 amps, which were also the amps used for the demo.

System control is also interesting, EV specify that a Klark Teknik DN 8000 loudspeaker controller be used in each amp rack, and a typical amp rack would have four amplifiers driving eight boxes. This allows individual zone control over those eight boxes, by way of EQ, crossover settings, component gain and whatever else is desired.

The DN 8000 is remote controllable as well, so in theory your PA could be highly controllable from out front. This is not silly, the

~ FIRST LOOK ~

ability to tweak parts of a large array means getting more, or less noise and indeed problem frequencies like high ones, to difficult seats in an audience.

CONCLUSION

EVI bit off a big mouthful by putting the main rump of the pro PA industry into one room and running their new X-Array system flat out. Personally I'd have liked to hear some standard CD tracks as well as listen to the extremely competent singer, Claire Massey.

As always I roamed and obtained opinions from the many, and what comes out is this. First, the obvious comments are that the package looks right, rigs right and so is right. The boxes were nicely damped, didn't leak and went real loud.

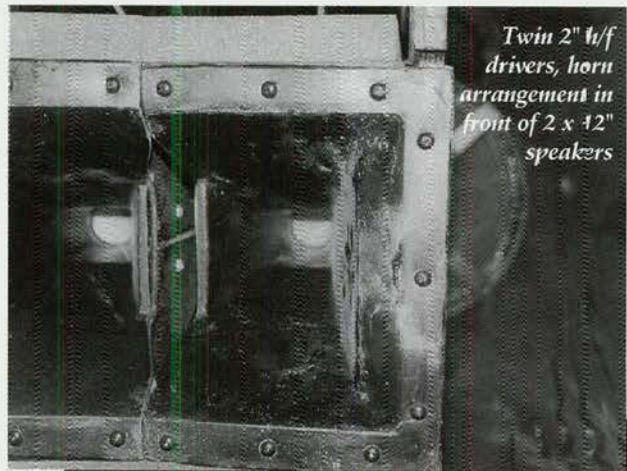
After that you enter the subjective world of audio in-your-ear, and my selection panel were surprisingly diverse in opinion. Normally they would agree, in a general sense, that some or many aspects of the sound of a system sucked. I heard so much of this at the PA shootout at ENTECH that I expected plenty.

With the X-Series they all were scratching to find anything to consistently bag out on the strength of a first listen without any comparisons. Which augers extremely well for EVI.

Distributors:

Australia & NZ- EVI Audio (Australia) +61 2 9648-3455
 Hong Kong- EVI Audio (Hong Kong) +852 2 351-3628
 USA- EVI Audio (USA) +1 616 695-6831

Reader feedback appreciated on this review and all parts of the magazine



Twin 2" w/f drivers, horn arrangement in front of 2 x 12" speakers



Mike O'Neill, R&D director, acoustics, EVI

PHONIC

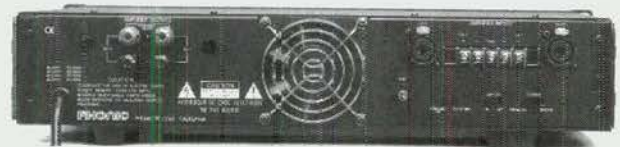


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Aphex 107 'Tubessence' ~ Preamp



By Dan Cole

Aphex 107 Dual Channel Tube Microphone Preamplifier

Michael Letho took some time-out to discuss the Aphex 107. Some of his recent recording and engineering projects include music recording and mixing for the film *Saire*; a new album for Ferece Geyer (co-produced by Joe Camilleri and Paul Kelly) and Joe Camilleri's upcoming *Red Rivers* project—he's in demand and he knows his stuff.

The Aphex 107 is a Dual Channel (Thermionic) Tube Microphone Preamplifier. A hybrid unit, the front-end is solid state and combines a proprietary valve circuit called Tubessence (patent pending) that does not require high voltages so is low in heat. The unit is designed as a primary pre-amplifier for recording, video and film production to improve microphone performance. Main features:

- Two discrete pre-amp channels each with own controls;
- 3-pin XLR inputs on the front panel;
- Single-ended, impedance-balanced jack outputs rear;
- 48V Phantom Power on pins 2 and 3 with internal transient-suppression.
- Low-cut filter: 80Hz, 12dB/octave;
- Polarity Inversion;
- Individual channel remote mute capability.

Applications

'I find it a functional pre-amp which you can use on many things from brass to drums and it survives,' he says.

But why has he chosen this unit over the many other mic pre's on the market? 'They all have diff sounds,' he continues, 'Recent hybrid units have less of a personality except when you over-drive them and I suggest that's where you hear the difference between devices; at high level!'

'The Aphex goes into an automatic soft-clipping mode—that's the nature of the circuit—so you might get away with it. With a fully transistorised unit the signal will go 'splat'.

'I've noticed that the Tubessence can soften jagged harmonics or transient dynamics in guitar whereas the others [pre's] don't. This is a positive feature; you're getting some of the valve 'edge trimming' benefits without the harsh transistor tendencies.

Noise and Power

According to Mr Letho there is little interference and the power supply and frame are not prone to RF or outside interferences. Nor is the unit solely a studio dedicated device. Because it has an external 24v supply, with a little wire-work that it's possible to use it on location recording.

The supply is 1.5 amps and requires between 700mA-1.5 amps, 24v supply. If you can supply a regulated 24-volts the Aphex

wouldn't care what it's looking at, whether battery or mains'.

User Options

Some features which Michael Letho thinks are handy include the Remote Phase and Phantom Power Options - but he also keen on the serviceability of the unit as full schematics, circuit diagrams and parts lists come supplied.

'It's easy to work on and because of the diagrams you can almost take it to your local TV repair guy if you can't get to an Aphex person, because he's got a parts list and test equipment, oscilloscope etc.

Some Points to Consider

Ins and Outs: The 107's outputs are 1/4" sockets located on the rear panel and are known as "quasi-balanced", which is enables the unit to cope with differences in wiring standards.

'Using jacks for balanced is fine, and a lot of companies do it—but it confuses a lot of end-users so they may not be getting the full benefit from the circuit because they're shorting one side to ground'.

Power Supply: The 107's external power supply shielding could be an issue. 'Aphex give you a four-foot lead which makes me think that the power supply should be at least four feet away from any other audio devices. It's thin, two-core cable so you have to be careful, especially if you regularly set the unit up and down: this part of the unit is not heavy duty.'

Conclusion

The 107 is a small pre-amplifier designed for the professional market and also fits into the semi-pro budget. Mr Letho concludes,

'As a general workhorse the 107 is fantastic. I find it a practical and hard working unit which unpretentiously provides a lot of gain. I'd have no hesitation in recommending it for pretty much most applications. I've also used the Tubessence EQ and Expressor—it's all good gear, not expensive and reliable.'

The trick is as with anything is to extensively audition and compare, as Mr Letho suggests in conclusion,

'The 107 is handy for home recording because it is not expensive. Instead of renting two channels of Neve, hire out the Tubessence. If you can A/B the signal using a standard input - say a SM58. You might prefer the sound of a Focusrite when it's clipping its face off, but ultimately you have to listen and compare, that's where you start and that's where you end.'

Price at August 1997: A\$833 inc. tax.

Distributor Contacts:

- | | |
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| • Australia | East Coast Audio, +61-3 9821 4747 or
www.eastcoastsw.com.au for full specs. |
| • NZ | Maser Technology Group +64-4 385 94895. |
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Wide gain front ends match all sources, full 100 mm faders give you total control over the mix, led's indicate pfl selection and warn against

clipping, and balanced XLR outputs for L-R feed long lines with ease.

The WZ16:2 incorporates the unique Allen & Heath QCC (quick change connector) system allowing the input connector block to be swung up for desktop or flightcase use, or down for rack mount operation.

Its MSP (minimum signal path) architecture has been designed by Allen & Heath engineers to assure sonic transparency from this new, professional mixer.

CHECKLIST

		Yes
lots of individual inputs - 20 incl stereos	<input checked="" type="checkbox"/>	
match any source on any mono channel	<input checked="" type="checkbox"/>	
for loss of fx and outputs pre or post fade	<input checked="" type="checkbox"/>	
easy checks, very versatile monitors	<input checked="" type="checkbox"/>	
full length for smooth precision control	<input checked="" type="checkbox"/>	
for sonic transparency (distortion less than 0.009%, better than 105dB dynamic range and an ein of 129dBu)	<input checked="" type="checkbox"/>	
no need for remote supplies	<input checked="" type="checkbox"/>	
for desk, flightcase or rack mount	<input checked="" type="checkbox"/>	
for external signal processing	<input checked="" type="checkbox"/>	
no fussy external pack	<input checked="" type="checkbox"/>	
no fiddly concentrics	<input checked="" type="checkbox"/>	
for clear, precise levels control	<input checked="" type="checkbox"/>	
Individual controls	<input checked="" type="checkbox"/>	
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Write in Reader Service Number: 186

~EXPANDED RETAIL~

Entertainment Installations, Central Coast, NSW, are expanding and will occupy the shop/office space directly above their current residence, effectively doubling their space. The new area will become a complete lighting and audio showroom/demo area with all equipment fully set-up and operational. A separate accounts department and meeting area will also be included. T +61 43 24873.

Events in Wollongong have opened their new dedicated showroom called The Showbiz Shop. Still at the same address at 47 Auburn St, W'Gong, they bulldozed a house on the front of the block and built a 120 s/mtr showroom and service centre which now has a comprehensive audio and lighting display. T +61 42 296 010.

~THEATRE NEWS~

The **Empire Theatre** has opened in Toowoomba, Queensland. A heritage listed building, it

has been renovated and restored incorporating original building sections and added modern facilities, including a full size stage and back stage facilities. It is now claimed as the largest venue in regional Australia at 1571 seats. The technical manager is Kerry Saul, ex-Mackay Entertainment Centre.

Moves in technical theatre:

Casual Sound Technician **Graeme Hague** is now full-time at the Bunbury Entertainment Centre, WA; Lighting Technician **Shane Lomman** is now Technical Manager at Mandurah Theatre WA; **Matt Jones**, ex Gold Coast is now Lighting Technician at the Mackay Entertainment Centre; **Ralph Atkinson**, casual Sound and Touring Technician with **Graeme Connors** is now full-time at the Empire Theatre, Toowoomba, and **Darryl Keys** has taken up his position as Technical Manager at Mackay Entertainment Centre.

For more information contact NARPACA (079) 574 570.

Music Show- house full

Australian International Music Show hits Sydney in September

SYDNEY SEPT 19-22: The music products industry's bi-ennial trade show AIMS '97 is full, with 80 exhibitors set to show everything musical. Music technology features heavily- with virtually every brand of music computer software on display, and home recording product suppliers prominent, according to the organisers.

AIMS is the primary vehicle for the Australian Music Association, which represents a good cross section of music product distributors, manufacturers, and some retailers. It's the place to see virtually every kind of instrumentation, and thousands of guitars.

Because the show is a sellout, an additional exhibition area in the link building has been planned. This is the building between the show hall (Hall 5) and the Convention Centre - where AIMS will feature live musical acts.

AIMS organiser Rob Walker ex-

pects to attract over 10,000 enthusiasts over the weekend, alongside strong trade attendance. Typical trade attendance exceeds 2,500, made up of most of the 700 music retailers around Australia, with many professional audio dealers finding product of interest at AIMS also.

Product demonstrations include sessions on hard disk recording, and masterclasses will be conducted by musical greats like James Morrison.

Keeping a broad flavour, AIMS has a Music Education Expo, clinics, and celebrity presenters drawing in the crowds. AIMS is timed to coincide with other events like the AMRA convention, ARIA awards, and the Pacific Circle Music Convention.

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Write in Reader Service Number: 141

NEW

Martin pour out new Audio

Martin Audio (UK) have introduced the WMO.5, (below) a miniature high-performance low-profile stage monitor designed for live sound reinforcement applications where stage space is restricted and broadcast applications where unobtrusive floor monitors are required.

As a stage monitor the WMO.5 can be angled at either 40° (normal) or 25° (close up), and tri-pod mounted to provide high level personal 'soft' monitoring.

The WMO.5 is a passive 2-way system featuring an 8" mid/bass driver and a 1" ferrofluid cooled compression driver on a 50° x 70° horn. • A\$1145 inc. tax.

◆ Designed to provide high definition full



range audio the **Martin ICT10** consists of a single 5" Inductively Coupled Transducer mounted in a neat polypropylene enclosure measuring 163 x 232 x 143 (W/H/D). The ICT10 is designed for monitoring interactive audio for video to music and voice in high quality systems. With the same ICT technology as the EM15, the ICT10 is a powerful enclosure achieving peak SPL's of 112dB and making it a partner for larger Martin sound reinforcement systems as fill or delay. The Inductively Coupled Transducer dome is the key to the ICT10's 50Hz-20kHz frequency response. • A\$225 inc. tax. • **Australia: A.R. Audio Engineering, T 02 9810 5300.**



AMS NEVE News

AMS NEVE has recommenced production of the **1081 module**, the well regarded and sought after microphone/line amplifier/equaliser. The new 1081s are being manufactured to original specifications including the use of input and output transformers as used in the original design. AMS Neve spent six months sourcing the same components as the original units.

AMS NEVE have also announced new software for both their 16-bit and 24-bit **AudioFile systems**. New on Version 2.0: editing features including Event parameters can be adjusted 'on the fly'; Multiple SCSI devices can now be attached to a single interface card. • **Synchrotech Systems Design, T+61 2 9417 5088.**

Brands already signed for ENTECH 1998 next April 22 - 24 at the Sydney Exhibition Centre

2CR UV Accessories	E16	Calrec Audio	K37	GAM colour	A 3	Limelight	E23	Pro-Co	F23	Symetrix	N32
Abbey Sound	S35	Canare	N28	Garn Command & Tools	M21	Lite Putter	V18	Programmi Sistemi	S21	TC Electronic	N28
Abstract Lighting	P4	CCT Lighting	F6	Gecko Lamps	V 8	Little	E16	ProLite	F4	Teatro	E13
Acoustic Technologies	V32	Chiayo	N32	Gemini Lytequest	K 8	Lorantz	V18	Pulsar	B4	Telex	N32
ADJ	B4	Citronic	T9	Genelec	K35	Lowel	A13	QSC Audio	K28	Tenlux	V18
Advanced Lighting Equipment	K4	Clay Paky	B4	Geni	34	Lycian	E28	Quam Choice	K32	Theatre & Architect. Lamps	M9
AKG	K23	Clearcom	E28	Glantre Engineering	H25	Mach Systems	K21	Quantum Effects Lights	W13	Theatrelight	E16
Allen & Heath	K28	Clipper	A13	Griven	39	Mackie Designs	S32	QANE	E28	TOA	K23
Altman Stage Lighting	K4	Cloud Electronics	E13	Fafer	S32	Mad Lighting	T9	RCF	H19	Tomcat USA	H18
American DJ	S18	Colortran	P18	High End Systems	T4	Marantz Professional	K28	SDL	K32	Travel Services	F20
Ampower Amplifiers	P16	Cosmolight	E16	Ianira	P 8	Mark of the Unicorn	P21	EDBEK FA Systems	V34	Treotham Flexible Cables	Q19
AMS/NEVE	K37	Crest Consoles	K32	Infonics	K32	Martin Audio	K28	Rolls Corporation	F23	Triscan Lasers	S21
Anytronic	T9	Crest	E28 & K32	Insurance Services	P 9	Martin Professional	B4	Rosco	F6	USA Lighting Control	P9
AquaFog	E16	D.A.S.	N37	Inter-M	N37	MDG Foggers	E23	Syge	K18	Vestax	P21
Ari location Lighting	S13	dbx	E28	Jands Lighting Equipment	E28	Meteor	V18	Sabire	N32	Westcott	A13
ARX Pro Audio	N34	Denon	K23	J3 Lighting	34	MIDIMAN	P18	Seleco	H4	White Instruments	F23
Ashly Audio	K32	Doremi Labs	K37	J3L	E28	Miles	F23	Showcat	M21	White Light Equipment	K4
Astatic	F23	Dynamite	K18	JEM	34	MSB	H23	Shure	E28	Wildfire	T9
ATC	K28	Dynaudio Acoustics	N28	KATA	A 3	Neumann	N28	SLS	W13	Wybron	E23
Atlas/Soundolier	F23	EAW	K32	KDM	F23	Neutrik	N28	Smoke Effect. Co.	K18	XTA Electronics	K32
Audio Kinetics	K37	Ecen	V18	Ken-Rad Lamps (Vantage)	Q 8	Nightlife Music Videos/CDs	V15	Sonic Solutions	K37	Yamaha	Y32
Audio Technica	Y32	Electrohome	N28	Kinetic	N28	NJD Lighting	S21	Soundcraft	E28	Zero 88	P18
Auditel	N32	Elekralite	B4	Klipsch Professional	F23	Nurmak	P9	Soundfield	K37	<i>This list was accurate as of July 27th and is growing daily. The stand number for each brand is shown. For an up-to-date list and a floor plan, call us anytime.</i>	
Audix	K32	Elsta Audio & Lighting	V18	Kobold	P18	Omniarx	S32	Soundtrees	K37		
Avenger/Manfratto	A13	ESP	V18	Konig & Meyer	N34	OMP	V18	Spectral	S32		
AWA Jeil	K23	ETC	E28	KRK	K37	Optikinetics	E13	Spirit	E28		
Balcar	A13	Euphonix	K35	Kupo	34	Oracle Lasers	Y10	Stanton	K18		
Behringer	Y34	Eurocable	N34	Laser Showsystems	V 8	Osram	P13	Strand Lighting	E23		
Best Services	P21	Euromodule	F23	Le Maitre Pyrotechnics	E16 & 34	Otari	N28	Studiomaster UK	P21		
Beyerdynamic	K37	Event Electronics	Y34	Le Maitre Smoke Machines	34	Oxmoor	N32	Switchcraft	N32		
Biamp Systems	K32	F.A.L.	V18	Lee Filters	P18	P. Audio Systems	S15				
Botex	V18	Fender	Q37	Lee'n	P21	Peavey AA	N32				
Bytecraft	E23	Focusrite	K28	Lax con	K35	Penn Hardware	H23				
Cabel Labels	L37	Freight Services	F20	Light Emotion	V 8	Penn Lighting	H23				
CAD	S32	Furman Sound	F23	Lightpoint	E16	PreSonus	S32				

EnTech

THE industry trade show, organised by Caroline Grafton. Call +61 2 9876-3530, Fax +61 2 9876-5715

Is this your microphone?



CK 77-3 Miniature lapel microphone
Winner of 1995 Austrian Chamber of Commerce Merkur Award

Maybe it's this...



C 391B Studio microphone from modular Blue Line series

C 3000 Studio microphone.
Winner, 1996 ENTECH Award for
Technical Brilliance



or this?

Well, how about...

C 568B
Shotgun microphone



WMS 300 Wireless
microphone system



...either of these?

D 230 Omni interview
microphone



...or any one of over 100 other microphones in our range.

There's an AKG microphone to suit every recording, broadcast or live performance application.

In fact, the only difficult thing about using AKG equipment is deciding which of our many microphones best suits your need.

As our award-winning range includes everything from miniature lapel microphones like the CK 77-3 (shown above) to the C12VR vintage valve microphone, the choices might seem endless.

To help you make your selection, AKG stockists will be happy to supply you with both friendly advice and full range brochures (complete with specifications and handy recording hints).

For the location of your nearest AKG stockist, call 1-800 252 391.



Write in Reader Service Number: 137

NEW

RFX Wireless Arrives in Australia



In the 1980s, AudioTelex introduced the Chiayo and Eleco range of diversity wireless systems which have been widely accepted by the regional pre-audio market.

Now AudioTelex have introduced a new range the RFX Wireless Microphones for the 1990s which they say will place them once again at the head of a quality wireless microphone field.

The new RFX Wireless Microphone systems are available in VHF & UHF and feature 16-channels with field selection of 16-compatible channels.

AudioTelex's surveys of contractors revealed that the most common problem encountered with wireless systems was channel interference in an area, for no particular reason. This could result in the customer having to return the unit and change to another frequency.

The RFX systems are designed to eliminate this problem as the user simply selects another channel on the receiver and transmitter. The RFX systems also feature a wide band deviation of 56kHz

which, in its price sector, is usually 15kHz. According to AudioTelex this increased range dramatically improves dynamic range and signal to noise. Another unique technical feature is the introduction of helical filters in the front-end which also increases channel selectivity. RFX Systems are German designed to meet European Emission regulations and feature all the bells and whistles users have come to expect from current wireless microphone technology including PLL synthesis, Pilotone Control, long transmitter battery life, metal cased Belt Packs and above all - a low cost for both UHF and VHF systems. A variety of inserts will soon be available for the hand-held RFX versions.

• UHF System c/w Hand-Held-A\$1413, UHF System c/w Belt Pack & Lapel-A\$1340, UHF System c/w Guitar, A\$1324. VHF System c/w Hand-Held-A\$1006, VHF System c/w Belt Pack & Lapel-A\$945, VHF System c/w Guitar, \$929.

• **Contact: AudioTelex, +61 2 9647 1411.**

DARla: 20-Bit Multitrack Audio Recording Card

Event Electronics will soon be shipping the DARla Digital Audio Recorder, a low cost, high quality multichannel digital audio card for PC and Macintosh computers. DARla is designed for people who have avoided computer-based multitracking because they considered it too expensive, too confusing, or both.

DARla's dual analog inputs and eight analog outputs are all software configurable via the

OmniBus™ audio assignment architecture, which provides the ability to create monitor mixes, effects sends, and direct channel outs as desired. Audio tracks can also be mixed, and DARla will play back as many tracks as the software allows. DARla will work on any PC that has a PCI bus, from a 486DX4 on up.

• Under A\$900.

• **Contact: MusicLink Australia, T +61 3 9429 9299.**

MORE SPIRIT MONITORS



Designed by Trevor Strude who was responsible for the Absolute 2 and Absolute Zero monitors is now a new addition to the Spirit fold: The Absolute 4Ps. Two 100W amplifiers in each enclosure make it one of the most powerful active monitors in its price class according to the people from Spirit.

The Absolute 4Ps utilise bass-cones which are both lighter and more rigid than standard designs and are an estimated at least 2dB more efficient. The newly designed tweeters and intelligent driver system give maximum undistorted output while maintaining flat on- and off-axis frequency response.

A True Phase linear design electronically aligns the drivers and prevents phase lag ensuring that all frequencies are heard at the same time, crucial for accurate

monitoring. Any signal approaching danger level is progressively limited by precision electronic attenuation without affecting transients and the 4Ps operating status is continually monitored by a zero colouration active circuit. A protect LED on the front panel also alerts the user of the limiter's operation giving visual indication to turn the signal down (or else).

Other features include integral 100W (LF) and 100W (HF) low distortion power amplifiers with full protection/limiting for both drivers and amplifiers, a constant voltage-active crossover and stepped input level control for accurate set-up.

• A\$2495 inc. tax.

• **Contact: Jands Electronics, T +61 2 9582 0909.**

5 Pattern Condenser



Microtech Gefell have released a new 5 pattern microphone. The long awaited UMT800 is a large format condenser microphone which uses the classic M7 pressure gradient transducer.

The M7, made of two large diaphragms sputtered with gold, has been used in numerous Microtech Gefell microphones over the years. This includes some of Neumann's most famous models. It is highly regarded by sound engineers for its sheer 'opulence of sound', according to distributors Southbank Trading.

The UMT800 is the company's first model with five switchable polar patterns and is available with either matte black or satin nickel finish.

• List: A\$ 2594 inc tax

• **Contact: Southbank Trading, T +61 3 9699 7809.**

Small Mics for Big Jobs



ries and self-noise is 23dB (A), and, as the microphone has 1% THD at 120dB RMS, the user ends up with 97dB dynamic range. There is also 13dB headroom available before clipping.

The DPA4061 has 10dB lower sensitivity and the DPA4062 can handle up to 154dB SPL before clipping. Both the DPA4060 and DPA4061 are primarily designed for use with wireless systems in theatres or TV program production and will fit most VHF and UHF systems.

Two different protection grids are supplied with the Miniature Microphone range: if mounted on the head the short plastic protection grid can provide a 3dB soft boost at 8-20Hz.

If placed on the chest a 10dB boost at 12kHz is required for the microphone to sound neutral.

This equalisation is noiseless. A variety of connection adaptors are available depending on system applications making it possible to match any Danish Pro Audio Miniature Microphone to virtually any wireless system, including 48V phantom Power.

• Priced around A\$590 each inc. tax.
• **Contact: Studio Supplies, T +61 2 9957 5389.**

From Danish Pro Audio comes three Miniature Microphones designed for close-miking in film, theatre and broadcast applications.

The DPA4060, DPA4061 and DPA4062 all use a newly designed 5.4mm. pre-polarized condenser cartridge element with vertical diaphragm.

This microphone element has been specially designed to handle humidity, sweat, wind and pop-noise whilst still supplying optimum audio performance. The range are acoustically identical but differ in their sensitivity and self noise.

The DPA4060 has the highest sensitivity (20mV/Pa) in the se-

New MACH subwoofers

Mach have released the new M182 II & M182R II subwoofer making the Mach subs one of the most powerful and sensitive double 18" subs on the market, they say.

Long term power handling is 1500 watts, 3000 watts continuous and 6000 watts peak, with a

1w/1m sensitivity of 104dB.

The M182 II is an MDF constructed cabinet designed for installation; the M182R comes from the Road Series & has wheels

• M182 II A\$3399; M182R A\$3899 inc. tax. • **Contact: Audiology, T +61 2 9584 0033.**

Audio Guarantee for PA

Sound Advance Speakers and IMP Amplifiers have been specified for the new Melbourne George's store. The installation will set new audio and aesthetic trends for retail Audio Systems according to H & C Audio. The design criteria nominated a sound coverage of +/-1dB depending on your location within the complex.

H & C Audio say that they have guaranteed that the entire store will get sound coverage as per the factory performance guarantee supplied by Sound Advance Systems. Any additional costs required to correct any audio defi-

ciencies are covered as part of the guarantee design service supplied by Sound Advance.

Additional Projects to utilise Sound Advance and IMP Technology are some Macdonald's Restaurants and the Melbourne Aquatic Centre. Other such projects are on the design board and a large national marketing campaign is in the wind.

Additional dealers for Sound Advance and IMP are sought for Queensland, ACT and NSW.

• **Contact H & C Audio, T +61 3 9876 2333 or F +61 3 9876 2033. O/S enq welcome.**

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VIC.		S.A.	
Revolver Music Gallery	03 9529 7241	Future Music	08 8373 0644
		Derringers	08 8371 1884
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Harbour Music	02 9438 4300	(Mermaid Beach)	
Guitar Factory Para.	02 9635 5552	Musicians Pro Shop	079 527 6466
Sound Devices	02 9283 2077	(Rockhampton)	
Bondi Intermusic	02 9130 3970	MIDIlink	07 3368 3366

Call your nearest dealer today for your FREE 16 page brochure of TL Audio's complete range

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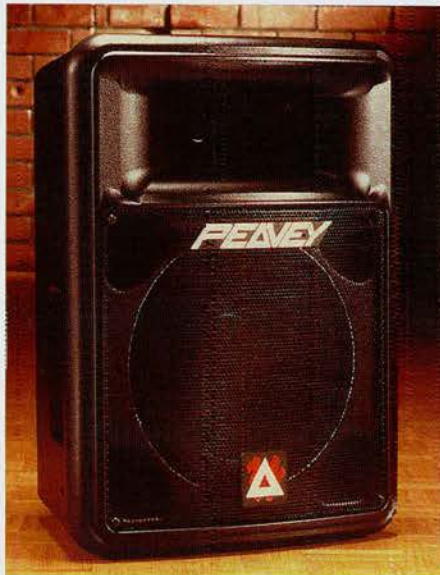
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NEW

Peavey AA debut Impulse

Peavey AA (the contracting division of Peavey which is distinctly different to the standard Peavey, and handled by a different importer in Australia) have released an affordable high-performance molded speaker sys-

tem called Impulse 200. The weather resistant 300 watt enclosure features a 12" Black Widow treated woofer and a 22XT 1" compression driver molded to a 90° x 45° horn.



The Impulse 200 includes dual jack and Speakon input connectors and also provides multiple mounting points for straightforward installation.

Designed for installation in pubs, clubs, churches, schools, stadiums, sporting venues and halls, the Impulse 200 has a lightweight yet durable enclosure suitable for hire companies. • A\$922 inc. tax. • Australia: Audio Telex Communications, T +61 2 9647 1411.

SPIRIT LX7



Soundcraft's Spirit LX7 is the 'new generation' live console. Designed by Soundcraft's co-founder Graham Blyth, the Spirit LX7 has up to 32 inputs with 7 separate bus outputs including mix, 4-groups and a dedicated mono bus. This provides up to 29-outputs which Soundcraft say is more than other mixers in its class. The 24 balanced mic inputs all employ Spirit's patented Ultramic preamps and provide 60dB of gain-range and 22dB of headroom. Another of the console's main features is the 4-band EQ which comprises two swept mid frequencies and 15dB of boost or cut and a 18dB/oct HPF. Other features worth noting: The LX7 has channel inserts throughout, 6-multipurpose

auxiliaries, 4-switchable pre/post fade multipurpose direct outs on the first 16-channels (for live or studio applications), six 12-segment LED meters on group and mix out's, full engineer talkback/monitoring capability and internal power supply.

The LX7 is designed for either live or studio applications and is built to last: housed in a rugged steel chassis and using Soundcraft's Surface Mount Technology. • A\$4995 inc. tax.

• Australia: Jands Electronics, T +61 2 9582 0909.

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If you're looking for affordable Public Address equipment, look no further than the REDBACK range. The REDBACK amplifiers and column speakers are designed and built in Australia for Australian conditions, and are backed up with a 2 year warranty.

The mixer and booster amplifiers, from the modest 30W model to the big 250W model, all feature overload and thermal protection, voice coil and 100V line outputs, and from the 40W model and up, they're rack-mountable.

The REDBACK line-up also includes an 8 channel mixer, a CD compander unit, a 100V line zone selector panel, DC powered 100V amp modules, fire evacuation control panel, fully portable PA systems and a comprehensive range of speakers.

REDBACK PA equipment is continually being specified and installed into major projects across Australia. You'll find REDBACK components in Melbourne's Crown Casino, Bunnings Superstores, BBC Hardware Stores, Coles and K-Mart Stores, Hungry Jacks outlets, to name just a few. Further afield REDBACK is making its mark in Malaysia, Hong Kong, New Zealand, Singapore, Fiji, and the list is growing!

For additional information or a complete catalogue, contact:

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NEW

Commercial PreAmp from Rane

Rane's CP64 Commercial Processor has been designed for use in applications such as restaurants, bars, health clubs and offices. Termed a versatile pre-amplifier, the CP64 is a 19" rack-mount unit offering a total of 24 features and options.

The CP64 is capable of serving two independent zones, providing 4-stereo line level inputs and two paging inputs that are mic/line selectable. Each of the zone

outputs (1 stereo/1 mono) have mono expand capability and individual equalisation.

The unit supports four levels of audio configuration: priority page, non-priority page, priority program and non-priority program and the units controls are straightforward and intuitive.

The two gated paging inputs are capable of receiving mic or line level input and each features independently mic/line pad, gain trim,

detector threshold, zone assign and zone level controls with internally selectable phantom power.

The CP64 also features wired remote control interface pots for paging assignment, zone level and zone program source selection. Paging zone and source/volume remote controls are available as accessories. Security is a high priority for the CP64 and an optional security cover is available for the

front panel. As well, front panel ducker depth controls are screw-driver-adjustable while all other front panel knobs can be removed and replaced with hole plugs.

The remote controls allow blank switch covers to act as remote control security covers and the remote knobs can also be replaced with hole plugs.

• A\$2395 inc. tax.

• **Contact: Jands Electronics, +612 99582 0909.**



VESTAX- NEW DUAL CD

New this Winter from Vestax is the CDX-12 top loading dual CD player with built in DJ mixer.

Vestax have a high profile in the DJ sector, and Vestax gear was recently used in the International Turntablist Federation DJ Challenge with the Australasian ITF State finals held in Sydney on the 2nd of August.

The Vestax CDX-12 was developed with DJs in mind and some of its features include: joy-stick,

pitch control, pitch slider, cross-fader built into the stereo mixer and a double suspension system that keeps the pick-up from skipping. Other feature include a 2-band EQ, Green-light Go, Red-light pause functions and a large LED display.

Quick CD changes can be achieved with the wide-open, CD top load. • *Just over \$2000 inc. tax.*
• **Contact: Moore Music, T +61 3 9419 0344.**



Embedding and Extracting Made Easy

While many A/V installations demand the flexibility of separate video and audio routing and distribution, there will always be applications where embedding audio within digital video signal is preferred.

Pro-Bel's new 6672 and 6673 modules provide a means of interfacing with these signals. The embedded audio environment is complex with two conflicting implementation standards. Sony use a proprietary format while the SMPTE has produced a similar but subtly different standard.

Pro-Bel's modules permit easy integration with both systems by allowing the user to select the type of operation required. In addition the receiver is capable of dealing with input switching between signals in a number of ways, depending on the application. Pro-Bel's 6672 Embedder can accept up to two AES/EBU dual channel signals and insert these into two of the four available groups within the serial digital video data-stream. Similarly the 6673 Extractor can

select which group of embedded channels to decode. The modules are fully compatible with Pro-Bel's low-cost general-purpose 6063 rack-frame, which allows up to 12 cards, from a range of over 40, to be freely mixed providing a solution to the most demanding distribution applications.

• **Contact: Amber Technology, T +61 2 9975 1211.**

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Feb Studio Monitors; Truss, Flying systems, rigging. **March** Wireless Microphones, Video Projectors, Moving Lights. **April** Signal Processors (EQ's, Crossovers, Limiters); Film & TV Studio lighting. **May** Effectors, Reverbs, delays; Effects Lighting. **June** Live Mixing Consoles; Profile, PC Spots. **July** DJ mixers & samplers; Lighting control. **August** Studio Mixing Consoles; Lighting dimmers. **Sept** Microphones; Fresnel spots, Floodlights. **October** Amplifiers; Followspots. **Nov** Loudspeakers; Fog Machines. **Dec/Jan** Recorders & software; Scrollers, colour changers

NEW



a touch of excellence

from D.A.S Audio: the DYNAMIC DS-15 SERIES



Designed with the aid of the most advanced computer moulding programs, the DS-15 is the latest achievement from DAS. This unit features a 15" low frequency transducer with a 3" high efficiency compression driver and CD horn assembly.

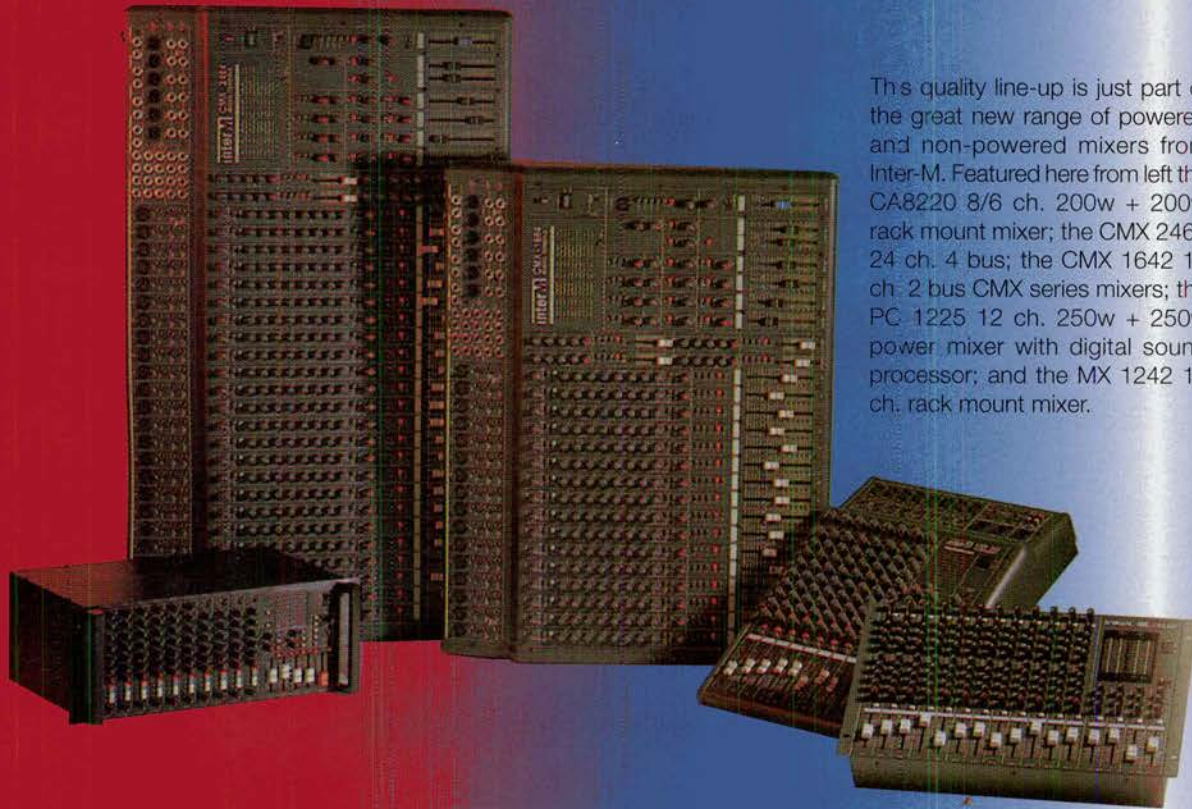
The DS-15 incorporates a new wider angle diffraction horn; the crossover introduces a driver protection circuitry which will be used in all future DAS sound systems where a 1" compression driver reproduces mid-high range frequencies.

The DS-15 is rated at 300 watts RMS into 8 ohms, and the sensitivity is 100dB (1W/1M). These beautifully designed high pressure injection moulded loudspeakers achieve superior acoustic properties, available in either white or black. The DS-15 series from DAS really are a touch of excellence.

MAGNA
SYSTEMS AND ENGINEERING

Magna Systems & Engineering
A trading division of Silklore P/L. ACN 004 004 997
Unit 2/28 Smith St., Chatswood, NSW 2067
Phone: (02) 9417 1111 Fax: (02) 9417 2394

Write in Reader Service Number: 144



This quality line-up is just part of the great new range of powered and non-powered mixers from Inter-M. Featured here from left the CA8220 8/6 ch. 200w + 200w rack mount mixer; the CMX 2464 24-ch. 4 bus; the CMX 1642 16 ch. 2 bus CMX series mixers; the PC 1225 12 ch. 250w + 250w power mixer with digital sound processor; and the MX 1242 12 ch. rack mount mixer.

Quality-Mix

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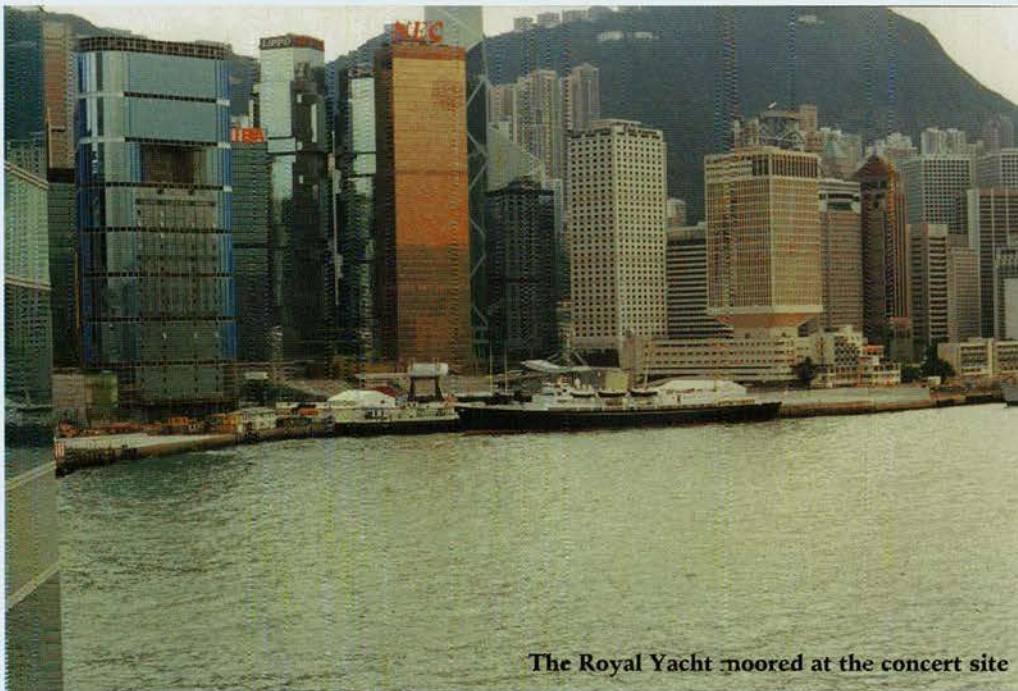
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Write in Reader Service Number: 143

SOUND FOR THE HANDOVER

By Nick Reich

HONG KONG: At midnight on June 30th 1997, the sun finally set on one of the last outposts of the British Empire, when control of Hong Kong and its territories reverted to Chinese rule after more than 150 years. Apart from the Historic significance of this event, the People of Hong Kong



The Royal Yacht moored at the concert site

witnessed a week full of more entertainment and celebratory events than they are likely to see in a long time. The British, Hong Kong, and Chinese Governments, along with a large variety of wealthy Business groups, all tried to out-do each other with the scale of their Handover events, many of which had been in planning for some years.

The two official Government-sponsored events for the Handover both took place on the evening of June 30th. The first, at 6pm, was the Sunset Farewell Concert, an outdoor production of massive scope where the people of Hong Kong officially farewelled the last British Governor, Chris Patten.

This was followed, after a State Dinner, with the Handover Ceremony itself, indoors in the new extension to the Convention Centre. This was where control of

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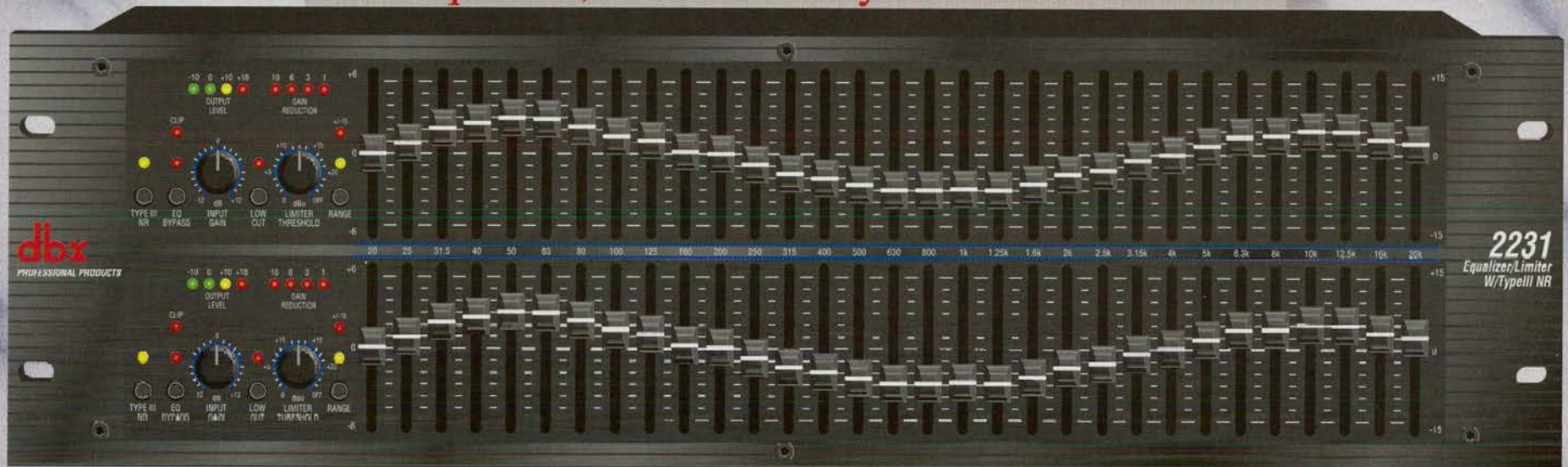
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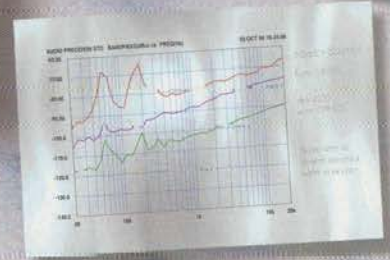
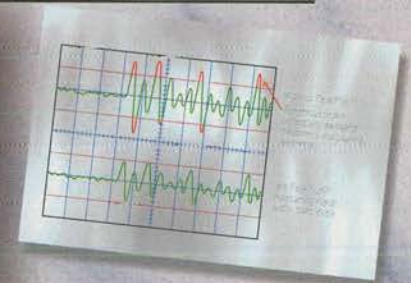
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Handover *(continued)*

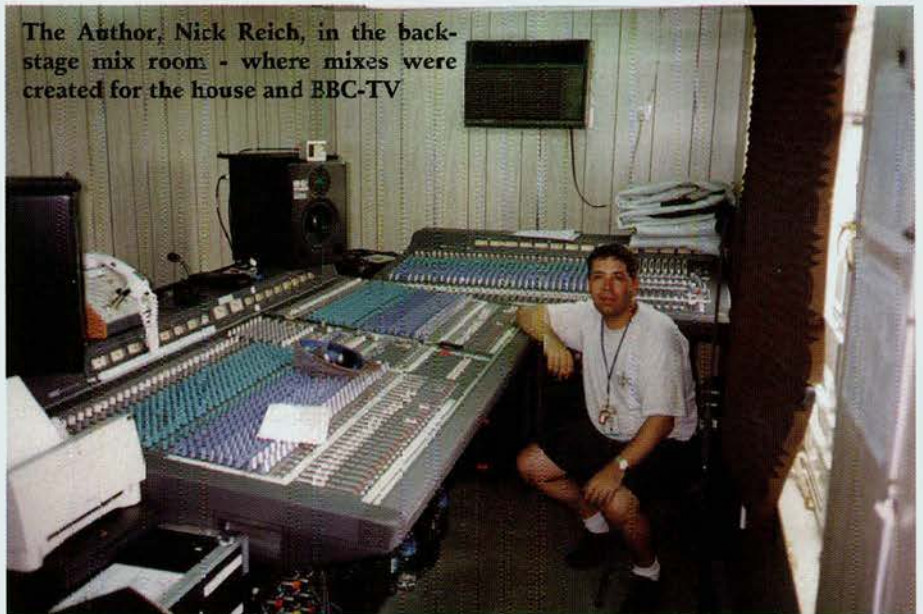
Hong Kong officially changed hands, witnessed by 4000 Heads of State, Foreign Ministers, and local business leaders.

These two events were produced for the Handover Ceremony Coordination Office by Caribiner Asia Ltd, the local arm of the huge multinational business communications company, Caribiner. In the light of a long record in the region, Caribiner Asia executive producer, Maureen Earls, chose John Scandrett of System Sound (Australia) to provide the Sound Reinforcement, along with much of the Television Sound requirements, for both these events. A team of seven, along with nearly 12 tonnes of equipment, were duly dispatched to Hong Kong, 12 days before the event.

THE FAREWELL CONCERT

18 months ago, the venue for this event had been the British Naval docking basin. Full of water. Thanks to the strongest Monsoonal rains in 50 years, the land reclaimed specifically for this event could still have been used for its original purpose. An 85m square Parade ground was surrounded on three sides by temporary Stands seating 10,000. The fourth side was filled with an enormous stage, 90m wide, with the Harbour, and the Royal Yacht Britannia, as a backdrop. The stage featured a full

The Author, Nick Reich, in the back-stage mix room - where mixes were created for the house and BBC-TV



size Orchestra stage on either end, with a decorative curved roof structure over each. These cantilevered structures were built in the UK by Edwin Shirley Staging (ESS), and supported the main Lighting rigs

One stage held the HK Philharmonic Orchestra, the other held the HK Chinese Orchestra, playing traditional Chinese instruments in a western orchestral configuration. The space between the two stages was filled with Steps to hold the 600 voice choir, with a

Lectern for the MCs and the ceremonial Flagpoles on its upper levels. The Parade ground itself was used not only for the 25 minute Military Bands segment of the concert, but also was filled with choreographed performers for the spectacular opening and closing numbers, a format made familiar by Olympic opening ceremonies.

Five 25m high Spot Towers behind the seating stands provided the LD, Durham Mareng., with lofty, if somewhat restricted,

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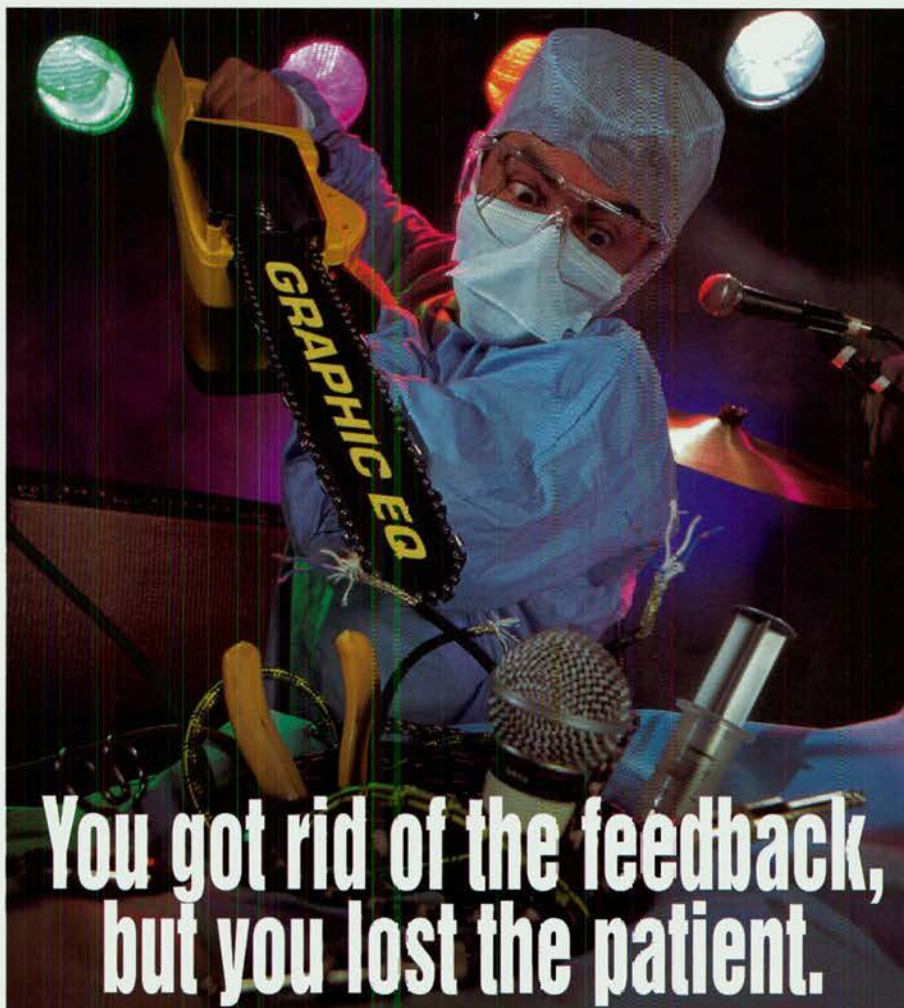
positions for lighting all this, however the Sound department had to get creative to cover the seating whilst staying low profile to the worldwide TV coverage. Flown Clusters were rejected as being too unsightly, so sound designer John Scandrett resorted to a ring of 20 Meyer MSL-4 Powered speakers surrounding the parade ground, firing up at the stands from the ground.

These speakers performed brilliantly for 10 days in the foulest, wettest conditions, with only one amplifier failure when a cabinet was blown off its 1m high stand by a 30 mph wind gust. A quick re-seat of internal connectors had it up-and-running in short order. An additional three Meyer CQ type powered speakers were hung from the front of each of the Orchestra Roof structures, providing Outfill, Ground foldback, and foldback to the Choir steps on each side. Unlike the MSL-4s on the ground, these were never weather-covered, and survived a continuous waterfall of roof run-off for most of the 12 days they were rigged, without a single fault.

Control for this event was greatly complicated by the fact that System Sound was responsible for providing not only the House sound, but also full Orchestra Submixes to the BBC coverage, all Soloist and Lectern mics, and a full mono Media feed to the other 56 media organisations covering the event. The lectern used by Prince Charles and Governor Patten was also rather inconveniently located at the opposite end of the venue to the stage. This required instantaneous re-setting of the delay times to each speaker cabinet to match the location of the sound source. Mark Benson mixed the house sound from a cramped and wet control position perched at the top of one of the side stands. A Yamaha PM3500/56 console and four racks of processing, playback and delay devices were positioned by crane on the platform to drive the system.

In a relatively dry (and air conditioned) 20'x8' site hut behind the stage, Nick Reich created Orchestra and Choir submixes for the House sound, a similar set of submixes for the BBC's Host Broadcaster coverage, and a complete Stereo and Mono audio feed for all the other media organisations. Mixing on 48ch and 32 ch PM4000 consoles, along with various smaller submixers, monitoring was done on a pair of Meyer HD-1 nearfield monitors via a matrix that enabled him to hear the submixes, the Stereo mix, or a return of the Mono audio feed, after compression and media splitting. A rack of 32 BSS 602II active mic splitters distributed the Soloist, Lectern and MC mics, along with the submixes, to the House Mixer, BBC and the Media mix.

This area was linked to the stages by 112 channels of Whirlwind multicore, picking up the 114 mics used on the show. System technician Greg Blades set and struck the stage mics over and again, and became intimately familiar with the workings of the Chinese Or-



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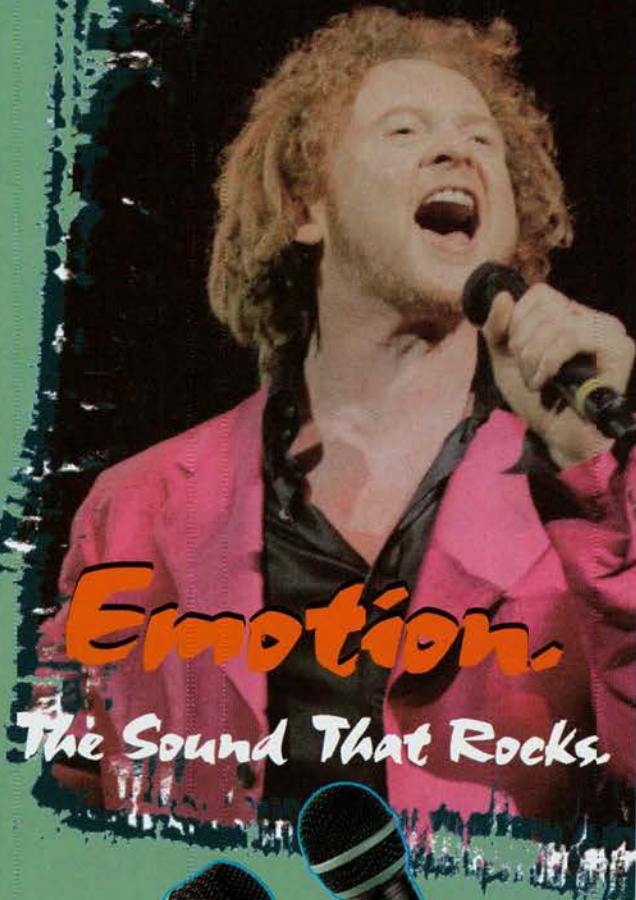
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Handover (continued)

chestra. He was ably assisted by Clara Lee and her colleague Tung, from the HK Academy of Performing Arts technical course, who filled out our show crew compliment. Greg also mixed the feed for the stand-alone sound system servicing the small VVIP stand seating the most important Dignitaries, separately balancing the show program and their local lectern during the speeches, and presided over the extensive Power distribution and Amplifier positions located under the stage and stands, where 3 CyberLogic NC812 8 channel amplifiers powered the Meyer UM-1 and UFA-1 speakers used for foldback.

The large quantity of rain which fell during the show did little to dampen the spirits of the performers and guests. The sound system struggled on valiantly, with only a few orchestra mics becoming unuseable as their windshields became completely waterlogged. The main problem we experienced was the sound of water dripping off the umbrellas of the two MCs, onto their microphones, making an alarmingly loud pop each time. Several cans of aerosol water-displacer had been used on all the mic lead and multicore connectors, protecting even those that spent much of the show under water.

Of course, given a massive event with thousands of cast, a couple of Orchestras, and a number of VIP speakers, a large communications system was required. System Sound provided an extensive system of Clearcom wired comms, linked to a multi-channel radio-comms system that built up to over 52 Motorola portables at one point. The Motorolas were supplied by Delta Sound in the UK, as the frequency allocations we were given could not be programmed into our Australian-band units. The whole

Sound Designer John Scandrett looking relaxed while 8 inches of rain (in 4 hours) fall on his audio system - which kept working!



Comms system was run on an uninterruptable power supply system to protect against power failures. System's Comms technician, Cameron Herbert, spent hours drying out waterlogged walkie-talkies and getting them back into service in time for the next rehearsal.

The main event over, we had an hour and a half to re-set for another concert at the same venue. The 'Hong Kong Our Home' concert was organised by RTHK, the local public broadcaster. Unlike the Farewell ceremony it was open to the general public, and as it was performed in Cantonese, and featured many of the local Cantopop stars, was another sell-out. They had only had one three-hour rehearsal on the site a week before and though the show was mostly mimed to a pre-recorded soundtrack, they still pulled off a minor miracle getting it to run smoothly - still in pouring rain. We had to keep the system set up until the afternoon of Wednesday July 2nd, for a third event. This was the Opening ceremony of a huge street parade, which was to feature one of the first public speeches by the new political Leader of Hong Kong, but was

Invasive security probe on innocent Meyer speaker!



unfortunately cancelled due to the continuing rains an hour before it was due to start. As we struck the system, a nearby weather station registered a record 8 inches of rain in four hours. With no

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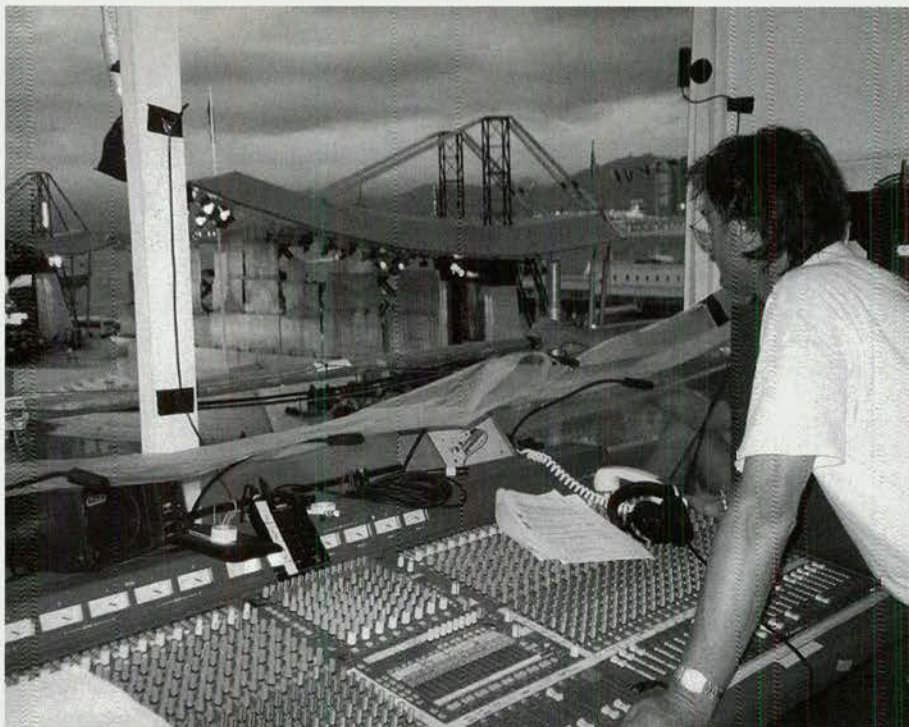
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Hootie & The Blowfish (1996 tour) Southeast Audio Specialists. Photograph illustrates Hootie's 1996 arena system. Arrays for other venue types may vary.

Write in Reader Service Number: 123



chance to dry cables and equipment before packing into cases, it was little surprise to us that the load weighed almost 1 tonne more on the return trip!

THE HANDOVER CEREMONY

The other event System Sound were involved in and the reason for all the festivities, was the official Joint Parties Handover Ceremony, at which control of Hong Kong passed from Great Britain to China. The gigantic new Grand Hall in the HK Convention & Exhibition centre was still under completion as the event took place.

A cavernous venue 90m long, 70m wide, and 26m high, it held 4000 invited world leaders, who witnessed the lowering of the Union Jack, and the Raising of the Chinese flag, accompanied by speeches which have been broadcast around the world. The three 'Parties' - China, Hong Kong, and Britain, each required a number of seats on-stage for officials and dignitaries. The set got so large, that the decision was made to turn the venue around, and put the stage set in the foyer, removing five huge doors in the back wall of the room to make a 20m wide x 10m high proscenium arch.

This arrangement caused the LD, Jim Tetlow, some considerable difficulty, requiring a complex construction of truss to create a spot platform flown low enough to get a shot under the 'proscenium' to the stage.

As a speech-only sound system was required, John Scandrett specified a visually low-key system comprising two clusters of 3 Meyer MSL-3A speakers, with 10 Meyer UPA-1s for Downfill, Stagefill, and Rear Delays. The show was mixed on a Soundcraft K2 console by Kevin Gedye (with a K1 console standing by as a backup), while Gus Gusterson looked after the three CyberLogic NC812 Powerframe amplifiers which powered the whole system,

and all the stage mics.

Whilst the system itself may have been simple, working in the venue was anything but. With a room full of some of the highest profile people on Earth, and a live TV audience of Billions, security was necessarily tight. Kevin and Gus spent most of their time continuously passing through security checkpoints, and generally being slowed down. It was fortuitous that we had so few speakers in the system, as Gus spent much of his time removing handles from the cabinets to allow security forces to inspect their insides with fibre-optic cameras. Another complication was the presence of two Host Broadcasters with identical access rights to the event. Radio Television Hong Kong and China Central Television needed to be treated in an identical fashion, from camera positions, to microphone access.

We ended up providing a set of Audience and Military Band mics which were split to both Broadcasters, along with the Lectern mics (though a certain Broadcaster had trouble selecting the right ones for some speeches), as well as a fully mixed Media sound feed to all other media organisations in the venue.

Of course, these were not the only events in Hong Kong in Handover week. There was so much going on, that the foyers of the Hotels used by foreign crews took on the feel of a global entertainment crews' conference. The Hong Kong Handover events that System Sound worked on were truly a multinational effort. Production crews from the UK, USA, Hong Kong, and Australia combined to provide a memorable send-off for the British, and an equally colourful celebration of the resumption of control by China.

Whilst many have feelings of uncertainty about their future in Hong Kong, the vast number of celebratory events created a mood of optimism that will give Hong Kong a good platform to launch into the next 150 years.

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Porgy and Bess world tour

By Madeleine Murray

This American production of *Porgy and Bess* has been touring the world since '93. By next year, it will have been performed in over 150 cities in the US, Canada, Israel, Japan, Taiwan, Australia, New Zealand, the United Kingdom, and Latin America. This means many different venues, gear, and hotel rooms for the crew.

I saw it one energetic night at Sydney's Capitol Theatre. They had been in Adelaide and Melbourne, and will be going to Perth, Canberra, and the Gold Coast.

The stage manager

Maribeth Hunter has only been with the tour six weeks. She started in Taipei, for a week, then Australia. Hunter is in charge of props, calls the show, and coordinates the cast backstage. She runs the media call, liaising between the show and the publicist for each theatre. She also runs a dress rehearsal with the orchestra, which is different in every city.

Porgy and Bess, an ensemble opera, tours with the full cast of 30, two conductors, and nine crew. The props, and set travel as well.

Each city uses a resident orchestra, so there has to be a rehearsal. The principal roles are shared between several singers. "Some people may only do one performance a week in a lead role, and because they aren't doing it every day, they may do some things a little differently," Hunter explained. "So I give them notes to help them, because they don't get as much rehearsal time. Anytime we're having problems, I can call rehearsal, to get us up to speed. Sometimes if you're doing a show a lot, it can get a little stale. So you call rehearsal to make sure everybody is on the same wavelength."

Each city has one or two local prop people assigned. During the load in, Hunter gives them cue sheets that explain all the presets. At the end of the show she gives notes about everything ranging from actors to scenery, and passes out valuables, including Porgy's mink coat.

The lighting

The lights in Sydney were supplied by Chameleon Touring Systems. A few 120v set dressing lights came with the show. The pre rig was done on Thursday and Friday. "We had to put it all up, get the trusses in the air, all of the lamps up, coloured, and patched into the dimming system," Rohan Trundle, the board operator explained. "While that was going on, I was also entering the plot into the lighting desk. Monday was a long day, from 8am till 11pm, without a break. We did the focus, had a media shoot Tuesday morning, did a few touch ups, and opened on Tuesday night. It was a little more hectic than usual. It's the first time I've ever done a performance without any rehearsal at all. Nor did we get a chance to look at any of the lighting. I was surprised by that. The American crew weren't too concerned at all. They've done the show hundreds of times already.

"The follow spot work is pretty straightforward. But I was disconcerted to do the show without having seen it first. We had all the levels in the lighting desk, but every venue is different. The dimmers and lights might be different, the distance from the stage to

the lights is different. It might look beautiful in one city, but not in the next.

"It was a shotgun production schedule, but it looked fantastic on Tuesday night! You're always doing a little bit of tidying up and detailing after opening night. It ran surprisingly smoothly. The American crew were really on the ball. All the equipment we had meshed well together, so we didn't have any problems."

The Capitol has a Strand GSX board, with 125 channels. "It's a very basic desk, and it's a bit unusual to use that sort on a production like this. Normally a desk would have about 600 channels. A lot of shows that come into the Capitol bring everything themselves. The American crew would probably like to tour all their equipment, but it's more expensive."

Trundle was head of lighting at Queensland Performing Arts Centre. He's taken a year off to freelance around Sydney.

The production electrician

Gordon Howell's job is to maintain the lighting design. At each venue, he has to supervise the load in of the lighting gear, focus,

watch the show, go through the cues, and make sure the timing and the look of each cue fits the original design, by John McLain. Howell has had to adjust to the different product here. "In the States, I mainly use ETC consoles, and Altman gear," Howell said. "ETC Source 4 has become a very popular lighting unit. Most of the consoles here are Strand, and they are different from the Strand consoles in the States. This is my first time with most of the Strand luminaires used here. These lights seem to be in the theatres' inventory.

"I haven't been working that long in the industry, and I think that most people in the States who have been working for 15 years, would know the older Strand gear. Most of our show is simple stuff, PAR 64s and Fresnels. The design was originally done with Altman 6x9, 6x12, 6x16, which is a common light here as well. Most theatres have a stock of Patten 23s, which is something I've never seen before.

"We hired everything from Chameleon for the show at the Capitol in Sydney. But we don't have to rent anything for most of the other venues, they have their

own inventory, which varies from very new to very old. This has meant that my learning curve of dealing with the gear has gone way up. It's good. It's given me a greater appreciation for some of the older gear, and made me learn about the stuff that's here. But it means that I have to do a little bit more homework."

Most of Howell's work is pre production. That morning he had sent the specs to Canberra, was waiting to hear from the Gold Coast, and was planning his wedding, which is nine days after his return to the US. The LD had sent the basic plot and paperwork to all the theatres, but in Japan, he made changes to the show. Howell is busy checking and cross checking the gear in the upcoming venues.

"As an electrician, it's not up to me to choose the lights, but if I'm asked, I go for Source 4s. My feeling is that they give out the best light, and shape the light best, as far as Profiles go."

Back home, Howell works in a New Jersey theatre, where all the gear is '70s Kleigel.



Maribeth Hunter, Stage Manager

The Production manager

Jim Griffith has been with the tour since December, '92. That is a long time, in theatre terms, and a lot of countries, from Israel to Alaska to Hawaii. "It's my job to make sure that all phases of the production happen without incident, and in as timely a fashion as possible," Griffith explained, in a prose that a barrister would envy. "In other words, I'm the boss. Everyone reports to me, ultimately." Griffith makes decisions as the road rep for the producer, who is busy finding new cities for his show to tour.

There are nine American travelling crew. "We have mostly figured out the new venues ahead of time. The biggest issues are anytime that we have to fly, and cannot put the L of the pieces on the trucks to get there. Airplanes can only take a certain size, and here in Australia, a certain weight. The biggest problem is the soft scenery. The cycs are over 40kg, and even if we pack them in a large suitcase, the airline attendants cannot physically pick them up, by government law. So they must be shipped as air freight, which is unpredictable and extremely expensive anywhere in the world."

This is Griffith's first time in Australia, with the show. "It's been very nice. All the Australian crew have been absolutely the best, probably even better than many places in the US. The Aussie techs don't seem to bring with them the attitude that many US cities foster in their stage hands, that they are the best in the world. NY is probably the largest theatre town in the world, and the techs there have a very large attitude to go with it."

They have only had one non arrival of a set, and that was because of an ice storm. So they did the concert version.

Griffith is also the Production Manager for Phillip Glass.

Audio Engineer

Monica Sweet has been with the group for five months. "I make sure that everybody can hear everybody else, so the audience can hear the actors, the techs can

hear each other, the people in the dressing rooms can hear onstage. So I'm in charge of many different audio systems," Sweet said.

The cast don't have mics, but Sweet is using boundary mics, at the edge of the stage. They brought four Crown PCC 160s with them, and they use three shotgun mics from the theatre, and put two mics in the set.

"This is normal for a dialogue show. Opera is a mixed bag, because it's not always in the traditional opera house anymore. In old opera houses, generally you don't need to reinforce the voice, because the hall is built for singers. When you're playing a larger house, no matter what you do, their voice is not bigger

than a trumpet. So the voice can't carry to the back of the house. So we're using a crossover situation, where we're putting the mics in just to get that little bit of boost.

"I'm happy with the sound at the Capitol. It's a little bit strange in some places, with the curved ceiling. The orchestra pit bounces around on the ceiling. Other than that, it's a fun little theatre."

During the show, Sweet mixes the stage mics, and mixes the orchestra sound for the onstage monitors. The production rented in a DDA 22 board for Sydney.

Sweet was halfway through a medical degree, where she took part time work as a stage hand, and has kept going. "The doctor is still on the shelf for the time being," she said. •



Jim Griffith, Production Manager



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Write in Reader Service Number: 185

PRIMER ○ VIDEO INTERFACING

by Gerry Raffaut

The world of business communications is rapidly changing, simple slides and white boards have paved the way for more powerful presentation technologies. These days it is difficult to not come across some form of computer technology when attending conferences or meetings. Presentations are now made easier with today's powerful computers and allow for a more effective presentation. Whether a simple computer/projector set up is required or a complex distribution and routing system, presenters now have the power to present in many different ways. The products designed for these type of applications belong to the High Resolution Video Communication Industry and are called Interfacing products.

Interfacing products encompass many different types of video signals and to fully understand these requires familiarisation with some of the terminology.

SCAN RATE : The term horizontal scan rate refers to the number of lines per second displayed on a display device. Vertical scan rate refers to the number of frames displayed per second. Scan rate is also used to describe the performance of a display device.

VIDEO RESOLUTIONS : This term is used to describe the number of lines and number of pixels displayed on the screen of a display device. A common VGA resolution is 640 X 480, this indicates that the image has 640 pixels per line and 480 lines per frame.

VIDEO BANDWIDTH : This term refers to the amount of video information being sent or displayed per second. The typical bandwidth of a VGA computer signal is 27.6 MHz, where as a work station may be in excess of 150 MHz. Bandwidth is also used to describe the limitations of display devices, this figure states the ability of the device to faithfully reproduce a range of frequencies.

Video signals can be categorised into two distinct formats, Broadcast video signal and

Computer video signals. Broadcast video signals are the signals used within the television industry and are PAL, NTSC or SECAM standards. They use a composite video signal, where all video information and synchronising signals are combined into the one signal. Computer video signals are used by computers and specialised equipment such as medical imaging products. The video signal is separated into their red, green, blue, horizontal and vertical sync components. The sync portion may also be in various configurations. Composite sync where the horizontal and vertical information are combined into one, forming an RGBS signal or sync on green, where the composite sync is combined with the green channel to form an RGsB signal.

Computer video signals can also take on a further two forms, analog and digital. Digital were the first type of video signals used by computers and were found in EGA and CGA type graphic cards. They are rarely used today due to their low resolution and limited colours. Analog signals on the other hand, have higher resolutions and virtually unlimited colour reproduction. Nearly all popular computers generate analog video signals, IBM, MAC, Sun Sparc and all work stations use this type of computer signal.

As earlier discussed, there are many different interfacing products, each type having its own function, below is a list of these products..

INTERFACE : Many of you would be familiar with computer interfaces, the function of an interface is to buffer the computer video signal to provide an image on a local monitor and to an external display device, in most cases a projector. The interface changes the sync format and connector type so it will be compatible with the display device. It also provides for user functions such as horizontal positioning to allow proper set up between computer and projector

DISTRIBUTION AMPLIFIER : This product, also known as a splitter, allows a single video source to be displayed on multiple display devices. For example in a boardroom environment, there may be two large monitors required to display the image from a single computer, in this case a 1 in 2 out distribution amplifier would be used.

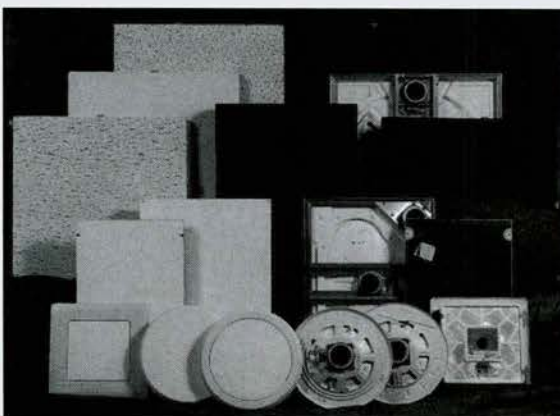
SWITCHER : Switchers are used where multiple video sources are required to be routed to a single display device. Switcher control is via a variety of methods, RS232 and front panel control being the most popular.

MATRIX SWITCHER : This product is a combination of a switcher and distribution amplifier, it allows multiple video inputs to access multiple displays. For example eight computers are required to be displayed on to four display devices, an 8 X 4 matrix switcher will allow any one of the 8 computers to access one or all of the display devices.

SCAN CONVERTERS : These devices are used to change the horizontal scan rate of a video signal. Scan reducers down convert a computer's signal to be compatible with television formats. Scan doublers, double or even quadruple a television signal to be compatible with a computer display device.

ENCODER/DECODER : Encoders are used to convert an RGBS type signal to composite video. Decoders convert composite video signals to RGBS format.

The Interconnection of all these components, particularly computer signals has a marked effect on the final displayed image. The proper selection of products and careful consideration to the interconnecting cables will ensure your system design, how small or large it may be will fulfil your requirements of a solution to any AV installation environment.



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DEALERS REQUIRED IN AUSTRALIA AND ASIA

Write in Reader Service Number: 163

Duncan Fry

Beep Beep - Baby you can't park your <<beep beep>> car here! A Car Traveller's Tale

The Anaheim Convention centre, home of the 1997 NAMM exhibition, is notorious among the music industry for its parking Nazis. Geriatric megalomaniac old farts suffering from Anaheim's Disease.

Every year I go there I say that I will write to the NAMM committee and complain about these people's arrogance.

Picture this. A sodden wet day in normally sunny California. A very rare occasion indeed. It's serious rain, and load in day. Dave Park and I roll up to the entrance to pick up our Exhibitor's badges so we can load our stuff in and set up the stand. There are about 6 cars parked in a loading zone, so I eased the rented Oldsmobile (under) Achieva in next to them.

"You can't park here, you'll get a ticket," some wizened old codger in a uniform tells us.

"But we need to pick up our passes," I explain. "Well you have to go and park the car in the parking lot," he replies.

The show parking complex? Is he serious? Drive around to the parking lot, pay \$6 to park, walk back to the Registration building, get our passes, walk back to the parking area, and then drive the car around the block and into the loading bay. Bigger that for a joke.

We're talking about a couple of kilometres forced march in the pouring rain, by the way.

"But we don't want to park," I explain again, "We've got to go to the loading bay after we get the passes so we can load in. I'll only be a minute getting them, if that."

My appeal falls on deaf ears.

"Nope, you can't park here, you'll get a ticket," he repeats mechanically.

Could it be that I've stumbled upon Walt Dizzey's latest product? An audio animatronic robot pre-programmed to spout warning messages, cunningly disguised as a crabby old grogan who revels in the abuse of power? Perhaps he's a rogue prototype who's escaped from WallyWorld captivity. Not a Stepford wife, but a Stepford Asshole. As he moves around I swear I can hear his motors whirring or perhaps it's just the incessant drumming of the rain.

I try again, speaking slowly as if to a child.

"Look we can't get in to load without our passes. They won't let us load into the show without our passes"

"Can't park here, you'll get a ticket."

I give up and go for a drive around to the loading bay. Sure enough, without exhibitor's

passes we were directed towards the parking complex. I drove back to the spot I had stopped at before. In the meantime the rain had increased in intensity.

"Hey mate," I yelled, "They definitely won't let us in without passes."

"Can't park here, you'll..."

I spat the dummy.

"I don't give a shit, I'm parking anyway!"

It may have appeared to be a grand act of bravado, but none of the other cars had tickets, and I couldn't see anyone from the convention centre braving the torrential rain and getting soaked just to dish out a ticket.

Dave and I ran down to pick up the passes. Bypassing the queue of about 40 people who were also waiting for passes, we went over to the International Help Desk, one of NAMM's best inventions. One of the advantages of being one of them pesky furriners. In less than 2 minutes we had all the passes, and we raced back out to the car. No sign of a ticket.

Cheerily giving the guardian of excessive parking the finger, we drove around to the loading bay, where we were waved through right up to the load in entrance of the Pro Audio dome.

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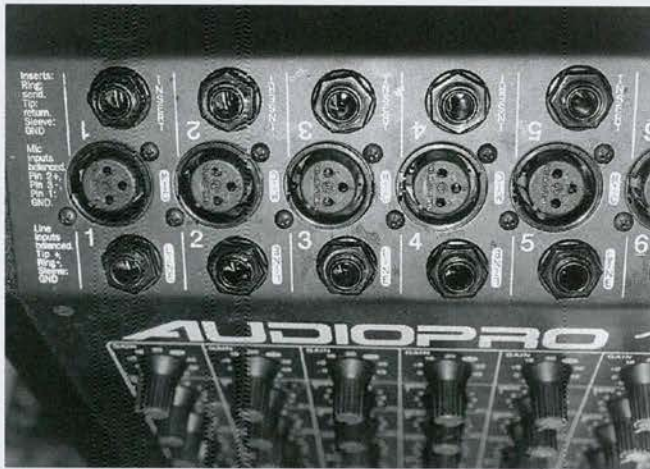
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Write in Reader Service Number: 132

YORKVILLE 1212 POWERED MIXER

"Pushes air" says power user



Yorkville's 1212 powered mixer has been around for some years, but has supporters. Our readers consume large numbers of powered mixers for 101 applications, these are the 'combo tool' of the audio trade.

Compressing a mixer, stereo amp, graphics and effects device into a single compact device generates as many compromises as you'll find in your average laptop computer. The trick is to get the features and reliability correct.

In the course of creating the Hire & Production feature in this issue, we happened to talk to Sydney PA operator Chris Clough. His business, 'Small Systems' can put out 10 different sized systems at once, most are based on Soundcraft or Spirit mixers. When a powered mixer is required, he uses the 1212.

WHAT AND WHY

This is not rocket science - 12 channels of mixer start looking like - well - 12 channels of mixers after a while. The big issue with the 1212 is what happens inside.

"It pushes an amazing amount of air", says Chris, referring to the power amp. This surprises because the unit has a relatively low profile compared to most other powered mixers, which generally stand tall. The 1212 is rated at 400 watts per channel into 4 ohms. It's important to take amplifier RMS power ratings with a grain of salt, but according to Chris the Yorkville delivers.

His modus operandi will see the 1212 drive whatever speaker box is needed be it a 12" & horn, 15" and horn or dual 15" and horn model. It will be switched to run 2 monitors on one amp channel, with 2 FOH speakers on the other amp channel, or even to work as a four send stage monitor desk.

THE AMP

Yorkville say the two tiered amplifier design requires significantly less heatsinking than conventional designs. The transformer is a fairly standard high efficiency toroidal transformer. "Our engineers have found that these have power conversion efficiency approaching that of digital switching power supplies, and perhaps it is also a factor of digital switching not being so great as many people seem to think. We have stuck with toroidal transformers for some time now, as we find that not only are they highly efficient, they

are also extremely reliable and produce very little distortion and noise", says Charles Fairley at Yorkville.

The amp is based on Mosfet output devices, and is in fact essentially an AudioPro 1200 amp, available separately.

FRILLS AND WHISTLES

Speaker protection is a godsend, according to Chris. It can be configured to work with a 12" or 15" woofer, and he says he has had no failures in all his time of ownership.

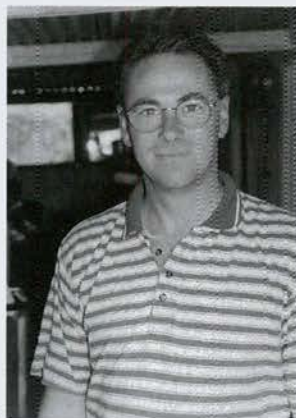
An elementary Alesis reverb is built, with 16 different effects. The dual graphic has a neat twist, the top graphic is a stereo unit whilst the bottom is mono, allowing one to be used for FOH and the other for monitors.

The LED output display is very generous, with 10 graduations plus 'full power' indications.

At the mixer face you have fixed 3 band EQ which is a bit limited compared to sweep midrange EQ offered on most other units these days - but Yorkville say the 1212 is due for replacement soon anyway. There are 2 effects and 2 monitor sends for a total of 4 auxiliary sends - generous.

CONCLUSION

Like I said, not rocket science but a work-a-day product with a big fan in Chris Clough (pictured below). He's never had a problem, likes the power output and swears black and blue this is an honest product.



Plug: Chris Clough (Small Systems) phone +61 2 9550-6949

Yorkville 1212 powered mixer:

Depth: 40 cm (15.75 inches)
Width: 62 cm (24.5 inches)
Height: 14 cm (5.5 inches)
Weight: 25 kg (55 lbs.)

Retail price A\$4,195

Distributors—

- Australia: Dynamic Music, Ph+61 2 9929-1299
- Singapore: Te Deum +65 742 0181.

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Write in Reader Service Number: 127

The DI-4... To DI for!



ARX is proud to present another 'must have' product in its series of pro audio toolboxes. The all-new DI-4 is a winning combination of four Direct boxes, and a four channel stereo line mixer, with individual Aux sends plus a stereo return.

Flexible

The DI-4 has been designed to handle all signal interfacing requirements, with unparalleled ease of use and specifications.

Set it up any way you want; as Four individual DI units, as a Four into Two line level mixer (at the same time!) or any combination of ins and outs that you need.

On the front panel, each channel has two High impedance jack connectors. The first is an Input and the other is a looped High impedance Output which can go to an instrument amplifier if required. There is also a channel

Gain control, from ∞ through to +15dB, enough Gain to drive the longest lines, plus a Pan control for mixer applications.

Auxiliary Send and Returns

A handy feature on each channel is an Aux send control, which can either drive an effect or be used to generate a separate mix.

The Left and Right Aux returns can either return the effect into the mix, or bring a stereo tape or CD signal into the mix.

If you prefer to keep some signals as Direct only, that's no problem for the DI-4. On the rear panel, Channels 1 and 2 can be individually switched in or out of the mix as required.

The rear panel also has the Balanced XLR outputs for Channels 1 to 4, each with its own audio ground lift switch

and status LED. The Aux Send and Left and Right Aux returns are jack connectors.

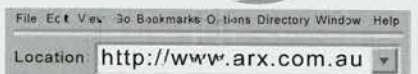
The stereo Master outputs are both Balanced XLR and unbalanced Jack connectors for maximum flexibility in operation.

In today's competitive audio environment, every piece of equipment has to earn its place in the rack. User friendly intuitive layout, plus precision engineering and superb specs make the ARX DI-4 a unit to DI for.

Like to know more? You can contact any of the helpful people listed below, or Phone, Fax, E-mail (info@arx.com.au) or write to us. Or check out our www page for complete info on anything ARX.



Vic/Tas: Tony Hosking 03 9877 8233; NSW/Qld: Iain Everington 041 118 3158; WA: Ian Ross 09 354 3185
ARX Systems. 33 Advantage Road, Highett, Victoria 3190, Australia. Phone 03 9555 7859 Fax 03 9555 6747



Write in Reader Service Number: 124



PROTALK!

This month: vocal mic technique in the studio

Great voice, great take, but... This month's topic focuses on the issue of mic technique for, how shall we say, 'challenging' vocalists whose voices have troublesome frequencies, who are either too loud or too soft, are too animated or just make a lot of sonic mess just being themselves. Strategies to cope with the vocal take are discussed in this month's ProTalk!, a monthly 'forum' where studio professionals generously offer their hard earned knowledge and experience.

Ralph Esther from JMF Studios (NSW) said that an 'exceptionally good' compressor is essential for miking vocals as well as a 'pop' filter. 'However, whilst each voice reacts in a different way to a particular microphone more often I find the RODE NTI to be the answer. It seems to capture the natural mid range and dynamic of both male and female vocalists extremely well.'

Regarding to hitting the correct pitch, a controversial suggestion from **Gordon Hervey** of Charing Cross Studios (NSW), who suggests that it helps if the vocalist 'throw away' the headphones and use a side-fill monitor cabinet instead. He continues, 'Set up a couple of absorbing baffles behind the vocalist and the backing track won't spill too badly into the vocal. If the tracks are available spill can be cancelled effectively by recording another pass without vocals and phase reversing that track on playback.'

'For vocals we use a Neumann U87,' Adds **Dave Tozer** from Crystal Clear Studios, (NSW) 'It's a great mic for all occasions. For reducing sibilance we use a dual screen pop filter, and the distance between screens is adjustable. The U87 and mixing console have 'bottom end roll off' however these are rarely used. Positioning the vocalist to the mic is the key to achieving the desired result—generally we position the vocalist approximately a "handwidth" from the mic. For best all 'round results, nice and close for warmth and proximity.' To conclude Mr Tozer says, 'A gentle amount of compression using our Urei LA22 adds nice warmth and consistency of level to tape. Some EQ taking out sibilant frequencies is useful if necessary.'

Michael Pollard from Solid Music Production (Vic) suggests that when time, de-essers and microphone options are limited go for the 'organic' approach, 'Affix a pencil or similar fixed object vertically down the pop filter.'

Michael expands this option, 'Short wavelength/high frequencies will be diffused slightly assisting in reducing sibilance to a useable amount, whilst also giving the vocalist a visual fixation and something else to ponder on.' For more powerful vocalists who can't stand still he suggests giving them a hand held SM58 or similar, 'Get them in the control room, reverse one speaker's phase and turn up the volume. The result will sell itself in most situations with a relaxed vibey feel with that live edge on the vocal sound.' If the music style requires a suspended condenser and the performer can't resist the temptation to grab the mic, (as a result of too much live work), Mr Pollard suggests placing another "dummy" mic closer to the vocalist's mouth, 'Let them get up on that mic and allow the "real one" to do its job! If all else fails gaffa on the shoes works!' Inexperienced vocalists, he suggests, can be assisted greatly by careful mic placement in the record room, 'Avoid direct sightlines to control room, use moody ambient lighting, even try to get them to bring their favourite lamp to add to a homely feel. All effort is rewarded when that 'magic' take is achieved.'

Norman James McCourt from C'est Ca Recording (Vic) says, 'Certainly the best thing I have ever found for female vocals is the Neumann TLM170. For male vocals my mic of choice is the Neumann U67 which is a valve mic. Next to this is an Electro-voice RE20 which is a dynamic and ideal for loud male vocals especially while tracking—also an excellent radio voice over mic. Beyond this the 'common or garden' Shure SM58 is also an excellent mic. I also try to avoid the use of 'pop' shields as they cut down on transient response.'

'90% of the time I record vocals with a Neumann U87 which sounds great on anyone,' Says **Greg Dixon** of Aphek Studios, (NSW) 'If the singer has a particular frequency in the low mids or bottom a couple of dB-cut at the frequency is usually enough. I usually

use a bit of compression to tape.' For sibilance Greg says, 'I will de-ess it during the mix—never to tape. If it's particularly bad, a bit of EQ cut can help there too. I always use a stocking covered pop filter which doesn't affect the sound but if you don't use it you can be sure there'll be a pop on the tape.' Greg suggests that singers tend to be the most insecure about recording and a little patience and gentle affirmation will make them more at ease. 'You can't push them until they are comfortable.'

Marshall Cullen from Damien Gerards (NSW) could relate to this month's topic as he had just done a difficult vocal session. He picks up the story: 'While doing pre-production I noticed the female singer had a high degree of 800-2kHz in her voice which was prominent and her singing had a harsh, nasally tone. On guide vocals tracks I tried a number of mics—Neumann's-86 & 87, a Cad 200, a Rode NT2, a Shure SM7 and finally—as a last resort—an EV RE20 which we normally use for kick drums! This was all in conjunction with a standard pop shield, but I still wasn't happy and realised we needed to look at another option for the final tracks. 'After a bit of a think I decided to try an AKG C12 VR tube mic. These are re-issues of the original C12: the classic Motown mic used for female singers such as Aretha Franklin, Diana Ross etc. [The C12s] are renowned for their lack of mids but have a really warm low-end and great high-tops; the opposite to many of the mics I tried. I simply ran the mic on cardioid through a Neve 33115 pre-amp and Urei 1178 straight to 2". The singer was about 6-10 inches away and I used the AKG's supplied windsock. 'The result was astounding! Her voice took on a silky warmth which even she could hear the difference. This gave her so much confidence we did 8-final

>continues after Hire & Production feature

HIRE & PRODUCTION DIRECTORY

A Connections Magazine publication

Australia; AUGUST 1997

◆ PROFILE: Australia's largest production firm

STAGING CONNECTIONS

By Dan Cole

Staging Connection's specialty is providing audiovisual equipment and technical personnel for conferences, product launches, awards nights, gala events and exhibitions. With offices in every capital city they are a large production company—Australia's largest.

'We believe our technical staff are our greatest strength,' says Ian Whitworth, Staging Connections national Marketing Manager who also comes from a technical staging background. 'Our teams understand the unique nature of corporate events and know there is only one chance to get everything right—a presenter's reputation is on the line every time.' He said.

In The Beginning...

Staging Connections was founded in 1981 as Network Hire with four employees, initially as a multi-image production house and pursued the idea

of providing a uniform audiovisual rental service across Australia. As a result, Network Hire became the first national alliance of independently-owned audiovisual companies. In 1986 the group joined forces and adopted the Staging Connections name, reflecting their move towards providing 'total presentation solutions' rather than just equipment hire. Staging Connections currently has offices in Adelaide, Brisbane, Canberra, Hobart, Melbourne, Perth, Sydney and Wollongong plus Coffs Harbour, Cairns and the Gold Coast. Activities

Since 1986 Staging Connections has concentrated on three business areas: Event Staging, Data Display, and In-house Operations in major hotels—they have added 27 offices in hotels and convention centres across the country since establishing a base at the Hilton on the Park Melbourne in 1991.

(continued on page S9)

The Changing Landscape

Hire and Production of entertainment technology is an industry less than 30 years old. But the major event which has shaped this industry happened less than 10 years ago. It was The Recession.

Imagine you owned a production or hire firm, with an inventory valued at about \$2 million in 1990. The cost of money was around 20%, inflation was in free fall, and nobody was buying anything. The entertainment industry was asleep after the bicentenary and Expo '88, cheap equipment was everywhere as auctioneers sold off the failures of 1989. There were many.

A trend was materialising and that trend was Corporate Theatre, starting at the top when car companies and major marketers - like Coke and Amway - took to flashy presentation technology in a major way. It was and is today, the new marketing. We've written about it in Connections, it's a trend which

shows no sign of abating.

The pilots strike also accelerated the market for corporate theatre, which started to also mean 'the provision of presentation technology' to anyone.

When we started this magazine in 1992, some people (who should have known better) were confused at the joining of the technologies - sound, lighting, vision and staging. These same people thought 'Audio Visual' meant a slide projector.

Look through this Directory and take in the landscape.

The largest Production company in Australia is Staging Connections.

They are well placed to pursue any opportunity they see. Including concert production.

They also recognise the importance of good staff.

The lesson is, if you can't provide absolutely everything the customer needs, then you can't survive.

-Julius Grafton, editor

A.C.T.

Abroad Entertainment

FA/Light Hire
FO Box 203 WODEN ACT 2606
Phone: (06) 291 9060
Fax: (06) 291 4686
Established: 1988 Number of Staff: 6 Inventory Includes: JBL, EV, Amcron.

Audio Acoustics

Audio & Lighting Hire
75A HEMAILEY STREET
MAWSON ACT 2607
Phone: (06) 286 2655
Fax: (06) 286 7355
Company Principal: Greg Williams Established: 1990
Number of Staff: 3 Branch

Offices At: Canberra Primary
Activity: Concert Production
Inventory includes: 1. JBL
Speakers 2. Crown Amplification
3. Allen & Heath Consoles 4.
Martin, Jands Lighting

Audio Solutions

AV Hire and Event Staging
3/4 Wiluna Street
FYSHWICK ACT 2609
Phone: (02) 6280 6331
Fax: (02) 6280 6323
hire@audiosolutions.com.au
Email
www.audiosolutions.com.au
Company Principal: Simon Byrne
Established: 1991 Number of Staff: 3 Branch offices at:
Canberra Primary Activity: AV
Hire and Event Staging Inventory

Includes: 1.Data Projection
2.Video 3.Audio 4.Slide.

Concert Productions (Canberra)

Audio & Lighting
26 Fellows Street
LATHAM ACT 2615
Phone: (06) 254 0743
Fax: (06) 254 0743
Email
concertproductions@actonline.com.au
Established: 10 years Number of Staff: 3 Primary Activity: Audio & Lighting Hire and Touring
Inventory includes: 1. Renkus
Heinz, JBL 2. Soundcraft, Mackie
3. AKG, Beyer, Ramsa

Event Sound People :

Event Production
Randwick Road LYNEHAM
ACT 2602 PO Box 394

MITCHELL ACT 2911

Phone: (02) 6242 9955
Fax: (02) 6242 9956
Company Principal: Lindsay Gesling Established: 1986
Number of Staff: 10 Branch
Offices at: Cobargo/Melbourne/
Sydney/Brisbane Primary
Activity: Productions & Outdoor
Events Inventory Includes: 1.
Bose/Crown 2. Yamaha/
Soundtracks 3. Full Lighting for
Production 4. 100V Line for
Large Outdoor Stadiums.

Sound Workshop

Audio Visual Hire
67 Wilshire Street
DICKSON ACT 2602
Phone: (06) 247 6203
Fax: (06) 247 8508 Email

sound.workshop@interact.net.au
 Company Principal: Tony Brighton
 Established: 1983 Number of Staff: 3
 Primary Activity: Hire/Event
 Management Inventory includes: 1. All brands represented/concert/conference 2. DAT Recorders/Bose (outdoor) 3. Lecterns/OHD/ Lighting

Staging Connections (Canberra)
 Event Staging
 11 Whyalla Street
 Fyshwick ACT 2609
 Phone: (06) 280 6990
 Fax: (06) 239 1530; Email
 secanb@stagingconnections.com.au
 Url: www.stagingconnections.com.au
 Company Principal: George Desira
 Established: 1990 Number of Staff: 4
 Branch Offices at: Canberra Convention Centre 31 Constitution Avenue Canberra ACT 2601, Hyatt Hotel Commonwealth Avenue Yarralumla ACT 2600
 Primary Activity: Corporate Event Staging
 Inventory Includes: Audiovisual Equipment, Sets, Video conference.

N.S.W.

AAV Business Communication Solutions
 Provider of Electronic Communication Solutions
 83-85 Chandos Street ST LEONARDS NSW 2065
 Phone: (02) 9438 3900
 Fax: (02) 9438 3570
 Email tmcMahon@aavbc.com.au
 Url: www.aav.com.au
 Contacts: Tim McMahon, General Manager (See Melbourne listing for further details)

Academic Sound and Lighting
 Sound and Lighting Hire
 Phone: (02) 9584 9999
 Fax (02) 9584 1352
 Company Principal: Chris Clough
 Established: 28 years experience
 Staff: 15
 Primary Activity: Sound and Lighting Hire for all purposes
 Inventory Includes: 1. Soundcraft 2. JBL/EV Spks 3. Martin/Clay Paky/conventional cans 4. PTM Amps

Action Sound
 Concert Production
 PO Box 272
 CONCORD NSW 2137
 Phone: (02) 9743 3793
 Fax: (02) 9743 3793
 Company Principal: Tony Hystek
 Established: 1993
 Number of Staff: 5
 Primary Activity: Concert Production
 Inventory Includes: 1. EV Speaker Systems 2. Deltamax, Mongoose etc. 3. Mackie and Soundcraft Consoles.

Allison Audio
 Installation & Service
 Unit 6, 750 Pittwater Road
 BROOKVALE NSW 2100
 Phone: (02) 9905 5613
 Fax: (02) 9939 2341
 Email dave@ozemail.com.au
 Company Principal: David Allison
 Established: 1983
 Number of Staff: 14
 Primary Activity: Various
 Inventory includes: 1. Technics DATs 2. Shure Wireless 3. Small PAs

A.M. Staging
 Staging/Management
 73A Burrows Road
 ALEXANDRIA NSW 2015
 Phone: (02) 9550 6511
 Fax: (02) 9550 6802
 Email timolah@amstaging.com.au
 Url: www.am.com.au
 Company Principal: David Beal
 Established: 1972
 Number of Staff: 11
 Inventory includes: 1. Corporate Staging Equipment

Anaconda Audio Productions
 Audio Rentals/Production
 5 Russell Avenue
 LINDFIELD NSW 2070
 Phone: (02) 9415 6270
 Fax: (02) 9415 6270
 Company Principal: Alex GoEmailay
 Established: 1987
 Number of Staff: 2
 Branch Offices At: Sydney
 Primary Activity: Audio Rentals/Technical Service
 Inventory includes: 1. All areas of professional audio, equipment and services

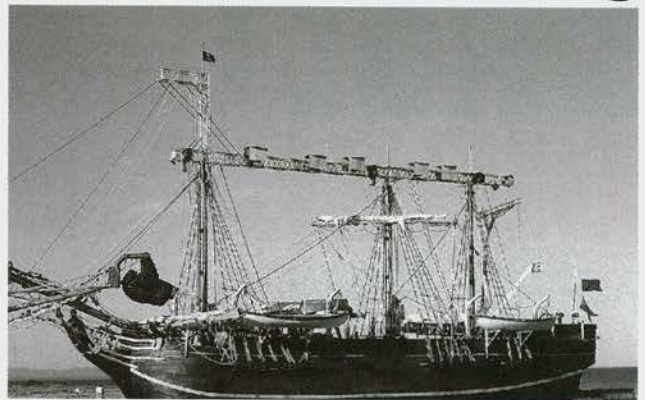
Anything Audio
 Audio - Professional
 12/5-13 Parsons Street
 ROZELLE NSW 2039
 Phone: (02) 9818 8000
 Fax: (02) 9818 8011
 Company Principal: Walter Gerin
 Established: 1988
 Primary Activity: Sales, Installations, Hire
 Inventory includes: Shure, JBL, EV, Rane

Audio Sound Centre

Pro Audio Hire : 32 Punch Street ARTARMON NSW 2064
 Phone: (02) 9901 4455
 Fax: (02) 9901 4229; Email asc@audiosound.com.au
 Url: www.audiosound.com.au-asc
 Company Principal: Geoff Grist
 Established: 1990
 Number of Staff: 10
 Primary Activity: Pro Audio Hire
 Inventory includes: 1. DAT Recorders 2. Wireless Mic Systems 3. Location Audio Equipment 4. Film & TV Specialists
 Audio Sound Centre is your one stop shop for all your location sound recording needs. ASC hires professional location recording equipment specifically catering to the film and TV market. This means portable DAT recorders, timecode clapperboards, shotgun and directional microphones, stereo microphones, Rycote windscreens and mounts, location sound carts, boompoles, headphones, soft carry cases, hard carry cases, portable radio mic systems, walkie talkies, portable playback systems and battery operated location accessories. We do not run accounts, all equipment must be insured and paid for on collection. Call for our FREE 28 page rental catalogue, or new 24 page colour sales catalogue.

INDUSTRY REPORT

CLS rig un-usual trussing



MELBOURNE: Concert Lighting Services crew recently assisted Moby Dick films in May with a remake of the thriller. Filming took place on the water's edge at Pt. Cook R.A.A.F. Base.

Rigging truss on top of 9M masts on a replica of a tall ship allowed lighting for filming and effects and also booms to rig sails' tops.

Some CLS equipment used for the shoot included 10 x 2.4m H.D. Alloy Box, 24m x 450mm Tri Truss, 4 x 1 ton lodestar chain hoists, 2 x inverted DEMAG 250kg hoists and 1 x motor controller system.

Custom made adaptor plugs to rig motor inside truss, enabled maximum motor protection. various pipes, clamps, rigging, lights, dimmers & controls were also used on the day.

• Secondley, CLS was recently

approached by Amy Film Productions introducing a live concert scene for 'Amy' - a new Australian film. Originally to be shot at the Sidney Myer Music Bowl the producers decided to construct a custom stage at the Melbourne Showgrounds.

The set designer wanted most of the lights low, to be in shot, like a traditional 'rock' show: 12 x Intellabeams, 4 x Cyberlights, 150 Par Cans, a Jands Event 48 and a new Jands Hog 600. Frank Gear built the stage, made entirely of scaffolding.

All the shooting was to be done at night and as rain was crucial to the plot it made for a soggy, cold and generally miserable three nights. Three FOH followspots, two hundred young extras and one truss spot occupied the crew for a cold eight hours each night.

Call CLS: +61 3 9646 8555

Gearhouse establish \$1 m lighting co

SYDNEY: The Gearhouse Group PLC has just announced the assets purchase of Enlightenment Pty Ltd, enabling the expansion of Intercity Gearhouse's Australian operations into the specialised area of corporate event lighting.

The purchase, effective from the 1st of July 1997 is coupled with an investment of \$1M additional capital and will see the opening of Gearhouse Lighting in Sydney and Melbourne.

Gearhouse Lighting will operate from 1st July 1997 and the operation will compliment the Gearhouse Group's other Australian division— Intercity Gearhouse. Gearhouse Lighting

will operate out of the Gearhouse Group's new and larger 4078 sq/ metre premises at Rosebery in Sydney and their extended South Melbourne premises.

The inventory now includes: 64 x Studio Colors; 32 x CL Cyberlight Litho Patterns; 36 x AF 1000 Data Flash units plus a considerable range of other lighting and ancillary equipment.

With the additional \$1M investment planned over the next 2 months, Gearhouse Lighting, they say, will provide an 'unparalleled level of service' to the corporate event and production market.

• Contact: Intercity Gearhouse, Phone +61 2 9555 1777

UPGRADES

◆ **Wild Gravity** (Townsville) has added a 56 channel Midas XL200 & 24 x Deltamax 1183 cabinets to their hire stock - as well as a Total Fabrications 15m x 8m roof system with a 7m trim.
• Call +61 77 213540.

◆ **Nova Hire** have just purchased a quantity of Crest amps and have just built a new flying system for their NC-3 and NC-4 cabinets.
• Call +61 3 9555 4766.

◆ **Intercity Gearhouse** have added 3 x Portable Video Production Units (PPU) to add to their Sydney, Melbourne and Brisbane offices.

Each PPU consists of: 3 x Sony DXC D30PL Digital Cameras c/w Fujinon 16 x 9 BRM-28 lens, optional 4" viewfinder, Optional SP Betacam for ENG use; 3 x Miller 538 Tripods, 1 x For-A VPS 300/P Vision Mixer, 1 x For-A 330p Time Base Corrector, Talkback, Monitors, Scope etc. The units available for daily and long term hire.

• See Directory for contacts.

◆ **Jands Production Services** have been upgrading their audio inventory according to Director, Peter Ratcliffe. They have added new Crest 10004 and Crest 9001 amplification for their new Clair Brothers R4 (Series 3) cabinets. More Clair Brothers AM12 monitors and Crest 7301 monitor amps have been added, along with yet another Midas XL4 console. The firm has the largest audio inventory in Australia, and operates a branch office in Singapore.

Showtech Setting The Scene

MELBOURNE: There's no doubt that good set design, construction and dressing can create a unique look leaving a lasting impression for any show.

To this end Showtech Rigging Australia have announced the development of a new division, Showtech Sets & Scenery. The new division has an extensive array of existing props and sets for hire or if required, Showtech Sets & Scenery can design and construct an individual display that portrays specific requirements for any exhibition, production, event, theme or presentation.

Their team includes practitioners who have excelled within the industry in the areas of design, construction and set dressing for areas of television, theatre, corporate launches and events.

The Showtech team are pictured at right.

• Call +61 3 9682 2900



◆ **Windows '95 version on test now**

Hire Point expands system

SYDNEY: After 11 years in the DOS environment, Australia's leading dedicated hire and rental tracking software has transitioned to Windows '95.

The software was first created to track the inventory of a large lighting and audio hire firm in Sydney, who also subhired equipment - and needed to track not only their own inventory, but also the temporary additions.

At that time Windows hadn't been invented, but when it did come along Hire Point remained

in the DOS environment for a good reason.

The system was being expanded for multi-user networking, and most customers were running Hire Point alone on dedicated machines. The user interface looks just like any other sophisticated system anyway, you wouldn't know you were not operating in Windows.

The WIN 95 version is on beta test now, and will be available in early 1998. Demo disk available.

• Hirepoint, +61 2 9824-1105

Austage Sydney P/L

Corporate Theatre and Staging
266 Mitchell Road
ALEXANDRIA NSW 2015
Phone: (02) 9517 1599
Fax: (02) 9517 1823
Email Austsyd@ozemail.com.au
Company Principal: Bruce McIntyre/Joe De Abreu Established: 3 years Number of Staff: 8
Branch Offices At: Brisbane/Canberra/Adelaide/Perth Primary Activity: Audio Visual Staging
Inventory includes: 1. Data Projection 2. Sound 3. Lighting 4. Design

Australian Business Theatre

Event Production
1-15 Barr St. BALMAIN NSW
Phone: (02) 9555 9911
Fax: (02) 9818 2658

Avsound Productions P/L

Sales, Production, Hire
1/28-34 Roseberry Street
BALGOWLAH NSW 2093
Phone: (02) 9949 9000
Fax: (02) 9949 9444
Email hire@avsound.com.au
Url: www.avsound.com.au
Company Principal: Matthew Kline Established: 1988
Number of Staff: 8 Branch Offices At: Balgowlah only
Primary Activity: Sales, Installation, Hire, Production
Inventory includes: 1. QSC Audio, Allen & Heath 2. Clay Paky, Martin Lighting 3. EV Manifold Technology, Martin Audio 4. Clay Paky Display Line Lasers, Technics, Denon, Rane. Avsound promises quality and reliability in hire equipment and production services. Our comprehensive inventory includes QSC Audio amplifiers, Martin Audio, Electro-Voice (full range & subs), Technics turntables, Denon dual CD players. Allen & Heath and Rane mixers; lighting, Clay Paky, Martin and a variety of disco effects. 3D Laser systems- 300 milliwatt to 20 watts 3D are available. Foggers galore! Clay Paky's new V.I.P. 300 is available - a multi-purpose tool for corporate presentations and a variety of display and club applications. With product and design innovation, Avsound is a leader the Sydney club market. Its Skygarden productions were legendary. We are first to offer brand new Clay Paky MiniscanHPEis for hire.

Black Express Lighting & Sound

Audio & Lighting
275 Homer Street,
EARLWOOD NSW 2206
Phone: (02) 9559 4363
Fax: (03) 9558 4923
Company Principal: Con Andrews
Established: 1983 Number of Staff: 7
Primary Activity: Hire/Production & Sales
Inventory Includes: 1. Clay Paky/Martin

Are you properly represented here?

Basic listings are free, see the back page. For Enhanced listings or advertising call Caroline Grafton on 1-800 635 514 now.

HIRE & PRODUCTION DIRECTORY

HIRE & PRODUCTION DIRECTORY

Col is Busy Up Top

DARWIN: Top End Sounds' Managing Director Colin West read out his day planner for the week 1 rang: 'We have a set-up for the NT Branch of Hospitality Association of Australia, two major conferences, the National Teachers Conference (dinner, power distribution, area lighting), Darwin Symphony Orchestra (playing live outdoors) and the Annual Hell's Angels 'Darwin River Rock', over two days with Angry Anderson, Ross Wilson, The Angels; then Casino jazz at the MGM Grand. We are also installing a close circuit television system and another school install—all in one week. Beyond this there are other productions coming up.'

It's a weekly planner which makes good yet exhausting reading, and while all this is happening Top End Sounds also have several systems in hotels in the region and do a lot of projector, camera, back-line and disco hire.

'We are pretty active because we are diverse in what we do.

Over the past years we have needed a stage and there has been no-one to call, so we have gone in to many areas by default.'

One of these areas is the supply of shade, 'Scaffold is expensive so we're using Penn truss; six legs, 20m long, 3-4m wide and putting a PVC skin cover on it, and it looks good.

'You can't make money in one area,' Colin continues, 'Corporate theatre has expanded immensely—we have the drapes, NEC, Sanyo, Sharp GE data projectors, interfaces, SAV projectors, dissolve units, panel projection, overheads, lecterns. Shure Automated mixers.'

The company has been going for 17 years and is a partnership between Colin West and Howard Page, a former founder of Jands, who is based in Dallas Texas and is Vice President of Field Operations for production company Showco.

'Howard keeps in touch, he brings in new technology and new ideas'. •Call +61 8 8981 7744

Event Sound People

◆ ACT firm handle concerts down to driveway hire

Connections spoke to Lindsay Gesling from Event Sound People, a sound production company in Canberra of which he is a principal alongside Owen Gesling.

They must be doing something right in the A.C.T.—they're an extremely busy organisation working on some high profile public events in and around the national capital.

According to Lindsay Gesling, Event Sound People started in 1986 and were formally known as "The PA People" Canberra.

Mr Gesling says they supply a range of services in the areas of public address, lighting and audio visual requirements, 'as well as assisting in the planning, production and staging of events.'

In all, their activities are spread over five areas: hire, installation, system operation, service, and sales.

'Our hire stock includes equipment for just about any purpose, from portable units to a full concert system,' My Gesling contin-

ues, 'Our systems have been in operation at public functions, outdoor concerts and events such as Australia Day, Canberra Festival and other major events throughout the region.'

They've had the Australia Day contract for 10 years now. 'For sound we used a Turbosound system: 16 x TMS-3 composites and 4 x TSW-124 subs with a Soundcraft 32-input console'.

Event Sound People's lighting inventory is healthy too; for the same event the lighting system included 100 par 64s, 8 x 2-cel cyc floods, fresnels, profiles, and a 36-channel desk.

Another event, The Canberra Street Meet used 40 x E4-C outdoor speaker cabinets, whilst the Canberra Symphony Orchestra—on the lawns of Government House—employed 20-pairs of BOSE 802s and around 80 microphones. So they've got the gear.

• Phone: (02) 6242 9955

Moving Lights 2. Water cooled laser display systems. 3. EHT Processed audio systems. 4. Effect & Small laser lighting systems.

Cannon Sound Systems

PA Sales & Hire : 6/102-112
Edinburgh Road
MARRICKVILLE NSW 2204
Phone: (02) 9550 3828
Fax: (02) 9550 6919
Email cannon@ptme.com.au Url:
www.ptme.com.au/cannon
Company Principal: Neil Smith
Established: 1987 Number of Staff:
4 Branch Offices At: Shop 5/38
Frenchs Forest Road SEAFORTH
NSW 2092 Primary Activity: Vocal
takeaway hire Inventory includes:
1. EV 100M Entertainers 2. Shure
Wireless Mic Systems

Centrestack Sound & Lighting

Sound & Lighting Hire, Sales,
Service
82 Margaret Street
ORANGE NSW 2800
Phone: (063) 620 587
Fax: (063) 617 875
Company Principal: Allan Brown
Established: 1980 Number of Staff:
3 Primary Activity: Hire, Sales and
Service

Chameleon Touring

Lighting/Rentals
2 Huntley Street (PO Box 206)
ALEXANDRIA NSW 2015
Phone: (02) 9310 5222
Fax: (02) 9310 5511
Url: www.chameleon
Number of Staff: 35 Primary

Activity: Production/Rental
Inventory includes: 1. Chain
motors/trusses 2. Intelligent/
Automated Lighting 3. Film/
Television Lighting Chameleon
Touring Systems specialise in the lighting of
corporate presentations,
special events, theatre shows,
musicals, exhibitions and film
& TV. The Company provide
an innovative and professional
service in the design and
installation of all their
productions. Chameleon have
a comprehensive range of
luminaires and effects, control
systems, trussing and motors
and special effects equipment
from all the leading manufactur-
ers including Altman, ETC,
Clay Paky, High End, Martin,
Selecon and White Light that
is available for hire as
individual components or
production packages.

Coastal Sound Systems

PA & Lighting Hire,
Sales and Service
PO Box 52
BOWRAVILLE NSW 2449
Cemetery Road BOWRAVILLE
NSW 2449
Phone: (065) 647 517
Fax: (065) 647 517 Company
Principal: Tom Benson Estab-
lished: 1988 Number of Staff: 2
Primary Activity: PA Hire
Inventory includes: 1. Public

Systems 2. PAs from 100 to 4000
watts 3. Stage & Effects Lighting
4. Radio Mics

Coda Audio Services Pty Ltd

Sound Design & Supply
9-11 Layton Street
CAMPERDOWN NSW 2050
Phone: (02) 9557 2111
Fax: (02) 9557 2366 Company
Principals: Philip Murphy/Michael
Wilkie Established: 1989 Number
of Staff: 8 Primary Activity: Sound
Hire Inventory includes: 1. Meyer
MSL4/MTS4/MSL2 2. Tannoy
S300/CPA15/CPA12 3. Midas/
Yamaha/Soundcraft consoles 4.
Sennheiser/Vega/Shure Radio Mics

Comet Lighting P/L

Film & TV Lighting
5 Ramsay Street
HABERFIELD NSW 2045
Phone: (02) 9716 6093
Fax: (02) 9799 8930
Email samcomet@peg.apc.org
Url: http://www.pag.apc.org/
~samcomet

Company Principal: Sam
Bienstock Established: 1987
Number of Staff: 2 Primary
Activity: Film Lighting Inventory
includes: 1. HMI Lighting 2.
Tungsten Lighting 3. Complete
Truck

Electric Sunshine

Hire/Rental/Production
Postal : PO Box 126,
EXETER NSW 257
Street : 51 Nelson Street
ANNANDALE NSW 2038.

Phone (02) 9550 6000
Fax(02) 9550 5500
30th Year of Business.
Manager: Phil Cullen. Staff: 4.
"Sydney based company
mainly dealing with the rental
of lighting equipment to stage
performers (bands/plays/
schools/small presentations
etc). Full range of lanterns;
control systems; rigging;
cycloramas; intelligent and
moving lights; and technical
support. Can either hire only
or supply full transport/
rigging/set-up and operation
and removal. Sales of ex-hire
equipment. Design of lighting
plots. Full 24 hour 7 Day back
up service".

Ellis D. Fogg

PO Box 1
DARLINGHURST NSW 2010
Phone: (02) 9363 9122
Fax: (02) 9363 9201
Established: 1966 Number of Staff:
7 Branch Offices At: Melbourne
Primary Activity: Art & Technol-
ogy Inventory includes: 1. Odd
things 2. Very powerful projectors
3. Electronic Candelabra 4. Table
Hopping Kangaroos

Entertainment Installations

Shop 1, 43 Brisbane Water Drive,
POINT CLARE NSW 2250
Phone: (043) 243 873
Fax: (043) 245 878
Email nmace@ozemail.com.au

Company Principal: Neale & Carolyn Mace Established: 8 years Number of Staff: 6 Primary Activity: Pro Audio and Lighting Sale & Hire Inventory includes: 1. Martin Roboscans & Robocolours 2. QSC Amps 3. Lighting & Audio Systems and FX 4. EV, Klipsch, Martin Audio, AKG

Eurovision

Audio Visual/Staging
6 Ralph Street,
ALEXANDRIA NSW 2015
Phone: (02) 9667 1999
Fax: (02) 9667 0299
Email
terry@eurovision.com.au Url:
www.eurovision Company
Principal: Yvonne Rigby
Established: 1975 Primary
Activity: Audio Visual
Inventory includes: 1. Data
Monitors 2. Video Monitors 3.
Data Projectors 4. Sound &
Lighting Equipment Audio
Visual and event specialists.
Providing the latest in audio
visual equipment and staging
services since 1977.
Eurovision specialise in large
screen data projection.
Eurovision provide technical
services to venues, exhibitions
and corporate clients. From a
small board room meeting to
the largest event, we have the
people and equipment to cover
your needs. A wide range of
audio visual equipment

including data, video monitors,
slide projectors, sound and
lighting is available. We
design and build corporate sets
and themes for conferences
and theme nights. Call Brett
Bower now for an information
pack and find out how
Eurovision can help make your
event a success.

Events Showbiz Shop

Production Hire/Sales
47 Auburn Street
WOLLONGONG NSW 2500
Phone: (042) 296 010
Fax: (042) 276 644
Company Principle: Stuart Udy
Established: 1992 Staff: 12 Branch
Offices at: W'gong, Nowra,
Bowral Primary Activity: Sales and
Hire, Sound and Lights. Inventory
Includes: 1. All types of Sound
Systems 2. Lighting and Staging 3.
Curtains and A/V 4. All conference
needs

Gearhouse Lighting

Corporate Lighting
22-34 Rosebery Avenue
ROSEBERY NSW 2018
Phone: (02) 9697 0400
Fax: (02) 9697 0500
Email
syd.lighting@gearhouse.com
Company Principal: Michael
Hewitt - Sydney Manager
Established: 1997 Branch
Offices At: Sydney/Melbourne

Primary Activity: Corporate
Lighting Inventory includes: 1.
32 x Cyberlight CL 2. 64 x
High End Systems Studio
Colour 3. 16 x Clay Paky
Miniscan HPE 4. Inventory of
Polished Lighting Gearhouse
Lighting has been designed to
provide the professional
corporate events producer a
new standard in corporate
lighting. Gearhouse Lighting
is part of Gearhouse Group,
the world's largest event
services grouping. Gearhouse
Lighting's attributes include
inventory utilising the latest
technology. What we do not
offer is a 'rock and roll'
approach - no scruffy roadies
and no fitting your require-
ments into an existing
inventory. Gearhouse Lighting
is targeted at the following
areas - event, conference,
theatrical, video and effects
lighting. We provide services
including: design, specifica-
tion, advice, supply, produc-
tion, one-off jobs, roadshows.
Gearhouse Lighting provides
our clients the benefits of high
impact and professional
presentation.

Grafton Lighting

Hire/Production/Sales
6/890 Bourke Street
WATERLOO NSW 2017

Phone: (02) 9698 7777
Fax: (02) 9698 9999

Company Principal: Robert J.
Vanderent Established: 17 years
Number of Staff: 5 Branch Offices
At: Sydney Primary Activity: Hire/
Production/Sales Inventory
includes: 1. Profiles, fresnels, cans
2. Truss, trees, blocks 3. Smoke
machines, Mirror balls, Party FX 4.
Display, studio, floods

Graftons Sound

Sound Hire & Production
6/890 Bourke Street
WATERLOO NSW 2017
Phone: (02) 9698 7777
Fax: (02) 9698 9999
Established: 17 years Number of
Staff: 7 Primary Activity:
Driveway Hire Inventory includes:
1. Australian Monitor Amps 2.
Australian Monitor Speaker
Systems 3. P.A.S. TOC (Time
Offset Correction) System 4. Mitec
Consoles

Image Design Technology

Videowall Rentals and Sales
16-18 Carlotta Street
ARTARMON NSW 2064
Phone: (02) 9439 3929
Fax: (02) 9439 3050
Email idt@idt.com.au
Company Principal: Gerry
Wilkins Established: March 1,
1993 Number of Staff: 27
Branch Offices at: Sydney and
Melbourne Primary Activity:

LOTS

Now with lots of audio too!

We're well known for lighting. In fact we've also been supplying major events with superb sound for quite a while now. Anything from small to large. Outdoors, indoors, and arena - with all rooms in between. We can design it, supply it, rig it, operate it, and mix it with the best of them.

Something else we like to do is sell and install systems, like the major audio and lighting system we put into the Evan Theatre at Panthers recently.

Whatever you need give us a call first. If we can't help you, we'll tell you where to go. In the nicest possible way!

1 Mary Parade Rydalmere NSW 2116
Phone +61 2 9638-0302 Fax 9638-0331



Visual Display Inventory Includes: 1. Pioneer Rear Projection Cubes 2. Hanterax Monitors 3. Imtech Processors 4. Toshiba Cubes and Processors. Image Design Technology is the market leader in professional visual display. The company's expertise lies in integrating a range of fully programmable videowall systems particularly suited to the presentation market. The company's primary client base in the rental market includes corporate broadcast, production and the trade show area. IDT is also a world class installations company, providing complete service including the technical management of the installations themselves and the crucial long term maintenance necessary to keep systems in perfect working order. Service is the key to IDT's success - for the best result, first time. The company's dedication to excellence is apparent in every videowall installation or show.

Intercity Gearhouse

Audio Visual Hire and Staging
22-34 Rosebery Ave
ROSEBERY NSW 2018
Phone (02) 9697 9977
Fax: (02) 9697 9900
Email
sydney@intercity.com.au
Url: www.intercity.com.au.
Company Principal Gearhouse Group PLC Established 1986
Number of Staff: 150. Branch offices at Adelaide, Brisbane, Cairns, Canberra, Gold Coast, Melbourne, Perth
Primary Activity: Audio Visual Staging
Inventory Includes: 1. Cube Walls 2. Large Screen Video Projector 3. Portable Video Production Units. 4. Corporate Sound Systems. Intercity Gearhouse is Australia's largest, specialised Audio Visual Hire and Staging company with branches in all major capital cities and Gold Coast and Cairns. Intercity Gearhouse is part of the International Gearhouse group supplying Large Screen Video and Data Projection Systems, Video and Cube Walls, Portable Production Units, Conference Equipment and Experienced Technicians and Operators. Specialists in the hire of Image Magnification Systems for Concerts, Entertainment Centres and Sporting Venues. For professional and friendly service call your nearest Intercity Gearhouse office or visit our web site at www.intercity.com.au.

J&A Lasers

Laser hire
24/17 Balgowlah Rd

MANLY NSW 2095
Phone: (0412) 603 293
Company Principal: Justin Barry
Primary Activity: Laser hire and production, special FX for TV and theatre.

Jands Production Services

Concert production
40 Kent Rd, MASCOT
NSW 2020
Phone: (02) 9317 5200
Fax: (02) 9693 5451
Email office@jps.com.au

Jazzright Audio and Lighting

Audio and Lighting Production
30 Romani Parade
MATRAVILLE NSW 2036
Phone: (02) 9311 1197
Fax: (02) 9661 7110
Company Principal: John Perez
Established: 1989 Number of Staff: 8
Primary Activity: Audio and Lighting Production
Inventory Includes: 1. Pro Audio Equipment 2. Pro Lighting i.e. Intelligent Lighting 3. Pyrotechnics Displays - Shows 4. Corporate Consulting.

L & W Technical Support Systems

Audio Visual Hire & Production
1/566 Gardeners Road
ALEXANDRIA NSW 2015
Phone: (02) 9667 0062
Fax: (02) 9667 0266
Company Principal: John L'Estrange
Established: July 1996
Number of Staff: 10
Primary Activity: Hire & Production
Inventory includes: 1. PA & Communication Systems 2. Audio & Visual Installations 3. Lighting & Staging 4. Repair

Laservision (Aust.) Pty Ltd

Laser Animation & Display
50 Carters Road
DURAL NSW 2158
Phone: (02) 9658 1000
Fax: (02) 9651 3217
Email laser@laservision.com.au
Url: www.laservision.com.au
Company Principal: Paul McCloskey, Managing Director
Established: 1981 Number of Staff: 20
Primary Activity: Special Events and Attractions Industries Worldwide.
Inventory includes: 1. Large selection of Display Laser Systems (0.5 watt to 70 watt) 2. Show control and integration technology 3. "AquaJet" Water screens 4. "Black Devil" high power intelligent spot lamps

Lighting Across the Board

Lighting Audio Staging
12/169 Edgecliff Road,
WOOLLAHRA NSW 2025
Phone: (02) 9369 2826
Fax: (02) 9369 2826
Mobile: (0414) 46 1968
Email alexcross@ozemail.com.au
Company Principal: Mr Alex Cross
Established: 1997 Number of Staff: 1
Primary Activity Supplier of Lighting Entertainer Equipment
Inventory Includes: Studio Vinyl Flooring 2. Diversitronics Strobe lights 3. Chromo Q Colour Changer Systems.

Lightmoves Technologies

Hire, Sales, Service, Installation
631 Parramatta Road,

LEICHHARDT NSW 2040
Phone: (03) 9560 0000
Fax: (03) 9568 2333
Email lightec@ozemail.com.au
Company Principal: Johnathon Ciddor
Established: 1989 Number of Staff: 12
Primary Activity: Hire for Theatre, Bands, Corporate Theatre, Custom Effects Projection
Inventory Includes: 1. Optikinetic Effect Projectors 2. Teatro Luminaire 3. Theatre Light Control Systems 4. LeMaitre Smoke Machines Pyro Systems

Lightsounds Pty. Ltd

Professional Lighting and Audio And Lasers
629 Parramatta Road,
LEICHHARDT NSW 2040
Phone: 1800 650 833
Fax: (02) 9560 0022
Email sales@lightsounds.com
Url: lightsounds.com.
Company Principal: Rick Chisholm
Established: 1984
Number of Staff: 8
Primary Activity: Hire & Sales, Pro Lighting Audio and Lasers
Inventory Includes: 1. F.A.L Moving Lights 2. ESP Technologies Audio Equipment 3. Light E-Motion Special Effects 4. Denon CD Players, Technics Turntables, Karaoke Systems.

Lots Of Watts Pty Ltd

Sound, Lighting Sales, Hire
1 Mary Parade
RYDALMERE NSW 2116
Phone (02) 9638 0302
Fax: (02) 9638 0331
Company Principal: Greg Kean
Established: 1992 Number of Staff: 15
Primary Activity: One stop sound & lighting
Inventory includes: 1. Intelligent Lights 2. Turbosound Concert PA Systems 3. Midas XL3 40 ch. 4. Jands Hogs

Magpie Music

Music Retail, Sales, Repairs PA & Lighting Hire
109 Carp Street
BEGA NSW 2550
Phone: (064) 923 533
Fax: (064) 923 780
Company Principal: Tony Haid
Established: 8/8/88 Number of Staff: 4F/T 12P/T
Primary Activity: Retail All Music Product.
Inventory Includes: 1. Audio Hire, all venues in our area 2. Friendly Reliable Crews 3. Stage Equipment, Local Knowledge.

MR Lighting Pty Ltd

Lighting equipment Hire & Sales :
15 Dickson Avenue
ARTARMON NSW 2064
Phone: (02) 9906 1811
Fax: (02) 9436 4497
Company Principal: Mick Morris
Established: 1989 Number of Staff: 5
Inventory includes: 1. 200w-18kw HMIs 2. Peppers - 20kw tungsten 3. Kino Flo 4. Underwater lamps

Oracle Laser Productions

Laser and FX hire and installation :
5/222 Headland Rd,
DEE WHY NSW 2099
Phone: (02) 9938 4466
Fax: (02) 9938 4504
Email oracle@geko.com.au

Staff: Paul Mazlin, Peter Henry, Mark Buczynski
Primary Activity: Laser and FX hire, installation and production
Inventory Includes: 1. 40w YAG laser 2. 20w Argon 3. 10w full colour lasers 4. 3.5w full colour lasers.

Pinknoise Audio

Sound Hire
9 Bennett Street,
GLEN INNES NSW 2370
Phone : (067) 322 927
Fax: (067) 322 927
Company Principal: Garry Kiefer
Established: 1989 Number of Staff: 5
Primary Activity: Hire Inventory Includes: 1. Meyer 2. Martin 3. Crown 4. Yamaha.

Pollard Productions

Concert, Trussing, Rigging, Special Effects
5-11 Bay Street
BOTANY NSW 2019
Phone: (02) 9700 1233
Fax: (02) 9316 6727
Pager: (02) 9962 4422
Company Principal: James Ring
Established: 1984 Number of Staff: 20
Branch Offices At: Botany
Inventory includes: 1. Concert & Tri Truss 2. Chain Blocks & Chain Motors 3. All rigging hardware 4. Special Effects
With years of industry experience, Pollard Productions are able to attend to all your production needs; from concept consultation and planning, through to fabrication, engineering, specialist rigging, any practical, mechanical and flying effects to complete event management. They can also provide all your permanent installation demands. Their emphasis remains on quality, reliability and safety. The Pollard hire department can help you with chainmotors, chainblocks, miles of truss, pallets and slings, steels & shackles, girder clamps, pullies, rope, scaffolding, decking, car ramps and platforms, turntables, pneumatic rigs, effects hardware and much more. Phone Roger, Wally or James on (02) 9700 1233 for more information, or ask for a brochure or showreel.

Premier Lighting Sydney

Lighting/Hire/Production/Sales/Service :
Factory 10, 11 Moore Street
LEICHHARDT NSW 2040
Phone: (02) 9550 9223
Fax: (02) 9564 3734
Contact: Phillip Planer, Toby Holloman (See Melbourne listing for further details)

PTM Entertainment

Production
62A Stanley Street,
EAST SYDNEY NSW 2010
Phone: (02) 9361 5847
Fax: (02) 9332 1656
Email ptme.com.au
Url: www.ptme.com.au
Company Principal: Chris

Eurovision—The Right Attitude

There are alternatives to the Goliath approach some have to audio-visual supply, a point which Eurovision use to effect. They distinguish themselves in a highly competitive audio-vision and staging market by offering a concentrated and personal service.

'We are not a large company by any means, so we don't over-run ourselves with big events,' says Brett Bower, Eurovision's Sales and Marketing Manager. 'We have a systematic approach because you can only cope with so much work before the event starts to suffer.'

Key personal include owner Yvonne Rigby. Terry Callaghan and the management team's staging skills is diverse as Mr Bower describes, 'Yvonne Rigby comes from a production background whilst Terry Callaghan is a staging and lighting guru, so we are across a variety of activities.'

'We are the preferred supplier

to a range of venues, with a large corporate base and strong relationships with various producers.' Said Mr Bower

By their own description Eurovision have positioned themselves as a boutique company, different to a way of working where productions are churned out, Mr Bower suggests, like a 'sausage factory'.

'We are small, continuously busy and don't over extend ourselves,' Mr Bowers says, 'Being a huge company is not always a good thing—for instance, if you are holding an event—from the initial call right up to show day—you could be 'hand-balled' to numerous people. Eurovision take a personal approach and allocate an account manager from start to finish for every event.'

'Corporate theatre is a big part of what we do. If there is video and audio production associated with a job we would hand that



Brett Bower

across to someone else because our focus is on the staging and the audio-visual associated with the conference. This is our core business and what we do well, getting your image up on screen and making it the best it can possibly be.'

Technology is crucial to winning events according to Mr Bower, 'There is a commitment from our management to make genuine investment into technical

areas to remain competitive with the big players. For instance, data projection is always a major area for any audio visual company. We are always looking at the latest projectors and comparing the Sony to the NEC to Barcos.

'We're very picky because we use this equipment for about three years before it's replaced. In terms of video wall technology, that's a specialty area, especially if you want to do it well. Large screen cubes are a big investment, so we are happy to let other companies make that investment for now.'

Eurovision has been in business since 1975 making it one of Australia's oldest.

'Yvonne Rigby bought the company out 2 years ago now giving it a new direction its a new owner and a new direction, so it is an exciting time for the company.'

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MAC 600

moving head colour changer, 440' pan x 306' tilt, fresnel lens, CMY colour mixing, two beam shapers & frost, 575w MSR. Super quiet and super bright!

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Roboscan 218

classic night club scanner, 18 colours & 18 gobos, 200w MSD

Roboscan 518

compact scanner with rotating gobos & prism, 200w MSD

Imagescan

moving mirror projector, rotating 35mm slide, D size gobo or overhead film. Low cost media, ideal for corporate presentations, promotions and retail display, 200w MSD

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CC's Light & Sound

538 CITY ROAD SOUTH MELBOURNE VIC. 3205

HIRE & PRODUCTION DIRECTORY

Brockbank Established: 1974
 Primary Activity: Audio Production Services Inventory Includes: 1. Soundcraft Mixers 2. PTM Amplification & Processing 3. Concert, Vocal, Dance & Corporate Systems 4. Shure Wireless Systems

Revolver Audio Pty Ltd

Audio Hire and Production
 937 Bourke Street
 WATERLOO NSW 2017
 Phone: (02) 9698 3288
 Fax: (02) 9699 9570
 Company Principal: Lee Conlon
 Established: 1975 Number of Staff: 4
 Primary Activity: Sound System Hire and Production Inventory Includes: 1. Yamaha 40 Channel PM3000 2. Martin/Revolver Speakers 4. Klark Technik/BSS Drive 4.12 Send Foldback.

Saltbush Productions

Sound & Lighting hire
 36 William St
 AVALON NSW 2107
 Phone: (02) 9918 6668
 Fax: (02) 9918 6668
 Established: 1986 Primary Activity: Sound & Lighting production Inventory includes: 1. Concert Rig to 25000W/100 cans 2. Vocal PA, minimal or more.

SAVI (Sound And Visual Innovators)

AV, Sound & Lighting Hire
 Unit 5, 108 Warrane Road
 WILLOUGHBY NSW 2068
 Phone: (02) 9417 4388
 Fax: (02) 9417 2118
 Company Principal: Edgar Kramer/Ian McLean
 Established: For 20 years
 Number of Staff: 7
 Primary Activity: Hire & Sales of AV, Sound & Lighting Inventory includes: 1. Video Projectors and screens 2. PA Systems, radio microphones etc. 3. Slide and Overhead Projectors 4. Lighting, FX & Control

Scion Stage, Sound & Lighting :

Production Hire
 18 Maitland Road
 ISLINGTON NSW 2296
 Phone: (049) 695563
 Fax: (049) 695676
 Company Principal: Darryl Hoy
 Established: 1976 Number of Staff: 4
 Primary Activity: Production Hire Inventory includes: 1. EV/JBL Speakers 2. Soundcraft/Allen & Heath Mixing Desks 3. Shure/Vega Wireless Mics 4. Lightwave Research Trackspots

Showcorp

Production Services
 12/9 Pioneer Avenue,
 THORNLEIGH NSW 2120
 Phone: (02) 9481 0440
 Fax: (02) 9481 8838
 Company Principal: Colin Baldwin
 Primary Activity: Event management and production services
 Inventory Includes: 1. Meyer 2. JBL 3. BOSE 4. Yamaha

Small Systems PA Hire

Sound and Lighting Hire
 Phone: (02) 9584 9999
 Fax: (02) 9584 1352
 Company Principal: Chris Clough
 Established: 28 years experience
 Staff: 15 Primary Activity: Sound

and Lighting Hire for all purposes
 Inventory Includes: 1. Soundcraft 2. JBL/EV Spks 3. Martin/Clay Paky/conventional cans 4. PTM Amps

Staging Connections (Australia) Pty Limited

Event Staging
 26-30 Halloran Street
 LILYFIELD NSW 2040
 Phone: (02) 9818 2555
 Fax: (02) 9818 3703
 Email
 scsyd@stagingconnections.com.au
 Url: www.stagingconnections.com.au
 Company Principal: Peter Helft
 Established: 1982 Number of Staff: 85
 Branch Offices at: ANA Hotel 176 Cumberland Street The Rocks NSW 2000, Manly Pacific Parkroyal 55 North Steyne Manly NSW 2095, Novotel Brighton Beach Cnr. Grand Parade & Princess Street Brighton Le Sands NSW 2216, Ritz Double Bay 33 Cross Street Double Bay NSW 2028, Sheraton on the Park 161 Elizabeth Street Sydney NSW 2000, The Regent Sydney 199 George Street Sydney NSW 2000,
 Primary Activity: Corporate Event Staging Inventory Includes: Audiovisual Equipment, Sets, Video conference.

Staging Connections (Coffs Harbour) Pty Limited

Event Staging
 Pacific Bay Resort Cnr. Pacific Highway and Bay Drive
 COFFS HARBOUR NSW 2450
 Phone: (066) 58 0410
 Fax: (066) 58 0420
 Email
 sccoffs@stagingconnections.com.au
 Url: www.stagingconnections.com.au
 Company Principal: Chris Speedy
 Established: 1997 Number of Staff: 2
 Primary Activity: Corporate Event Staging Inventory Includes: Audiovisual Equipment, Sets, Video conference.

Staging Connections (Wollongong) Pty Limited

Event Staging
 58a Auburn Street
 WOLLONGONG NSW 2500
 Phone: (042) 26 9555
 Fax: (042) 27 1149
 Email
 scswoll@stagingconnections.com.au
 Url: www.stagingconnections.com.au
 Company Principal: Phil Delangen
 Established: 1993 Number of Staff: 7
 Branch Offices at: Novotel Northbeach 2-14 Cliff Road North Wollongong NSW 2500
 Primary Activity: Corporate Event Staging Inventory Includes: Audiovisual Equipment, Sets Video conference.

Staging Rentals P/L

Hire of Staging Equipment
 1 Pyrmont Bridge Road
 CAMPERDOWN NSW 2040
 Phone: (02) 9519 6300
 Fax: (02) 9519 6489
 Email mail@stagingrentals.com.au
 Company Principal: Mr Meri Took
 Established: November 1990
 Number of Staff: 18 full-time, 30 casual
 Branch Offices At: Camperdown only
 Primary Activity: Special Events & Hire
 Inventory includes: 1. Stages &

Catwalk 2. Drapes, Backdrops & Scenery 3. Rigging Equipment 4. Lecterns, Flats, Bollards, Other specialty hire

Technical Productions

Event and Production Management
 Suite 13, Level 2,
 51 Spring Street
 BONDI JUNCTION NSW 2022
 Phone: (02) 9386 9494
 Fax: (02) 9386 9490
 Email
 techprod@intercoast.com.au
 Url: www.techprod.com.au
 Company Principal: Danny Yezerski
 Established: 1991 Number of Staff: 5
 Primary Activity: Event & Production Management Inventory includes: 1. Event production equipment 2. Lunar balloons 3. Martin audio systems 4. LSC lighting systems

Studio FX Pty Ltd

Hire Professional Outboard Equipment
 PO Box 696
 DARLINGHURST NSW 2010
 Phone: (02) 9281 0272
 Fax: (02) 9281 0276
 Company Principal: Peter Cobbin
 Established: 1987 Number of Staff: 2
 Primary Activity: Hire Services: Hire of new and rare vintage professional audio outboard effects and related equipment for film, music, video, broadcast, post production and related equipment for film, music, video, broadcast, post production and composers. Service, advice, delivery and collection. Inventory Includes: Sony PCM800 and Alesis ADAT 8 track digital recorders; Panasonic SV3800 DAT recorders; Lexicon 480L/PCM70/224XL digital reverb/effects; Eventide H3000 S/SE/VAI/B Ultra Harmonisers; GML, API and Pultec valve EQ; Focusrite Producer Packs (dual dynamics processors and dual EQ/mic-pre with power supply); Mixers (Mackie 1604 and Tascam M08); AMS digital processors (DMX delays, RMX16 reverb); Fairchild, BSS, Urei, Teletronix, Summit, DBX, Joe Meek and SSL compressors and limiters; Behringer and DBX de-essers; microphones including AKG C12/C24/C12NB (valve), Neumann U87 and M49 (valve), Microtech Geffell UM92S; Microphone Pre-Amps (API, GML and Trimax); Akai S3200XL midi sampler with 32Mb RAM; Keyboards.....and da whole lot more. Call for a copy of our rate card and full equipment list.

Technofear Pty Ltd

Laser Display Production Sales and Hire
 4 Seaview Street
 CRONULLA
 Phone: (02) 9544 1771
 Fax: (02) 9544 0755
 Email

dean@technofear.com.au
 Company Principal: Dean Holland
 Established: Jan 1986 Number of Staff: 4
 Branch Offices at : Sydney & Perth
 Primary Activity: Laser Productions Inventory Includes: 1. 15 Watt Colour 3D Laser 2. Dual Head 4 Watt Colour 3D Laser 3. High Power Argon and Mixed Gas 4. Air Cooled Lasers.

T-PAC (The Public Address Co.)

Sound and Lighting Hire and Sales
 141 Edwin Street North
 CROYDON NSW 2132
 Phone: (02) 9799 7219
 Fax: (02) 9799 7219
 Company Principal: Michael Orland
 Established: 1977 Number of Staff: 4
 Full Time 4 Casual
 Primary Activity: System Hire and Component Sales Inventory Includes: 1. Large Scale Hire System 2. Medium Scale Hire System 3. Small Scale Hire System 4. Huge Sale/Back up Hire Stock.

The P.A. People

432 Liverpool Road
 ENFIELD NSW 2136
 Phone: (02) 9642 5344
 Fax: (02) 9642 5738
 Email hire@estgroup.com.au
 Branch Offices at: Brisbane, Melbourne
 Primary Activity: Hire Sales Installation Inventory Includes: 1. Garwood In-ear Monitors 2. Communication Systems 3. Shure Radio Mics 4. Vocal P.A.

Twilight Sounds

Sound & Lighting Production
 PO Box 745
 INGLEBURN NSW 2565
 Phone: (02) 9829 3888
 Fax: (02) 9829 3590
 Email twilight@syd.dragon.net.au
 Company Principal: Greg Babbage
 Established: 1986 Number of Staff: 6
 Inventory includes: 1. Radio Mic, 24 ch. Desk 2. Intelligent Lighting 3. Small PA Equipment 4. Disco Lighting

Videoplus Pty Ltd

Audio Visual Staging
 9 Hill St, LEICHHARDT
 NSW 2040
 Phone: (02) 9552 3400
 Fax: (02) 9552 6066
 Email
 kfindlay@videoplus.com.au
 Web: www.videoplus.com.au
 Company Principal: Noel Hogan
 Established: 1967
 Staff: 35
 Branch offices at: Central Coast Inventory Includes: 1. Video/Data 2. Audio 3. Lighting 4. Staging
 Videoplus creates spectacular events with audio visual techniques. We partner you from concept to completion to achieve creative and professional results. We pride ourselves on offering the latest technologies as soon as they are available in Australia. This includes the newest and best in data, video, audio, lighting and staging equipment. We provide skilled technical operators who give complete attention to every detail of the running of your event. Conferences,

Staging Connections *(continued from page S1)*



'The response to our hotel services has been very positive, with all venues reporting a significant increase in the number of events being staged in-house.' Said Mr Whitworth.

Major services offered by Staging Connections include: Audiovisual Staging services for Conferences, Product Launches, Awards Nights, Business Presentations, Gala Events, Exhibitions, Sales Meetings, and National Roadshows. Some of their service areas include: Large screen video and data display, Audio systems and recording, Lighting systems, Slide and multi-image projection, Theme nights, Standard and hydraulic staging, Stage management and technical direction, Technical design.

Structure and Staff

A large shareholding in each Staging Connections office is owned by the State Manager. This structure, Staging Connections say, reflects a belief that each office is absolutely accountable for the quality of its events. On the bigger picture, Staging Connections Australia is 50% owned by the Village Roadshow Corporation. At the moment Staging Connections employ 350 full time staff across Australia, and stages some 600 presentations every week, and not limited to Australian shores either.

'In addition to its Australian operations, Staging Connections has staged events in Fiji, Vanuatu, Singapore, Hong Kong, Macau,

Bangkok, Hawaii and Los Angeles.'

Gary Hackett is the Managing Director, and is responsible for the overall strategic management of the group nationally. Key operational and technical staff include: Operations Manager Terry Rooney is responsible for the technical performance of Staging Connections Sydney, including management of all technical personnel. Senior Technicians include Dean Maxwell and Gary Wotton. Dean Maxwell is responsible for the on-site implementation of major events and staff training and Gary Wotton with his background in data projection is a touring technical director for computer industry clients. Account Managers Anthony Perrott, Vicken Hekimian and Jon Okeby are responsible for the planning and implementation of a wide range of events and product launches.

The Event Process

When a client chooses to go with Staging Connections an Account Managers is appointed and Staging Connections say all account managers have at least eight years experience in co-ordinating and staging corporate events, and have a wide knowledge of how to make a presentation effective.

'Account managers take a brief on an event or roadshow, and will suggest the best means of achieving the desired effect. They will provide a fully itemised cost estimate, including all equipment, labour and delivery charges.

If an event is national, the account manager will co-ordinate the entire event through the local office ensuring optimum quality control and information flow.'

Once the event is confirmed, the account manager will organise site inspections, develop technical plans and will liaise with venues.

'They will brief the technicians operating the show and will supervise if necessary.' Said Mr Whitworth.

Site inspections are highly recommended according to Staging Connections for the running of a smooth event. Mr Whitworth explains, 'This allows our account manager to check sight lines, access, room configuration, power and countless similar details. By meeting with the event organiser, a clear picture of the show can be developed, ensuring that client and crew on the same wavelength'

If an on-site meeting is not possible, Staging Connections has CAD diagrams of all major venues on file—which is impressive—or, if a presentation is interstate, the account manager will arrange the appropriate Staging Connections office to perform a site inspection and advise on venue suitability. In other words, all bases covered.

'We encourage clients to check with us before booking venues for large events, as selecting a suitable venue can make the presentation far more effective. It can also save

continued on next page

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MELBOURNE VIC 3205
Phone: (03) 9251 1700
Fax: (03) 9690 8841
Email admin.aavbc@aavbc.com.au
Url: www.aav.com.au Contacts:
Andris Pinnis, Manager Established: 1980 Number of Staff: 20+
Primary Activities: Creative development, strategic planning, project management, business theatre, event staging, conventions, seminars and exhibitions for corporate and government communications as well as programming for inflight and business television

A Audio Hire
Audio Hire and Installation
13 Bent Street
NORTHCOTE VIC 3070
Phone: (03) 9489 0702
Company Principal: Barry Findlay
Established: 10 Years Number of Staff: 1 Full Time Primary Activity: Hire Installation of Studio Equipment. Inventory Includes: 1.JBL 2.Mackie, Shure Lx Wireless 3.Bose 4.Yamaha

Active Lighting
Lighting and Production/Hire
1-7 Queens Ave
HAWTHORN VIC 3127
Phone: (03) 9819 6912
Fax: (03) 9819 6008
Company Principal: Andrew Topp
Established: 1986 Number of Staff: 10 (Fulltime) Primary Activity: Lighting Production and Hire Inventory Includes: 1.Clay Paky Stage Scans 2.LSC Dimming Systems 3.Coloured Scrollers 4.Selecon/Altman Fixtures

B.S Sound and PA Hire
Sound Equipment (P.A.) Hire
64 Spray Street,
ELWOOD VIC 3184.
Phone (03) 9531 1403
Fax (03) 9531 2688
Email bssound@ozemail.com.au
Url www.citysearch.com.au/mel/
bssound Company Principal: Mark Barry. Established: Dec 1988.
Staff: 2 Partners, 4 Casual Primary Activity: Hire of P.A. Systems and Microphones. Inventory includes: 1. Stereo able P.A. (3kW) + Lx 2. 6,8 ch Vocal P.A. Systems (3 Systems) 3. Microphones Inc: Cordless and Shotgun 4. Lighting.

Bishop Audio & Lighting
Audio & Lighting Sales & Hire
22 Dowsett Street
SOUTH GEELONG VIC 3220

PO Box 629 BELMONT VIC 3216
Phone: (03) 5229 2269
Fax: (03) 5229 0776
Company Principal: Kevin Bishop
Established: May 1997 Number of Staff: 4 Primary Activity: Audio & Lighting Sales Inventory includes: 1. Audio Systems 2. Radio Microphones 3. Lighting Systems 4. Specialising in school and corporate hire

Blackmore AV
AV Hire & Event Staging
137 Gladstone Street
SOUTH MELBOURNE VIC 3205
Phone: (03) 9699 5200
Fax: (03) 9699 4805 Email encorvic@ozemail.com.au
Company Principal: Alex Bialocki
Established: 1977 Number of Staff: 12 Branch Offices At: South Melbourne and Sydney Primary Activity: Hire, Staging, Video Production Inventory includes: 1. Lots of EV Sx PA speakers 2. Data projectors, LCD, CRT, Sony etc. 3. AVID Non-linear digital edit suite 4. TV Monitors, telecine, sets, auto-cue

Burkinshaw Consultants
Staging Manufacturers
12 Budgerec Place
HOPPERS CROSSING VIC 3029
Phone: 0412 386 481
Fax: (03) 9748 8195 Company Principal: Phil Burkinshaw
Established: A Long Time Inventory Includes: Staging

Bytecraft Theatrical P/L
23-29 Fonceca Street
MORDIALLOC VIC 3195
Phone: (03) 9587 2555
Fax: (03) 9580 7690
Email bytecraft@bytecraft.com.au
Url: www.bytecraft.com.au
Company Principal: Stephen

Found, Ted Fregon Established: 1984 Number of Staff: 100 Branch Offices At: Sydney (02) 9550 2955
Primary Activity: Lighting Hire Inventory includes: 1. Theatre Lanterns 2. Film & TV Lighting Equipment 3. Control Desks and Dimmers 4. Pre Rigged Truss

CC's Light and Sound Pty. Ltd
Lighting Hire
538 City Road
SOUTH MELBOURNE VIC 3205
Phone (03) 9690 3999
Fax: (03) 9690 3988
Freecall: 1800 63 33 63
Company Principal: Roger Clapton
Established: 1989 Number of Staff: 5 Branch Offices at: Moorabbin and South Melbourne Primary Activity: Sales Inventory Includes: 1. Martin Intelligent Lighting 2. JEM Hydersonic 2000 Hazer 3. Jands Hog Control.

Clearlight Shows Pty. Ltd
Lighting, Production, Hire, Sales
9 Horsecroft Place,
MOORABBIN VIC 3189
Phone: (03) 9553 1688
Fax: (03) 9553 1688
Company Principal: John McKissock Established: 1978
Number of Staff: 12 Primary Activity: Lighting Production Inventory Includes: 1. High End Systems 2. Jands Dimmers and

Staging Connections (continued)

money, as less of the budget needs to be diverted into overcoming venue drawbacks such as blacking out windows.'

Client Options and Efficient Running

Staging Connections also offer some efficient and handy operations which are built into their event planning process aimed at keeping the customer informed, confident and happy with the event staging process. These include an on-line Computer Network, Rehearsal Venue, Computer Assisted Design and Custom Staging Products. A nice option includes a fully-equipped rehearsal theatre for complimentary use by clients. Here, according to Staging Connections, presenters can rehearse under authentic show conditions. Custom Staging is also available including: Modular Sets, Coloured Draping (grey, blue, white, red and black), Drape Kits for Fastfold Screens; Fibre-Optic Curtains (20ft x 24ft wide) and Themed Staging.

The A/V Hardware

When you add up all mics, leads, screens and stands Staging Connections has one of the largest equipment inventory in Australia—and they rarely have to sub-hire equipment from other companies.

'We believe this a practice compromises reliability. All of our equipment is checked after each use and is maintained by qualified in-house technicians,' Mr Whitworth continues, 'Staging Connections has a strict policy of only purchasing the highest quality equipment available because the once-only nature of corporate presentations precludes taking the slightest risk of breakdown.'

Looking Ahead

Maintaining the ability to serve the hospitality market's on-going AV requirements is one of Staging Connections future tasks. For instance, Staging Connections has made a serious equipmental and personnel commitment to the new Crown Casino. According to Peter Kolevas, General Manager of

Staging Connection's Melbourne office, they have installed a comprehensive Meyer system—12 x MSL4s, 8 x PSW2 Subs, 4 x CQ2s and 3 x CQ1s.

'The main system was designed to be MSL4s and PSW subs with the CQ cabinets as delay on either side,' said Mr Kolevas.

According to Mr Kolevas JBL Arrays were not quite suitable for the room which has a capacity of 1600-1700—not enough throw apparently. He said that testament to this was Jands use of at least 30 Arrays recently with a series delays down the room.

'We opted for the best option. The Meyer MSL4 self-powered system is in many ways a change in direction in terms of product and Meyer is recognised as one of the cutting edge brands.'

In addition to the Meyer acquisition Staging Connections have also installed a Whole Hog 2 and 200 x Martin 518s into the Ballroom which Mr Kolevas suggests is 'almost the largest single moving light installation in the Southern Hemisphere'. Mr Kolevas says that they also run a 14-man team into the venue,

'That's where they go to work every day—we run 98 staff in Melbourne so it keeps me busy.'

As a national event staging firm, Staging Connections has received a number of awards from a range of organisations.

According to Staging Connections, these awards recognise Staging Connection's commitment to service within the conference and presentation industry.

'We are able to ensure that presenters can be assured of a professional event wherever they go,' Said Mr Whitworth. 'By pursuing these philosophies, Staging Connections has developed long-term relationships with a wide spectrum of clients. It is our aim to continue to build these relationships, establishing the partnership necessary to create successful communication between presenter and audience.'

Meyer system and 200 Moving lights join inventory for Crown Casino

Consoles 3. Selecon Luminaires 4.ETC

Concert Lighting Systems (CLS) Australia

Stage Lighting
282 Normanby Road
PORT MELBOURNE VIC 3207
Phone (03) 9646 8444
Fax: (03) 9646 8555
Email clsa@enternet.com.au
Url: www.com.au/cls
Company Principal: Trevor Lloyd
Established: 1976 Number of Staff:
20 Inventory Includes: 1. High End
Equipment 2. Truss and Rigging 3.
Theatrical Spot Lights 4. Dimming
Systems

Disco World P/L

Sales/Hire
Factory 20, Cave Hill Road
LILYDALE VIC 3140
Phone: (03) 9735 0588
Fax: (03) 9739 5441
Email archie@discoworld.com.au
Url: www.discoworld.com.au
Established: 1978 Number of Staff:
8 Primary Activity: Sales/Hire/
Distribution Inventory includes: 1.
Gemini 2. Lytequest 3. Ryger 4.
Smoke Effects, Stanton

Durham Audio Visual Hire

A/V Rental
65 Haig Street
SOUTHBANK VIC 3006
Phone: (03) 9690 2288
Fax: (03) 9696 4251 Email
durhamav@c031.aone.net.au
Company Principal: Peter Durham
Established: 1986 Number of Staff:

20 Primary Activity: A/V Rental
Inventory Includes: 1.Large And
Smaller Video 2.Data Imaging
3.Audio Systems 4.Conference
Accessories.

Gearhouse Lighting Pty Ltd

Corporate Lighting
170-180 Buckhurst Street
SOUTH MELBOURNE VIC 3205
Phone: (03) 9686 7400
Fax: (03) 9686 7411
Email
melb.lighting@gearhouse.com
Company Principal: Stephen
Bond, General Manager (See
Sydney listing for further
information)

Greenland Audio Pty Ltd

Production Audio & Hire
2/47 Crissane Road
WEST HEIDELBERG VIC 3081
Phone: (03) 9455 3081
Fax: (03) 9455 3082
Company Principal: Alan Green
Established: 1992 Number of Staff:
3, and 12 casuals Primary activity:
Production Audio Inventory
includes: 1. Shure & Chiayo
Radios 2. Bose (8) 802s 3.
Assorted Microphones 4. Assorted
mixers and outboard gear

Haycom Staging

Audio Visual Staging
29 Grattan Street
PRAHRAN VIC 3181
Phone: (03) 9529 3044
Fax: (03) 9529 1893
Company Principal: Alan Hay
Established: 1971 Number of Staff:

12 Branch offices at: Sydney,
Brisbane, Adelaide, Perth Primary
Activity: Audio Visual/Staging.

Humania Outdoor Projections

High power projections
33 Everard Drive
WARRANDYTE VIC
Phone: (03) 9844 3558
Mobile: (018) 206 160
Established: 1969 Primary
Activity: Custom projection and
SPFX for concerts, festivals

Intercity Gearhouse (Victoria) Pty Ltd

Audio Visual Hire and Staging
170-180 Buckhurst Street
SOUTH MELBOURNE VIC 3205
Phone: (03) 9686 8400
Fax: (03) 9686 8900 Email
melbourne@intercity.com.au (See
Sydney listing for further
information)

Lighting Lab

Hire
16 Clarice Road
BOX HILL VIC 3128
Phone: (03) 9898 7064
Fax: (03) 9899 5774
Established: 1982 Number of Staff:
3 Primary Activity: Hire Inventory
Includes: 1. Lighting 2. Rigging 3.
Staging 4. Rehearsal Studios.

M. Ahearne Systems

Audio & Recording
PO Box 66
HARCOURT VIC 3453
Phone: (03) 5474 2842
Fax: (03) 5474 2844
Inventory includes: 1. Major
Festival PA Systems 2. Recording
Studio/Farm

McLean Audio Services Pty Ltd

Audio Production & Rentals
Building 4, 64 Balmain Street,
RICHMOND VIC 3121
Phone: (03) 9429 5381
Fax: (03) 9428 0156
Company Principal: Richard
Bilinski Established: 1987 Number
of Staff: 10 Primary Activity:
Audio Production & Rentals
Inventory includes: 1. EAW
Speaker Systems 2. Shure VHF &
UHF Radio Mic System 3. Clear-
Com Wireless Intercom: System 4.
Yamaha, Allen & Heath,
Soundcraft consoles

Music Workshop

Hire and Sales
36 Fyans Street
GEELONG VIC 3220
Phone: (03) 5221 5844
Fax: (03) 5221 6036
Company Principal: Greg Bee
Established: 1980 Number of Staff:
10 Primary Activity: Hire/Sales
Inventory Includes: 1.E.V.
2.Mackie 3. Roland 4.Bose

Outlook Communications Pty Ltd

Hire & Production Services
121 Rupert Street
COLLINGWOOD VIC 3066
Phone: (03) 9415 7677
Fax: (03) 9415 7655
Company Principal: Greg Ginger
Established: 1990 Number of Staff:
5 Primary Activity: Theatrical &
Corporate Audio & Comms.
Inventory includes: 1. EAW KF300
speakers/Crest amps 2. Micron

Radio Mic Systems 3. Intercom
Systems 4. CCTV Video Systems
& Monitors

Nova Hire

Audio sales, supply and production
Phone: (03) 9555 4766
Fax: (03) 9553 2381 Primary
Activity: Theatre, audio, corporate
and concert touring and sales
Inventory Includes: 1. Nova
Speakers 2. Nova Amps 3.
Yamaha.

Picture This! Productions

Event Staging WINDSOR VIC
Phone: (03) 9314 2763 .

Premier Lighting

Lighting Hire/Production/
Sales/Service
433 Graham Street
PORT MELBOURNE VIC 3207
Phone: (03) 9646 4522
Fax: (03) 9646 5020
Company Principal: Bob Prosser/
Andrew Holmes Established:
December 1991 Number of Staff:
30 Branch Offices At: Brisbane/
Sydney/Melbourne Primary
Activity: Hire/Production/Sales/
Service Inventory includes: 1.
Lighting for Film, Television,
Corporate and Rock & Roll.

R & K Lighting

Lighting Production
14 Naomi Court
BAYSWATER VIC 3153
Phone: (03) 9720 7689
Fax: (03) 9738 0990
Company Principal: Rolf Greve
Established: 1991 Primary
Activity: Lighting Production/
Sales

Showpro

Tour management, PA hire
Suite 4, 7th floor
443 Little Collins St.,
MELBOURNE VIC 3000
Phone: (02) 9602 4344
Fax: (02) 9602 3575
Primary Activity: Tour manage-
ment, PA hire, production
management Inventory Includes: 1.
Meyer Speaker Systems 2. Langley
501 3. Soundcraft 4. Yamaha.

Showtech Rigging Australia

Rigging & Technical Services
23 Chessell Street,
SOUTH MELBOURNE VIC 3205
Phone: (03) 9682 2900
Fax: (03) 9682 2100
Email showtech@iaccess.com.au
Company Principal: T. Good & M.
Ashby Established: 1987 Branch
Offices At: South Melbourne
Primary Activity: Rigging
Inventory includes: 1. CM
Lodestar & Coffin Motors 2.
Tomcat Truss & Ground Support
System 3. Tri Truss 4. Rigging
Accessories

Showtech Sets & Scenery

Scenery, Props Construction &
Hire
23 Chessell Street SOUTH
MELBOURNE VIC 3205
Phone: (03) 9682 2900
Fax: (03) 9682 2100
Email showtech@iaccess.com.au
Company Principal: T. Good & M.
Ashby Established: 1997 Branch
Offices At: South Melbourne
Primary Activity: Construction &

How to create that special look for your event

You've set the date, written up the guest list, booked your favourite caterer and selected the venue. But this is only the beginning. Now you need to create that special look for your event, and coordinate your lighting, audio visual and other requirements.

You want to deal with a team of experienced professionals... Someone who will make sure no detail of your event is missed or overlooked.

We are committed to providing you the highest quality staging equipment to make your event look great. Your stage will be beautifully dressed, and freshly painted or carpeted. You can choose from over 2,000 of Australia's largest range of

rental drapes in many different colours and fabrics.

You can hire all the rigging equipment, flats, lecterns and other specialty items that you need.

Your complete satisfaction is guaranteed. If you are not happy with any of our products we will replace them at no cost to you.

To help your event run like clockwork, our team of staging technicians will promptly deliver and install everything.

Call us now on 9519 6300 for your FREE introductory design and consultation service valued at \$150. We will take you through our 47 point checklist to make sure no detail of your event is missed and if necessary, arrange a FREE site inspection.



Staging Rentals 9519 6300

"Your Complete Staging Service" Fax 9519 6489

1 Pyrmont Bridge Rd, Camperdown, NSW 2050

Email: mail@stagingrentals.com.au

Hire Inventory includes: 1. Drapes
2. Styrene Props 3. Set Dressings

Sound & Light Concepts
PA & Lighting Hire/Sales/
Production
26 Martin Drive
DELACOMBE (BALLARAT)
VIC 3350

Phone: (03) 5336 1255
Fax: (03) 5336 1320

Company Principals: Partners -
Craig Butterworth and Geoffrey
Johnston Established: 1995
Number of Staff: 2 Primary
Activity: Band & Theatre
Production Inventory includes: 1.
Crest Amps, SLC/Lorantz
Speakers 2. Mackie & AHB
Mixers, Shure, EV, Chiayo Mics
and Radio Mics 3. ARX, Yamaha,
Alesis, ETC Drive & FX 4. Axiom
& Atoms, Par 56/64, Selecon etc.,
FOH to 15 kw.

Sound Power
Hire/Installation
21 Sturt Street,
SOUTH MELBOURNE VIC 3205
Phone: (03) 9682 0202
Fax: (03) 9682 0101

Company Principal: Stewart
Guthrie Established: 1982 Number
of Staff: 2 Primary Activity: Hire
Inventory Includes: Martin EM15
2. JBL Speakers 3. Crest Amps 4.
Yamaha Mixers

Stagecraft Corporate Theatre
Event Staging
63-69 Market Street
SOUTH MELBOURNE VIC 3205
Phone: (03) 9686 7770
Fax: (03) 9686 7771

Email thecrew@ozemail.com.au
www.stagecraft.com.au~thecrew
Company Principal: Lexine
Houghton and Tim Mitchell
Established: 1994 Number of Staff:
6 Branch offices at: Brisbane
Primary Activity: AV/Corporate
Theatre Inventory Includes:
1.Experienced Staff 2.Professional
Equipment 3.Superior Service and
more.

Staging Connections (VIC) P/L :
Event Staging
101 Roden Street
WEST MELBOURNE VIC 3003
Phone:(03) 9329 5899
Fax: (03) 9329 0396

Email
scmelb@stagingconnections.com.au
Url:www.stagingconnections.com.au
Company Principal: Peter Kolevas
Established: 1986 Number of Staff:
95 Branch Offices at: Crown
Towers 8 Whiteman Street
Southbank VIC 3006, Carlton
Crest 65 Queens Road Melbourne
VIC 3004, Grand Hyatt 123
Collins Street Melbourne VIC
3000, Hilton on the Park 192
Wellington Parade East Melbourne
VIC 3002, Le Meridien at Rialto
495 Collins Street Melbourne VIC
3000, Sheraton Southgate 1 Brown
Street Southbank VIC 3006,

Primary Activity: Corporate Event
Staging Inventory Includes:
Audiovisual Equipment, Sets,
Video conference.

**System Hire (A division of
System Sound Pty Ltd)**

10-13 Porter Street
PRAHRAN VIC 3181
Phone: (03) 9529 2633
Fax: (03) 9529 4897

Inventory includes: 1. Yamaha,
Neumann, Drawmer, Clearcom 2.
Lexicon, Tannoy, BSS, LCS 3.
Meyer, Sennheiser, Klark Teknik

System Sound Pty Ltd
Sound Design & Engineering

10-13 Porter Street
PRAHRAN VIC 3181
Phone: (03) 9529 2633
Fax: (03) 9529 4897

Company Principal: John Scandrett
Established: 1979 Specialists in
musical theatre, opera, drama, jazz,
esoteric, orchestral and arena
entertainment. Broadcast specifica-
tion radio mic systems, high
quality audio processing, high tech
automation systems, two way
communication, specialists in
sound designs for difficult acoustic
environments.

The Audio Dept. Pty Ltd
Wireless Microphone Hire

6-8 Elizabeth Street
RICHMOND VIC 3121
Phone: (03) 9415 1868
Fax: (03) 9415 1595

Email gsteven@seranis.com.au
Company Principal: Colin
Stevenson Established: 1995
Number of Staff: 8 Branch Offices
At: Sydney Primary Activity: Hire
of radio microphones Inventory
includes: 1. Sony 800 and 900
mHz 2. Shure 800 mHz Systems 3.
Shure 200mHz Systems

The Complete Audio Centre
Rental, Sales Service

10/136 Cochrane Road
MOORABBIN VIC 3189
Phone: (03) 9555 1997
Fax: (03) 9555 9220

Company Principal: George
Gobaira Established: 1979 Number
of Staff: 4 Branch Offices at:
Mornington Peninsular Primary
Activity: Rental Audio Systems
Inventory Includes: 1.JBL, Bose
2.Soundcraft 3.Crest 4.Shrape Incl
Radio Systems.

Troy Balance

Audio Production Services
9 Union St,
SOUTH MELBOURNE VIC

Phone: (03) 9699 3844
Fax: (03) 9696 1125 Company
Principal: Peter Trojkovic

Primary Activity: Audio hire and
production from small to large,
outboard gear.

**Warehouse Sound
Systems Pty. Ltd**

Pro-Audio Sales and Rental
77 Argyle Street,
FITZROY VIC 3065
Phone: (03) 9417 4866
Fax: (03) 9419 0958

Company Principal: Sven
Langbeck Established: 1981
Number of Staff: 6 Primary
Activity: Contracting and Hire
Inventory Includes: 1. JBL
Loudspeakers 2. Yamaha Amps
and Mixer 3. DBX Compressors
and Gates 4. Aphex Limiters and
Compressors.

QUEENSLAND

A. Action Packed Lightshows

Lighting & Audio Hire
Shop 1, 119 Oxley Road
CHELMER QLD 4068
Phone: (07) 3379 4313

Company Principal: Jim Philp
Established: 1971 Number of Staff:
1 Primary Activity: Low cost
lighting for small venues Inventory
includes: 1. Oil Projectors 2.
Mirror Balls (many) 3. UV (many)
4. Fairylights (many)

A.T.S. Production Services

Technical Production Consultant,
Audio and Electrical Services
27 Susanne Street
SOUTHPORT QLD 4215
Phone: 0412 451 499

Fax: (07) 5564 0642 Email
ats@mars.nettrek.net.au Web Site:
www.ozemail.com.au/~c17879

Primary Activity: Technical
Production Consultant, Audio &
Electrical Services-Including
electrical safety testing of
production equipment, Audio
Engineering - various Asian Tours,
conferences and major events.
Inventory: Portable Appliance
Tester, Results downloaded to
floppy disk, meters to measure all
sorts of electrical and audio things

Australian Concert Productions

Audio Rental and Production
222 Barry Pde.
FORTITUDE VALLEY QLD 4006
PO Box 480 FORTITUDE
VALLEY QLD 4006
Phone: (07) 3854 1512
Fax: (07) 3854 1504

Email admin@acp.net.au
Url: www.acp.net.au Company
Principal: Mick Privitera Estab-
lished: 1989 Number of Staff: 8
Primary Activity: Audio Rental
Inventory Includes: 1.Turbosound
Flashlight/Floodlight 2.Turbosound
TMS-3 3.JBL Arrays 4.Yamaha
PM4000, PM3000, Midas XL3

Advanced Audio QLD

Music Shop/PA Hire/Rehearsal &
Recording Studio
419 Commerce Ct
NOOSAVILLE QLD 4566
Phone: (07) 5442 4233
Fax: (07) 5442 4404

Company Principal: Rod Watts
Established: 7 years Number of
Staff: 3 Primary Activity: PA &
Lighting Hire Inventory includes:
1. 12K 3 way systems 2. Small
vocal systems mics 3. Speakers,
mixers, FX, Radio Mics 4. Repairs,
Sales, Installations

Brisbane Sound Services

PA hire, Concert audio
36 Agnes Street
FORTITUDE VALLEY 4006
Ph (07) 3257-1851,
Fax (07) 3252-7874.

Company Owner: Nigel Line.
Inventory includes Turbo
Floodlight, driveway hire, all
audio.

CPC Audio Pty Ltd

Audio Hire & Production
14 Short Street,
BUNDAMBA QLD 4304

Phone: (07) 3816 1009

Fax: (07) 3816 1791

Company Principal: Murray
Keidge Established: 15 years
Number of Staff: 9 Primary
Activity: Audio Production/Sales
Installation. Inventory Includes: 1.
AKG/Nuemann/Sennheiser 2.
Midas & Yamaha Consoles 3.
Klark Teknik/Lexicon & Yamaha
Sig. Processor 4. Crown & Yamaha
Power Amps.

Fifalite Pty Ltd.

Lighting Hire and Sales
Unit 4, 7 Charleston Place,
MAROOCHYDORE QLD 4558
Phone: (07) 5479 5474
Fax: (07) 5479 5475

Company Principal: David Pfeiffer
Established: 1985 Number of Staff:
3 Primary Activity: Conference
and Corporate Lighting Inventory
Includes: 1. Selecon-Theatrical
Lights 2. LSC - Desks and
Dimmers 3. Highend, Martin, Clay
Paky-Fx Lighting 4. CLS & Ale -
Rigging Equipment.

Frontier Lighting

Lighting hire and sales
104 Newmarket Rd.
WINDSOR QLD 4030
PO Box SPRING HILL QLD 4004
Phone: (07) 3357 3244
Fax (07) 3357 4848

Email frontier@powerup.com.au
Staff: Jamie Johnson, Keith
Mackinnon Primary Activity:
Lighting equipment supply
Inventory Includes: Single units to
complete systems, standard
fixtures to moving lights.

I.J.S Pty Ltd.

Concert Production
30 Jamieson Street
BOWEN HILLS QLD 4006
Phone: (07) 3252 2795
Fax: (07) 3854 1608

Company Principal: Ivan Simon
Established: 1 year Primary
Activity: Sales/Installation/
Recording Inventory Includes: 1.
QLD Distributor of R.C.F. 2.
Agents for Peavey - Crest 3.24
Track Analogue 2" Recording
Facility 4. Service Agent - Peavey.

**I.J.S. Concert Sound and
Lighting**

Hire Concert/Driveway/Backline :
30 Jamieson Street,
BOWEN HILLS QLD 4006
Phone: (07) 3852 2646
Fax: (07) 3854 1608

Company Principal: Ivan Simon
Established: 10 Years Primary
Activity: Hire Inventory Includes:
1. Soundcraft Consoles 2. Crest
Amps 3. Count Speaker Cabinets
4. Concert Lighting Systems.

**Intercity Gearhouse
(Cairns) Pty Ltd**

Audio Visual Hire and Staging
2/112 Buchan Street CAIRNS
QLD 4870
Phone: (07) 4035 6522
Fax: (07) 4035 6511

Email cairns@intercity.com.au
(See Sydney listing for further
information)

**Intercity Gearhouse
(Brisbane) Pty Ltd**

Audio Visual Hire and Staging
2/26 Bailey Street

◆ Managing Growth the challenge after Audio division gets Turbo Concert System

Lots Of Watts ride the wave

SYDNEY: Greg Keen is in an office atop the Lots Of Watts building in Rydalmere, the geographical centre of the greater Sydney metropolis. Lots Of Watts own the place, it's large and well organised - the retail showroom is actually all in one piece. I'm impressed.

Lots Of Watts are probably the largest production company in Sydney after Jands, if you rule that a production company has to have roughly equal capabilities in both lighting and audio. The audio capability came in one hit when they purchased most of the PA People concert division inventory last year.

This gave them a 40 box Turbo system with all the other things you need, like amps, flying gear, and a very neat multicore transformer distribution system that is often rented out for outside broadcasts. They have a Midas XL-3

console too.

The problems associated with running a business that has grown from something small to 15 staff in less than 5 years are simple. Working capital and good staff, says Greg Keen. He is the managing director and half owner along with Philby Lewis who operates the hire and production division.

At present the firm is locked into a finance facility with the Commonwealth Bank. Greg is complimentary of the level of their backing, which has recently extended to 100% finance for purchase of an adjoining building - the optimistically named "Reliable Rubber Company" premises.



This gives Lots Of Watts three street frontages, the new place will be used for storage.

The staff situation is more pressing and affects every production firm as there is no formal training path existing in the industry. Greg is still surprised that some supposedly experienced people don't have basic knowledge of what different items of

equipment are actually used for. Indeed, some people fail to understand that a pair of par cans are wired in series.

On a lesser level Greg worries about compliance, workplace occupational health and safety, and standards. He joined the Standards Association and ponders the latest crop of rumours circulating the industry regarding mains sockets requiring a safety skirt.

Business is very good for Lots Of Watts, and is spread through dry equipment hire, production, sales and installations. "Many of our customers have grown their businesses, particularly in corporate theatre - and we've grown with them" says Greg.

-Julius Grafton

WEST END QLD 4101
Phone: (07) 3844 9171
Fax: (07) 3846 2054
Email brisbane@intercity.com.au
(See Sydney listing for further information)

**Intercity Gearhouse
(Gold Coast) Pty Ltd**
Audio Visual Hire and Staging
6 Strathaird Road
BUNDALL QLD 4217
Phone: (07) 5570 2044
Fax: (07) 5570 3099
Email goldcoast@intercity.com.au
(See Sydney listing for further information)

JuStaging Productions
Production and Event Coordination
PO Box 8332,
BUNDALL QLD 4217
Phone: 0418 741 074
Fax: (07) 5593 7355 Email
justin@winshop.com.au Company
Principal: Justin Williams
Established: 3 years Inventory
Includes: 1.Specialist Crewing
Services 2.Production Management.

Kennedy Amplifier Hire Service
PA, Lighting, AV, Hire, Sales and Service
2 Kennedy Street
MACKAY QLD 4740
Phone: (079) 573 904
Fax: (079) 573 904
Company Principal: Dale Kennedy
Established: 1969 Number of Staff:
As many as needed for the job
Primary Activity: Hire Inventory
includes: 1. 36 ch. Soundcraft

Venue 2. Event 60 and Theatre
Lighting Desk 3. Sanyo Data
Projectors SVGA 4. Lots of other
stuff!

LMNR : Pyrotechnics
5 Saffron Street
ELANORA QLD 4221
Phone: (07) 5564 0641
Fax: (07) 5564 0642
Email spark@bigfoot.com
Company Principal: Robbie Dale
Established: 1993 Number of Staff:
3 Branch Offices at: Brisbane
Primary Activity: Firework
displays, corporate theatre
Inventory includes: 500 mortars 2.
6 Electronic control systems 3.
Stock always on hand

**Multi-Image Lighting and
Production Hire**
Lighting and Video Productions :
Suite 4,3 Hampton Road
BEMAILEIGH HEADS
QLD 4220
Phone: 0418 765 892
Fax: (07) 5593 7355 Company
Principal: Chris King Number of
Staff: 3 Inventor Includes: .Martin
Moving Lights 2.Disco Fx.
Lighting Sales (Kupo, ADJ Studio
One, MA Lighting, Geni) 3.Editing
Suite (S. VHS)

Paradise Music Factory
Driveway Hire & Production
1/6 Northview Street
MERMAID BEACH QLD 4218
Phone: (07) 5575 1990
Fax: (07) 5575 2740
Email paradise@onthenet.com.au
Company Principal: Barry & Anne
Williams Established: 1975

Number of Staff: Owner Operators
Primary Activity: PA Hire, small
and large Inventory includes: 1.
"Flexi Stage" staging 2. ARX/
Australian Monitor Concert
Systems 3. Small vocal systems 4.
Rehearsal Room

Premier Lighting Brisbane
Lighting Hire/Production/Sales/
Service
32 Chester Street
FORTITUDE VALLEY QLD 4006
Phone: (07) 3257 0443
Fax: (07) 3257 0451 Contact:
Craig Ryder (See Melbourne
listing for further detail)

Pua Audio Systems
Live Sound Production
45 Harlow Street
TANAH MERAH QLD 4128
Phone: (07) 3801 4094
Email devesc@powerup.com.au
Url: www.powerup.com.au "davesc"
Primary Activity: Sound Production
Hire Inventory Includes: 1.
Mackie 2. Australian Monitor 3.
Saure Wireless Systems 4.Ensoniq
EP/44 Yamaha

**Skypak Lighting & Production
Services P/L**
Lighting Hire/Sale
2) Austin Street NEWSTEAD,
BRISBANE QLD 4005
Phone: (07) 3852 2757
Fax: (07) 3252 8910
Email skypak@rainbcv.net.au
Company Principal: Craig Fussell
Established: 8 years Number of
Staff: 3 Branch Offices At:
Brisbane Primary Activity:
Lighting Inventory includes: 1.

Martin Mac 600's 2. Clay Paky
Intelligent Fittings 3. Martin
Intelligent Fittings 4. Lasers

Stagecraft Corporate Theatre
Audiovisual Staging and Sales
1/101 Newmarket Road,
WINDSOR QLD 4030
Phone: (07) 3357 9999
Fax: (07) 3357 8888
Email thecrew@stagecraft.com.au
Url: www.stagecraft.com.au
Company Principal: Herbert Van
Daalen Established: 1988 Number
of Staff: 15 Branch Offices at: 63-
69 Market Street SOUTH
MELBOURNE VIC 3205 Primary
Activity: Audiovisual Event
Staging and Sales Inventory
Includes: 1.Sony Projection 2.
Scan Do Hire and Sales 3.Meyer
Audio 4.Draper Truss Screens

Staging Connections
Audio Visual Staging
6 Sneyd Street,
BOWEN HILLS QLD 4006
Phone: (07) 3252 9333
(07) 3252 4674 Email
mbsoworth@stagingconnections.com.au
Company Principal: Geoff Gay
Established: 1969 Number of Staff:
53

**Staging Connections (Brisbane)
Pty Limited**
Event Staging
6 Sneyd Street BOWEN HILLS
QLD 4006 Phone: (07) 3252 9333
Fax: (07) 3252 4674 Email
scbris@stagingconnections.com.au
Url: www.stagingconnections.com.au
Company Principal: Mike
Bosworth Established: 1989

HIRE & PRODUCTION DIRECTORY

Number of Staff: 43 Branch Offices at: Brisbane Hilton 190 Elizabeth Street Brisbane QLD 4000, Carlton Crest Cnr. Roma & Ann Streets Brisbane QLD 4000, Hyatt Coolom 5 Warran Road Coolom Beach QLD 4573, Sheraton Brisbane Hotel & Towers 249 Turbot Street Brisbane QLD 4000. Primary Activity: Corporate Event Staging Inventory Includes: Audiovisual Equipment Sets Videoconference.

Staging Connections (Gold Coast) Pty Limited

Event Staging
19 Northview Street
MERMAID BEACH QLD 4218
Phone: (07) 5526 0500
Fax: (07) 5572 3355 Email
scgold@stagingconnections.com.au
Url:www.stagingconnections.com.au
Company Principal: Reiner Schuhle Established: 1995 Number of Staff: 10 Branch Offices at: Hyatt Regency Sanctuary Cove Manor Circle, Casey Road Hope Island QLD 4212, Inventory Includes: Audiovisual Equipment, Sets, Video conference.

Staging Connections (Cairns) Pty Limited

Event Staging
275 McCormack Street
Manunda QLD 4870
Phone: (070) 32 2553
Fax: (070) 32 2344
Email
sccairns@stagingconnections.com.au
Url:www.stagingconnections.com.au
Company Principal: Peter Hassall
Established: 1995 Number of Staff: 7 Branch Offices at: Sheraton Mirage Davidson Street Port Douglas QLD 487, Primary Activity: Corporate Event Staging Inventory Includes: Audiovisual Equipment, Sets, Video conference.

Terry Bassett Productions

Crewing/Sound Engineering
PO Box 5660
GOLD COAST QLD 4217
Phone: 0418 985 369
Fax: (07) 5531 5880
Email
statik@marvintech.net2000.com.au
Company Principal: Terry Bassett
Established: 4 Years Crewing, 19 Years Industry Number of Staff: Up to 40 Casual Crew at 1 time Branch Offices at: Gold Coast/ Brisbane Primary Activity: Production Manager/Crewing

Wild Gravity

Sales Hire and Installation
106 Boundary Road
TOWNSVILLE QLD 4810
Phone: (077) 213 540
Fax: (077) 211 375
Email wildgrav@ozemail.com.au
Company Principal: Noel Anthony
Established: 8 Years Number of Staff: 3 Primary Activity: Hire and Sales Inventory Includes: 1. 56 ch Midas XL200 2.24 Deltamax 1183 3.Total Fabrications Outdoor Roof System 4.Audio Visual and Lighting Equipment.

SOUTH AUSTRALIA

Adelaide Sound Hire
P.A. Hire
1B Martindale Ave
TOORAK SA 5065
Phone: (08) 374 3559
Fax: (08) 8331 9605
Email adlsound@camtech.net.au
Company Principal: P.Morris
Established: 1997 Number of Staff: 2 Primary Activity: P.A. Hire
Inventory Includes: 1. 10 - EAW KF650 2. Soundcraft, Allen & Heath 3. Klark Teknik, DBX, Lexicon, Drawmer.

Golight

Concert Sound and Lighting
34 The Parade West,
KENT TOWN SA 5067
Phone/Fax (08) 8363 3393
Primary Activity: Concert sound and lighting hire and production
Inventory Includes: 1. EAW850s 2.JBL 3. Multi-pin bars 4. Theatre Lighting

Gottalite and Sound

Lighting Hire and Production
1A Davies Terrace
NAILSWORTH SA 5082
Phone: (08) 8269 2399
Fax: (08) 8344 2363
Company Principal: Phil Doherty
Established: 1984 Number of Staff: 2 Primary Activity : Hire and Production Inventory Includes:
1.Martin Intelligent Lighting
2.Parcans and Effects 3. Theatre Lights- Fresnel's, Profiles etc.
4.Audio

Intercity Gearhouse (Adelaide) Pty Ltd

Audio Visual Hire and Staging
15 Grove Avenue
MARLESTON SA 5033
Phone: (08) 8293 8155
Fax: (08) 8293 8163
Email adelaide@intercity.com.au
(See Sydney listing for further information)

Multivision Australia

Staging (Audio Visual Hire)
82 Leader Street,
FORESTVILLE SA 5035
Phone: (08) 8371 1948
Fax: (08) 8371 1486 Email
events@multivision.com.au Url:
http://www.multivision.com.au
Company Principal: Richard Creasy
Established: 1978 Number of Staff: 5 Primary Activity: Event Staging Inventory Includes: 1. Meyer Sound 2. Video Projection & Replay 3. Screens & Staging Accessories 4. Multi-image Slide Projection and Control.

Osmond Electronics

Lighting/Audio - Rental & Production
142-150 Gray Street
ADELAIDE SA 5000
Phone: (08) 8410 1111
Fax: (08) 8410 3322
Company Principal: George Psorakis
Established: 1952 Number of Staff: 10 Primary Activity: Production Inventory Includes: 1. Midas XL3-XL200 2. EV Deltamax & MT4 Systems 3. Selecon Theatre Luminaire Range 4.LSC Dimmers & Desks

PR Lighting & Set Design

Lighting & Set Design
PO Box 1038
MT BARKER SA 5251
Phone: (08) 8391 3233
Fax: (08) 8391 3233
Email prlx@olis.net.au
Company Principal: Peter Robins
Established: December 1996
Number of Staff: 2 Primary Activity: Production Design & Application

Pro Co Stage and Sound Whyalla

Retail and Rental
1/77 Essington Lewis Ave,
WHYALLA SA 5600
Phone: (08) 8644 0211
Fax: (08) 8644 40211
Company Principal: Ron Hay
Established: 1985 Primary Activity: Audio and Lighting Hire & Retail Inventory Includes: 1. JBL 2. Jands 3. Soundcraft 4. Denon.

Psycholites

Film, TV, Photographic
43 King Street
NORWOOD SA 5067
Phone: 0411 112 211
Fax: (08) 8239 0280
Email plights@camtech.net.au
Company Principal: Ian Linton
Established: 1969 Number of Staff: 4 Primary Activity: Lighting, Camera, Grip, Consumables
Inventory includes: 1. Tungsten 150 watt to 10 kw 2. HMI 125 to 4.0K Par 3. Dollies & Cranes 4. Gels, Globes, Tapes, Sprays

Staging Connections (SA) Pty Limited

Event Staging
59 King William Street
KENT TOWN SA 5067
Phone: (08) 8363 1006
Fax: (08) 8363 1402
Email
scadel@stagingconnections.com.au
Url:www.stagingconnections.com.au
Company Principal: Bill Kneebone
Established: 1993 Number of Staff: 15 Branch Offices at: Adelaide Hilton 233 Victoria Square Adelaide SA 5000, Stamford Grand Adelaide Moseley Square Glenelg SA 5045, Primary Activity: Corporate Event Staging
Inventory Includes: Audiovisual Equipment, Sets, Video conference.

NORTHERN TERRITORY

AV Sound and Lighting

Sound, AV, Lighting Hire
1/66 Smith St.
ALICE SPRINGS NT 0870
Phone: (08) 8953 4777
Fax (08) 8952 1146
Primary Activity: Sound and Lighting Hire and Sales Inventory Includes: . Soundcraft. AM Amplifiers

Top End Sounds P/L

Sound, Lighting, AV
24 Stuart Highway
STUART PARK NT 0820
Phone: (08) 8981 7744

Fax: (08) 8981 7525
Email tes@topendsounds.com.au
Url: www.topendsounds.com.au
Company Principal: Colin West
Established: 1980 Number of Staff: 10 Primary Activity: Hire & Production Inventory includes: 1. Midas & Yamaha Consoles 2. Deltamax, JBL & ARX Systems 3. NEC & Sharp Video Projectors

WEST AUSTRALIA

AAA Production Services

44B McCoy St
Myaree WA 6154
Phone (08) 9317-2055
Fax (08) 9317-1566

Audex Concert Sound Pty Ltd

Audio Production
2 Fitzgerald Street
NORTHBRIDGE WA 6003
Phone (08) 9328 3188
Fax: (08) 9227 7161
Company Principal: Keith Cramond
Established: 1980 Number of Staff: 8 Primary Activity: Audio Production & Hire
Inventory includes: 1. Midas 2. EAW 850 3. Crest 4. Meyer

AVI

Audio Visual Hire & Staging
Unit 2, 13 Mallard St
MYAREE WA 6154
Phone: (08) 9330 2000
Fax: (08) 9330 2600
Email tr@avi.com.au Url:
www.avi.com.au
Company Principal: Tony Routledge
Established: 1990 Number of Staff: 9 Primary Activity: Staging Inventory includes: 1. Big screens 2. Bright projectors 3. Experienced operators 4. Video & Audio conferencing AVI was conceived in 1990, originally trading as Haycom Perth. It specialises in staging, installation and support of large scale communication technologies such as video conferencing, data/video projection, multi-image slide projection and complete audio visual systems. It also supplies a back up support and maintenance service for al permanent installations. AVI is a wholly west Australian owned company. The service AVI offers include: Project Management, Consultancy, System Design, Sales and Installation, After Sales Support, Maintenance and Repair of Equipment, Video/ Audio Conferencing, Data/ Video Projection, Multi-image Projection, Staging and Presentation Services.

A.V.L.A. (Audio Visual Lighting Australia)

Sales and Hire of Audio, Visual, Lighting
300 Newcastle Street
NORTHBRIDGE WA 6003
Phone: (08) 9227 1399
Fax: (08) 9228 1822
Company Principal: Gino Lombardi
Established: 19 Number of Staff: 15 Primary Activity: Hire of Audio, Visual and Lighting Inventory Includes: 1. Audio Systems 2. Lighting Intelligent, Fx Lighting 4. Visual, Video Wall, Projectors etc. A.V.L.A.-Audio Visual Lighting Australia is a leading Multi-tasking sales, production and hire company. With experienced operators and technicians in all facets of audio, visual and lighting, AVLA's diversity of expertise means its various departments lead the W.A. industry in most departments. Everything from driveway hire to WA's hottest

club lighting and sound, live productions and corporate presentations, promotions and product launches. Some of AVLA's products which we are proud to be associated with are: Martin, Studio Due, Kupo, Jem, ARX, EV, Mach, Shure, Geni, Phonic, Gemini, AKG, Mackie, Denon, Pioneer, Numark, Technics, Pulsar, Soundtech, Seleo, Smartwall. Rise above your competition, impress your friends or clients with an AVLA production, unrivalled in impact, impression and professionalism.

Technofear Pty Ltd

Laser Display and Production Sales and Hire
400 Newcastle Street,
WEST PERTH WA 6005
Phone (09) 228 1711
Fax: (090) 228 0755
Url: www.technofear.com.au
Company Principal: Mark Marshall
Established: 1986 Branch Offices at: Perth and Sydney Primary Activity: Laser Productions Inventory Includes: 1. 15 Watt

Colour 3D Laser 2. Dual Head 4 Watt Colour 3D Laser 3. High Power Argon and Mixed Gas 4. Air Cooled Lasers

Intercity Gearhouse (Perth) Pty Ltd

Audio Visual Hire and Staging
35 Kensington Street
EAST PERTH WA 6004
Phone: (09) 9221 3700
Fax: (09) 9221 3870
Email perth@intercity.com.au (See Sydney listing for further information)

Lightworks Australia

Lighting hire and supply : 4/74
Collingwood St, OSBORNE
PARK WA 6017
Phone: (08) 9244 7133
Fax (08) 9244 7134
Company Principal: Neil Piccinin
Primary Activity: Concert, corporate, theatre, crew, trucks.

Rosound Hire

Corporate & General Public
29 Yampi Way
WILLETTON WA 6155
Phone: (08) 9457 4044
Fax: (08) 9354 2354
Email iross@ami.com.au
Company Principal: Ian Ross
Established: 1968 Number of Staff:

5 Primary Activity: Corporate & Sporting Events Inventory includes: 1. 3 Custom Sports Caravans 2. 80 TOA TH50 Horns & Special long horns 3. 20 EV Sx100 etc. Speaker Systems 4. ARX, EV amps, Mackie Mixers

Stage & Studio Productions

Sales, Hire & Production
6 Cleaver Street
WEST PERTH WA 6005
Tel: (08) 9227 9932
Fax: (08) 9227 9825
Email ssp@crystal.com.au
Company Principal: David Cook/
Byron Tarry Established: 1989
Number of Staff: 12 Primary Activity: Lighting, Audio, Staging, Drapes Inventory includes: 1. JBL Array 2. Selecon 3. Jands 4. Radio Mics

Staging Connections (WA) Pty Limited

Event Staging
34 East Parade
EAST PERTH WA 6004
Phone: (08) 9221 4111
Fax: (08) 9221 4991 Email
scperth@stagingconnections.com.au
Url: www.stagingconnections.com.au
Company Principal: Brian Robeson Established: 1991



Flashlight Kings at ACP

BRISBANE: Australian Concert Productions are a wholly Australian owned audio firm who operate the largest Turbo Flashlight PA system in the region.

Evolving from fairly humble beginnings in 1978, "No job is too large or too small," said Mick Privitera of ACP. "We can offer anything from a small combo system to full production of conventions, orchestral recitals, theatre, live-to-air simulcasts, entertainment centres and outdoor events. We can supply either to your specifications, or prepare specifications to suit your requirements."

ACP bases its equipment inventory around the latest technological developments in audio design such as the Turbosound Flashlight/Floodlight Systems which is recognised throughout the world

for its audio quality.

"It also has a number of cost-effective features for the touring market," said Mick. "A full 15,000 seat arena system with control and monitors fits in one truck. Other concert systems overflow into a second truck. Secondly, the Flashlight system is smaller and considerably lighter than other major company systems which results in lower labour costs for loading and moving the system."

"Furthermore, an indoor Flashlight system is considerably lighter and requires less motors and flying points than other systems - a significant advantage in some areas where there are weight restrictions on the roof. Outdoors, the system requires less steel for PA flying towers", says Mick.

• ACP: +61 7 3854-1512.

VERSATILE EXPRESS

Black Express Light and Sound has been established since 1983 and has been located at its current address for over 10 years. Over that period the business has developed from a strictly "driveway hire" operation to a large scale hire and production, nightclub hire and service, sales and installation, and even design and consultation.

The inventory of audio equipment available for hire includes such things as EHT controlled speaker and amplification systems, Technics SL1200 turntables, Pioneer and Denon professional CD players, Citronic, Numark, Gemini and Pioneer mixers, and AKG microphones.

Intelligent lighting includes Mini Scan 300's and Golden

Scans by Clay Paky, Pro 812's, Pro 218's, Pro 518's, Pro 1220's, Imagescan's, Pro 400's and Robocolour 2's, from Martin and Prince Scan 575's from Sagitter.

Effects lighting available from Clay Paky, Program System, Abstract, Martin, and NJD and include things such as the Datamoon, Monster Moon, Lynx, Raptus, Rotoscan, Liquid Light, Windstar, Breaker, Astrodisco, Astroraggi, 1500 watt strobes and many others.

The range of smoke machines includes all models from Jem's Showfogger through to the ZR31E.

High performance lasers for text and graphical applications are also available for hire.

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Number of Staff: 40 Branch Offices at: Esplanade Hotel Cnr. Marine Terrace & Essex Streets Fremantle WA 6160, Hyatt Regency 99 Adelaide Terrace Perth WA 6000, Radisson Observation City The Esplanade Scarborough WA 6019, Sheraton Perth Hotel 207 Adelaide Terrace Perth WA 6000. Primary Activity: Corporate Event Staging Inventory Includes: Audiovisual Equipment, Sets, Video conference.

Theatre Crafts

468 Newcastle Street PERTH WA 6000
Phone: (09) 9328 2787
Fax: (09) 9227 7015
Mobile: 0418 917 235
Email nie@wanews.com.au
Company Principal: Patrick Cahill Established: 1991
Number of Staff: 2, plus 2 part time Branch Offices At:
Primary Activity: Sales, Service, Hire Inventory includes: 1. Memory Lighting Control 2. DMX Distribution Equipment 3. Theatre, TV Luminaires 4. Hard To Get Items Theatre and architectural technical consultant. Specialist supplier of film, TV, theatrical lighting and control equipment, staging machinery and curtains. Also audio and PA systems, film and video projection equipment. Specialist lighting effects hire, theatrical and architectural control service and repairs. Products and services include Theatre and TV studio lighting design and consultancy. Computer lighting control specialists, digital dimming supply and installation services. Moving lights, smoke machines and other special effects products. Sale of new and second hand theatre and television lighting including photographic stands, lamps and colour filters. Principal WA dealer for Bytcraft and Strand Lighting; Coemar de Sisti special effects, television lighting and specialist software.

TASMANIA

Powersound

Sound and Lighting Hire
4 Durham Road
COOEE BURNIE TAS 7320
Phone: (03) 6431 7722
Fax: (03) 6431 7722
Company Principal: Neville Fisher
Established: 1972 Number of Staff: 3
Primary Activity: Sound Reinforcement Inventory Includes: 1. Up to 10kw FOH JBL 2. Up to 10 Monitor Sinds 3. Yamaha Digital Drive & Fx 4. Lighting, Trucking and Crew arranged.

Production Works

Concert and Special Event
Production Services
74-80 Molle St.,
HOBART TAS
Phone: (03) 6231 1505
Fax (03) 6231 1504
Company Principal: Tony Miller
Primary Activity: Audio, lighting, staging, AV.

Staging Connections (Tasmania) Pty Limited

Event Staging
1/16 Mertonvale Circuit
KINGSTON TAS 7050
Phone: (03) 6229 7510
Fax: (03) 6229 7530 Email
schob@stagingconnections.com.au
Url: www.stagingconnections.com.au
Company Principal: Tim Banfield
Established: 1993 Number of Staff: 4
Branch Offices at: Hotel Grand Chancellor 1 Davey Street Hobart TAS 7000, Primary Activity: Corporate Event Staging Inventory Includes: Audiovisual Equipment, Sets, Video conference.

Toucan Stage Lighting

Lighting Hire
182 Campbell Street,
HOBART TAS 7000
Phone: (03) 6234 3318
Fax: (03) 6234 4015
Mobile: 0418 125 389
Company Principal: Gary Molloy
Established: 1985 Primary Activity: Corporate & Theme Lighting Inventory includes: 1. Theatre Lights 2. Pars 3. Power Distribution 4. Rigging Equipment

Woodstock Music

PA and Light Hire
1629 Bishopsbourne Rd.
Longford, TAS
Phone: (03) 6391 2277
Fax (03) 63911900
Email dougal@vision.net.au
Company Principal: Doug Kelly
Established: 1980 Staff: 3 Primary Activity: PA Hire Inventory Includes: PA and Lights from large outdoor concerts to small vocal PAs.

**PUBLISHED IN AUGUST
AND FEBRUARY, INSIDE
CONNECTIONS MAGAZINE**

vocal takes in about 6 hours.'

Other solutions to tricky vocals Marshall has used: For male sibilance with a U87—'Try taping (gently) a pencil vertically on the front of the mic's pop-screen right in the middle and then if necessary use a normal popper stopper as well. This may work with girls but have never tried.' Loud screaming type vocalists, Marshall suggests, can often 'blow away' a condenser, 'And if you move them away [from the mic] the sound can become too distant or roomy.' One answer he suggests is the use of a large-diaphragm dynamic like a Shure SM7 or a 421. 'Stedman have a new mic that looks like a condenser but it's a dynamic and good for this also. Using a dynamic means the singer can scream all they like and still be right up close to the mic. The 'Chilli Pepper's singer and Mick Jagger mainly use the SM7.

'Inexperienced singers often freak when wearing headphones so sometimes it's better for them to sing in the control room with, say, a Shure Beta 58a—out of phase to the NS10s—and carefully positioned to minimise spill to get a good confident performance. A good performance with a bit of spill will always beat a technically and sonically pristine but badly sung track.'

Marshall says classic popper stoppers do a great job and also keep moisture away from the diaphragm, 'very important with condensers', and adds, 'If 'pops' still occur, just add another—there's no rules about how many to use except what your ears tell you.' He also advises using the original supplied pop shield with the mic for best results. Another option for vocal takes according to Marshall is the use of monitor wedges in the vocal booth/live room, again with the mic out of phase with speakers, 'With careful positioning you will be amazed how little spill there is when set right, quite comparable to headphone spill. Sometimes REM and U2 do this—if you look at the last three U2 records Joe O'Hearlihy (FOH Engineer) is always credited with 'Studio Monitoring'. Because they play live in the studio Joe gets all of the above happening for each one so no headphones are used.'

And to conclude on a vocal tip: 'That Elvis vocal sound: a lot of it was of course tape-echo-slap but the source is just as important. Obviously ribbons and dynamics were the main mics back then and I have had great results from a Shure SH55 (the original Elvis mic) in front of the singer and a condenser—KM86 & U87 etc—behind one of their ears facing the mouth and combine onto 1 track—watch the phasing. If you have the luxury of tracks keep them separate and play with the blend later...'

• *Editors note - since some of our experts say that a live microphone technique is sometimes acceptable, try a Beyer M88 for female vocals. It often is a great choice for live work and so I can't see why it wouldn't work a treat in the studio too!*

Thank you to all our Pro Talk participants. If you would like to participate in future subjects please call Dan Cole, +61 2 9876-3530

LETTERS

UNTRUE: AVOLITES

Twice I have seen mentions of Avolites in your magazine, and both times you have printed statements that are blatantly untrue.

Currently, I am referring to the article "1997 LOGIE Awards" and the statement "as it (Avolites Sapphire) lacked the most features most 12 channel consoles have today".

I can understand the desire to be accurate and print interviews verbatim, but it should be obvious to you that the operator is just trying to cover his incompetence and/or lack of understanding of how the console works. There is also no excuse for his lack of understanding as Avolites supply at training at no cost via our distributors or directly from our factory. The console is also supplied with a training video and operation manual by an experienced moving light programmer.

The Sapphire console is packed with powerful features for running Moving and Generic lighting systems. Many features, like 3D tracking, Live colour mixing, Chase Unfold, Timed Focus recall and the Award winning Graphics tablet totally unique to Avolites.

The Sapphire may be used for "Hands on Rock & Roll"; Semi Scripted Corporate shows or fully scripted Theatrical productions and even within these different styles, 5 different types of memory playback are offered.

As you took the decision to actually print this ridiculous statement, I hope that you will accept your responsibility to set the record straight. • **Steve Warren, Sales Director, Avolites UK.**

* *Editor responds: We have a very high regard for Avolites products. Rohan Thornton was the LD for the Logies, and he wrote the story. Personally I thought the comment was a throwaway line because surely no reader would seriously agree! We apologise for any upsets.*

STAGE SCAN REVIEW

First, I am not going to have a go at anyone for not publishing a report on the moving lx shootout at ENTECH. I know it wasn't promised. The only thing that disappointed me a little, was that for instance, all the 1200 MSR/HMI fixtures weren't programmed together on one desk, with similar movements/patterns/effects, so customers could judge things like gobo, colour quality, output, and mirror movement resolution between similar lx.

The Stage Scan review (*July Connections*) was excellent, but I would like to add two simple observations if I may. I used 4 Stage Scans and 4 HPE's in June, and had some excellent results, although I was a bit disappointed with the choice of standard static gobo's for the Stage Scans. Although they are great patterns, I think you lose a bit of creative opportunity by not having things like large and small dots, for instance.

The 17th channel, for hot re-strike of the lamp is indeed very handy, but already I have heard stories of some less experienced operators using this feature as a (shock, horror) STROBE EFFECT!! Obviously this is NBG for the lamp, but fortunately, any company hiring these units is able to de-select this feature via a dip-switch on the back of each unit. So if you are hiring Stage Scans to persons of unknown ability, or without your own trusted programming person, I would recommend the use of this option....

• **Peter Robins, PR Lighting & Set Design, SA**

BASSBOX & COBRAS

Paul Fenelon asked ("Connections", July '97, page 24) for information about the distributors for the "BassBox" software. That software is available from:

Earthquake Audio, Phone (02) 9949-8071 for \$299.00 (+ \$6.00 postage).

• **Russell E Williams, Vic**

There are lots of low frequency design software that will tell you how to design ports and what frequency to tune a box at. I suggest you try ME Technologies at Dyers Crossing NSW or Old Coloney Sound Lab in the U.S., BassBox 5.1 is available from Harris Technologies Email 72674.514@CompuServe.com BUT you are entering very dangerous territory.

1. In our experience after having designed many vented boxes, the classical text book equations for vent length (used in software) mostly don't work to well. This has been validated by a number of hy-flying researchers like Keele and Augsburger. In short, you have to measure the tuning and this isn't an easy process.

2. We were the designers of the Cobra system and we do not recommend replacing the EV15L's with 2226 drivers. For starters, the sensitivity of the box will fall substantially and the crossover network will not be suitable for that driver. A good crossover network is 100% contoured to the drivers in the box and their locations, just the carburettor is contoured to the cam shaft and other engine parameters. In the Cobra, the bottom 15L is actually rolled off to minimise lobing of the radiation pattern. The roll-off matched the rising response of the 15L and the net result is a flat frequency response from both 15L's.

The 2226 has a flat response as such, using the Cobra crossover will assist the pattern control but will produce a trough in the combined response of the 2226's. Good crossovers are not mix and match objects. If you must use the 2226's you will need a whole new crossover. • **Glen Leembruggen, Elecoustics Pty. Ltd., Sydney**

Letters: mail@conpub.com.au or fax +61 2 9876-5715 or mail to PO Box 439, EPPING NSW 2121 Australia

Studio News

○ 32 track digital moves west

JMF Studio and Eclipse Merger Complete

SYDNEY: After much planning and many hours in design and construction the merger of JMF Studio and Eclipse Studio is now complete. Relocated to Bankstown and operating as JMF Studio, the new studios now boast three recording areas, two control rooms, a MIDI suite and a vocal booth. They say that flexibility has been of prime essence in the design of the new studios.

'Engineers can now have all the separation required to mike amplified instruments and drums whilst artist can always maintain visual contact with each other. Artist can record either from the playing area or from the comfort of the control room.'

Eclipse Music Studio has done well recently with a number of ARIA Awards and voted by industry types as the best mixdown studio prior to its closure in December 1996. Artists tracking at

Eclipse Music Studio over the years have included siverchair, Margaret Ulrich, Kate Cebrano, Marcia Hines, Olivia Newton John, You Am I, Graham Connor among others.

The new JMF Studio now offers a comprehensive recording service with a 32-track X850 Mitsubishi Recorder, 24 tracks of ADAT XT Recorder, a 24 track analogue recorder, DDA DMR Automated Mixing Console, ATC, Urei 839, NS10 monitors and a wide range of effects and outboard equipment.

Mike Ward previously from Eclipse will still be Engineering, whilst Bruce McBean from the Technical Service Department of Studio 301 will provide maintenance support and technical advice.

Managers of the studios are Ralph & Fran Esther who can be contacted on +61 2 9790 4097.

Custom Gear at Paradise

SYDNEY: Paradise Studio has recently installed a custom Valve Mix Buss Amplifier, which they say makes Paradise the first studio in Australia (and possibly The World) to offer a 40-Channel Valve Mixer. Paradise have built custom equipment before, most notably the Polfield Mixer with relay switching and a 'mere' 3-amplifiers from line-in to mix-buss out. Paradise say that staff and recent clients including You Am I, The Wiggles and Slim Dusty have been

the first to use the new equipment and have been impressed, so too, well known Engineers Michael Stavrou and Ted Howard.

'You can still relay switch to our old buss amps,' says Studio Manager Jason Lea, 'Many people believe valves are particularly useful in warming up the whole mix—interestingly, the definition and sonic purity of 'state of the art' valve equipment is far superior and here to stay in professional audio.' +61 2 9357 1599.

SAE update Melbourne facility

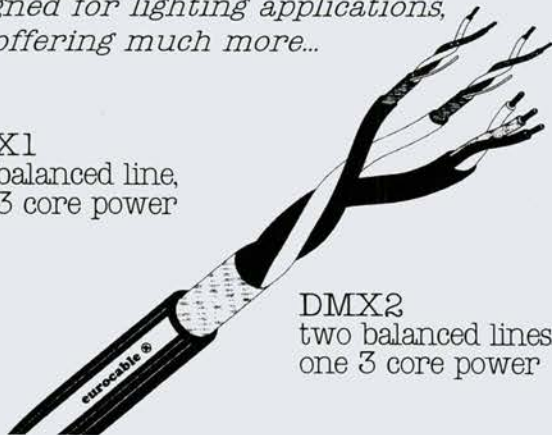
MELBOURNE: SAE has been busy undergoing changes to staff and updating equipment in time for the next intake of students this month and next. Studio 1 is having a make-over with upgraded room monitoring with top the range JBL 4435s (complete with electronic crossovers), new amplification and the Otari 24tk 2" is

receiving new heads. Students can also train their ears on the new Audio Analysis Workstation. Bruce McDonald is now Manager of the Melbourne facility and takes over from Michael Pollard who is moving on to focus on freelance engineering and the development of his music production company, Solid. T +61 3 9534 4403.

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EXTRACTING SOUND

Double Bass

Tony Hystek plays double bass with retro-style band *The Andy 500*. He is also owner/operator of Action Sound in Sydney.

'Apart from the the amplifier and speaker, if you mix your sound on stage so the mid-range is prominent, then you are always sure of getting clarity out the front.'

Tony uses a U.S. made Walter Woods 300w amplifier head. 'Most bass are familiar with them,' Tony says, 'I also go through an E.V. TL single 15" box (200w) and use an Underwood pick-up.'

'It's a piezzo-type contact pick-up which has two pressure sensitive pads that go under the bridge-wings on each side, so, you get the treble side and bass side. There is no on-board attenuation and it just plugs straight into the amp.'

Because it is difficult to hear low frequencies on stage Tony says that players tend to increase the low-end, leading to 'muddiness' out the front. Con-



versely, he says, 'By reducing the bottom end on-stage, the audience can hear it but they can also hear the mid-range because it is quite present on stage.'

'While I can't hear the low sounds I just assume they're there, besides, because the band has a low stage volume I don't need that bottom end, I just need to hear the intonation.'

-Dan Cole

Connections

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BASF National Tracking Guide

ARTIST	PRODUCER	ENGINEER	PROJECT	ARTIST	PRODUCER	ENGINEER	PROJECT
New South Wales							
Albert Studios Leesa (02) 9953 2544. 48 Track				Demi-God	Rick Mostyn	Rick Mostyn	Live CD
Liberti	Rob Taylor	Rob Taylor	Compilation Single	The Merkins	Rick Mostyn	Rick Mostyn	Live CD
The Whitlams	Rob Taylor/Tim Freedman	Rob Taylor	Album Mix	Megaphon Guy Dickerson (02) 9550 6576. 24 Track Analogue & Digital		Paul Mc Kercher	Single
Alex Kilroy	Craig Portells	Craig Portells	Album Mixes	Pollyanna		Shane Fahey	Album
Pollyanna	Paul Mc Kercher	Paul Mc Kercher	Album Mixes	Chrisade		Guy Dickerson	Mix Live Album
Brielle	Wayne Findlay	Bruce Brown		Back Sliders		Paul Mc Kercher	Single
Aphex Studio Greg Dixon (02) 9876 8170. 16 Tracks to 1" analogue				Hoodoo Gurus		Guy Dickerson	Tracking
Reeve Jingles Media	Martin Reeve	Greg Dixon	Jingles	Coda			
Greg Dixon	Greg Dixon/Doug Williams	Greg Dixon	Album Mixes	Mirage Studios Gerry Nixon (02) 9211 3915.			
Cyan Brass	Avra	Greg Dixon	Album Mixes	Mescaline	Jason De Wilde	Jason De Wilde	Album
Steve & Morri	Steven Tonge	Greg Dixon	Demos	Would Goblins	Jason De Wilde	Glen Phimister	EP
Audioscapes Jim Blackfoot (02) 9550 4205. 16 Trk. Digital Post Production				John Gillard	Clare Manhood	Gerry Nixon	Commercials
Rod Lee	Rod Lee	Jim Blackfoot	Kidsongs Post Sync.	Soda Caesars			Demos/Album Songs
Alanna Deroma	Linda Nagle	Jim Blackfoot	"Amy" Post Sync.	Nu-town Greg Hopping (02) 9516 3306. 32 Trk. Digital 16 Trk. Analogue			
Burbank	Roz Phillips	Jim Blackfoot	Archive Restoration	Tracy Arbon	Greg Hopping/Tracy Arbon	Mark Worrall	Album
Max Lambert	Max Lambert	Jim Blackfoot	Archive & CD Mastering	Tony Deveaux	Tony Deveaux/Mark Worrall	Mark Worrall	EP
Charing Cross Studio David Sykes (02) 9387 8362. 8000 Series Neve/24 Track Analogue				Mark Chong	Mark Chong	Mark Worrall	EP
Mr Blonde	Tim Whitten	Tim Whitten	Tracking Album	Daydream	Daydream	Mark Worrall	Single
Midget	Paul Mc Kercher	Paul Mc Kercher	Remixing	Anna Dante	Greg Hopping	Greg Hopping	Single
Tax	Lachlan Mitchell	Lachlan Mitchell	Album Tracking	Fury	Fury/Tim Grouse	Mark Worrall	EP
Godstar	Nic Dalton	Peter Jones	Remixing	Paradise Studios Jason Lea (02) 9357 1599. Custom Console, Studer A800, Valve Outboard			
Tweezer	Steve Foster/Band	Steve Foster	Tracking	The Wiggles	The Wiggles	C. Brooks/A. McKenzie	Tracking/Mixing
Introverse	Greg Wales	Greg Wales	Single Mixing	Becky Cole	Rod McCormack	Ted Howard	Single Tracking
Crystal Clear Studios Dave Tozer (02) 9684 1152/015 106 776. 24 Tk. Dig. (Adats), 32 Ch. Console				Ian Cooper	Cooper/Frohlich	John Frohlich	Album Mixing
Reb Baker & Houseshakers/Dave/Reb	Dave Tozer	Dave Tozer	Album	Toni Lamond	Ron Craigy	Steve Wilson	Album Tracking/Mixing
Danakil	Dave/Band	Dave Tozer	Album	Segression	Steve Smart	James Cadsky	Album Tracking
Tour Of Duty	Dave Tozer	Dave Tozer	Demo	You Am I	Cameron McCauley	Cameron McCauley	Video Mixing
RAM	Dave Tozer	Dave Tozer	Demo	Paul Bryant Mastering Paul Bryant (02) 9748 0222. Mastering Suite			
Ironbark	Dave Tozer	Dave Tozer	Demo	Audrey Auld	Nash	Paul Bryant	CD Mastering
AD	Dave Tozer	Dave Tozer	Album Mixdown	Harpin Moma	Jeff Cripps	Paul Bryant	CD Album
Damien Gerard Studios Marshall (02) 9660-8776. 2" 24 Trk., 1/2" 16/32 Trk.				Dale Juner	Ross Ryan	Paul Bryant	CD Album
Dark Seed	Norma Murphy	Russell Pilling	EP	Scott Thompson	W. Carrasco	Paul Bryant	CD Album
Gripe	Band	Jordan	Mixdown	Eartheater	Jeff Cripps	Paul Bryant	CD Master
Ian Maurice	Ian Maurice	Russell Pilling	Tracking/Mix	John Ng	Jeff Cripps	Paul Bryant	CD Master
Stumble	Andy Morrison	Marshall Cullen	EP	Powerhouse Studios Doug Henderson (02) 9318 122C. Neve 24 Input Console, Studer 24 A800			
Dennis Gonzalez	Dennis Gonzalez	Marshall Cullen	Album Tracking	Henry's Anger	Band	Russell Pilling	CD Album
Simpletons	Band	Jordan	Remix	John Rowles	L. Berger/D. Henderson	Doug Henderson	CD Album
Festival Mastering Catherine Knapman (02) 9395 8070. Sonic Solutions				Saikus	Band	Russell Pilling	CD Album
The Pagans	Tom Kazas	William Bowden	EP	Nabilone	Band	Shane Hale	CD EP
Stinkbug	Russell Pilling	William Bowden	1 Track	Freesia Mooney	L. Berger/D. Henderson	Doug Henderson	CD Single
Jean-Pierre Pujol		William Bowden	Single	"Sonja"	L. Berger/D. Henderson	Doug Henderson	CD Single
John Reed Club		William Bowden	3 Tracks	Rockinghorse Recording Studios Grant Hilton (066) 834 131. 48 Tk. Analogue, 32 Tk. Digital			
Karus Eye		William Bowden	7 Tracks	Howl	Matthew Hartley	Keith Williams	Demo
Avant Garden	Tom Kazas	William Bowden	Album	Defect	Greg Courtney	Marcus McBain	EP
Festival Studio Catherine Knapman (02) 9395 8070. 2 Analogue or Mitsubishi Digital Machines				Orlando	Orlando	Keith Williams	Gong Remix
Duncan James	Garth Porter	Ted Howard	Overdubs	Jeff Andrews	Jeff Andrews/Keith Williams	Keith Williams	Album Tracks
Dungeon	Greg Hopping	Mark Thomas	Demos	Ragadoll	Keith Williams/Ragadoll	Keith Williams	Album Tracks
Australian Jazz Guitar Trio	Wally Wrightman	Mark Thomas	Mix/Overdubs	Soundwarp Meredith Brooks (02) 9905 7144. Mastering			
Baz Luhrmann	Baz Luhrmann	Jeremy Allom	Recording	Blaine Whittaker	Blaine Whittaker/Stavrou	Meredith Brooks	Album
Rockmelons	Band	Mark Thomas	Recording	Bernie Lynch	Bernie Lynch	Meredith Brooks	Tracks
30 Piece Choir (Singapore)	Ben McPherson	Mark Thomas	Recording	Australian Blues Bros	Brett Pearce	Meredith Brooks	Backing Tracks
Hullabaloo Geoff (02) 9906 2933. Pro Tools & 24 Track				Rod Heard Jazz Q.	Rod Heard	Meredith Brooks	Album
Ha Ha Oz	Canealian Productions	Geoff McGarvey	6 Part Comedy Series	Wayne Johnson	Wayne Johnson	Meredith Brooks	Album
Singapore Bank	Dale Le Vack	Glenn Heaton	6 x 20min. Corporate Prod'ns	Johnny O'Keefe	David McLean	Meredith Brooks	Album
ABC Audio	Danny White	Daniel Bowers	3 x Talking Books	Top Cat Recording Studio Brad Wann (066) 280 843. 24 Track Analogue 1"			
"Strum"	Glenn Heaton/Geoff McGarvey	Glenn Heaton	Corporate & TVC Prod'ns	Free Spirits	Band	Brad Wann	EP CD
JMF Sound Studio Fran Esther (02) 9790 4097. 32 Trk. Digital, 24 Trk. Digital				Fog	Band	Brad Wann	Demo
Big Fun	Band	Ralph Esther	Demo	Thrumvolt	Ross Ward	Brad Wann	EP CD
Errol Earl	Errol Earl	Ralph Esther	CD Single	Shovel	Band	Brad Wann	EP
Fix	Band	Tony Jarrett	Demo	Tahnja	Brad Wann	Brad Wann	Single
Lucinda Street Recordings Rick Mostyn (042) 252 272.				Dave Cavanagh	Brad Wann/George Kent	Brad Wann	Demo
Garden Hose	Rick Mostyn	Rick Mostyn	Live CD				
Mudlungs	Rick Mostyn	Rick Mostyn	Live CD				
Kindred	Rick Mostyn	Rick Mostyn	Live CD				
Nodscene	Rick Mostyn	Rick Mostyn	Live CD				

POSITIONS VACANT (continued)

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BASF National Tracking Guide

ARTIST	PRODUCER	ENGINEER	PROJECT	ARTIST	PRODUCER	ENGINEER	PROJECT
Trackdown Digital Marcus Leadley (02) 9550 6890. 16 Track Pro Tools x 3				Helen Wright	S. Wright	B. Jacques	CD Album
Narrowcasters Aneta Olson		Katrina Schiller	Dialogue - Gallery Tours	Crystal Mastering Joe Carra (03) 9326 2318. Sonic Solutions/Apogee			
Yoram Gross Yoram Gross		Torei Lista/Tim Ryan	Skippy Series	Jonas James A. Broadhead/C. Oates	Joseph Carra	CD Mastering	
Bold Mike		Torei Lista	CD Rom Dialogue/Music	Velvet Hammer	John Ruberto	CD Mastering	
Peter Bull Peter Bull		Torei Lista/Jasmine Gufford	Record	Sherry Rich	John Ruberto	CD Mastering	
Playschool (ABC) Chris Herrriott		Katrina Schiller	Christmas Songs	Domenico de Clario	Domenico de Clario	CD Mastering	
John Hawkesworth John Hawkesworth		Katrina Schiller	Production Music	Austrian Choir Dieter Bajzek	John Ruberto	CD Mastering	
Velvet Sound Recording Studios Dave McCunn (02) 9264 3420. 32.24.12 & 24 Track 2"				Shiva Process	John Ruberto	CD Mastering	
Dopamine Sam Jackson		Tony Wall	Tracking EP	Fortissimo Recording Studios Andy or Sarah (03) 9699 5811. 24 Tk. 2" Studer A80, 40 ch. Harrison			
Julie Ayshford Craig Portells		Craig Portells	Tracking EP	Recording tech			Training
Frank Bennett Dave McCunn/Tony Wall		Tony Wall	Arnotts Campaign	Sarah Liversidge Sarah Liversidge	Andy Parsons	Demos	
Equals Three Tony Wall		Tony Wall	Tracking EP	Alan Zavod Alan Zavod	Adam Quaife	Song Recording	
Universe Steve Balbi		Tony Wall	Album Tracking	Chris Copping	Adam Quaife	Advertising	
Globe Ted Yanni		Andrew "Muff" Smith	Tracking EP	Ben Northey	Andy Parsons	Demos	
Queensland				Carbine	Sarah Hughes	Remixes	
Suite 16 Audio Productions Murray Lyons (07) 3369 8733. 24 Track Analogue, Pro Tools, 8 Track Digital				Kiss Music Recording Studios Paul Kosky (03) 9827 1500. SSL Console, 48 Trk. Digital, 48 Trk. Analogue			
Aim 4 More Garry Smith		David Champion	Album	Vika & Linda Jeremy Alom	Jeremy Alom	Album	
Jungle Boogie David Champion		David Champion	EP	Crow Paul McKercher	Paul McKercher	Album	
Sharon Moore Garry Smith		David Champion	Demo	Violette Paul McKercher	Paul McKercher	Single	
Vandersound Studios Eric Vandersande (07) 5546 8100. Fully Automated Digital & Valve & Mastering				Dream Killers Andy Baldwin	Andy Baldwin	Album	
Soil Eric Vandersande		Eric Vandersande	EP Tracking/Mix/Master	Bellucose Kalju Tonuma	Kalju Tonuma	Single	
Harvest Cry Eric Vandersande/Band		Eric Vandersande	EP Tracking/Mix/Master	Hunters & Collectors Band	Kalju Tonuma	Album	
Grain Eric Vandersande/Band		Eric Vandersande	EP Tracking	Newmarket Studios Ben Hurt (03) 9329 2877. 24 Track Analogue/Valve Mics			
29 Black Eric Vandersande		Eric Vandersande	Mastering	Luxum Victor Van Vugt	Ben Hurt	EP/Single	
Ian Francis Eric Vandersande		Eric Vandersande	Album Tracking	Dieter Bajzek Dieter Bajzek	Ben Hurt	Tracks for Album	
Matt Soome Eric Vandersande		Matt Soome	Demo	Mark Jones	Ben Hurt	Musical Demo	
South Australia				Peter Bell	Ben Hurt	Re-Mix	
ATD Master Suite Al Sankauskas (08) 8212 7111. CD Mastering Facility				Studio 52 Paul Higgins (03) 9417 7707. Studio A - Automated 48 Tk. Studio B Adat 24 Tk			
Rent Jesse Flavell/Al		Al Sankauskas	CD	Symbion Pandora Geoff Jones	Trevor Carter	Album Project	
Aire Flamenco Vincenzo/Al		Al Sankauskas	CD	Beggars Temple Band	Rowan Jarl/Trevor Carter	EP Recording/Mixing	
Fugelmen Andrew/Sam/Al		Al Sankauskas	CD	Flaming Hailstones Band	Trevor Carter	Demos/Album Production	
Kangaroo Court Mick/Al		Al Sankauskas	CD	Ritual Band	Rowan Jarl	Demos	
Rocky River Bush Band Peter/Al		Al Sankauskas	CD	Dive Band	Peter Frawley	Album Tracks	
John Vincent John/Al		Al Sankauskas	CD	Genazzano College Paul Higgins	T. Carter/Rowan Jarl	Live Concert Recording	
Agro Fish Studios Julie Raynes (08) 8223 7211. 24 Track Video Sync, Hard disk rec'ding, midi & Mixdown				True Form Music Services Neil Gray (03) 9391 0907. 16 Tk. Digital, 12 Tk. Analogue			
The Music Shop Wilson Maine		Andrew Bayfield	Kid's TV Show	Kunger Neil Gray	Neil Gray	Demos	
Hitmen Audio Prod'ns Tim Jones		Andrew Bayfield	Jingle	About Face Clare Heywood	Neil Gray	Theatre Soundtrack	
Trevor Raines Trevor Raines		Steve Fieldhouse	Demo	Tracia Neil Gray	Neil Gray	Live To DAT	
Omegatrends Rob Pippan		Andrew Bayfield	Anthem Nat. Convention	John Doe Neil Gray	Neil Gray	Pre Production	
Creative Forrest Prod'ns Mike Forrest		Andrew Bayfield	Jingle	Dashboard Mary Neil Gray	Neil Gray	Demos	
Mixmasters Productions Mick Wordley (08) 8278 8506. 24 Track 2"				Powercore Band	Neil Gray	Mix EP	
Ken Howden Kerry Tolhurst		Mick Wordley	Album	Wombat Road Studio Barrie Clissold (03) 5145 4204. 32 Tk. Digital, 16 Tk. Analogue			
Lachlan McLeod McLeod/Wordley		Mick Wordley	Album	Tinkers Cuss J. Corby	Barrie Clissold	Demo Tape	
Michael Brown Les Karski		Mick Wordley	Album	Crossroads V. Garth/C. Twite	Barrie Clissold	Album Tracking	
ASD ASD		Mick Wordley	Album	Barbara Suter G. Bantock	Barrie Clissold	CD Prod./Mixing	
Reynolds & Love Recording Studio Nick Love (08) 8410 3044. 16-24 Tk. Digital, 16 Tk. Analogue				Jim Ayres Barrie Clissold	Barrie Clissold	Album Tracking	
Rob Guest Carl Doy		Doug Jane	Album	J. Brehaut J. Brehaut	Barrie Clissold	Relaxation Album	
Adult Toys (Zep Boys) Ray Axisa		Nick Love/Eddit Sikorski	CD Single	P. Williams Band	Barrie Clissold	Demo Tape	
Stolen Waters Band		Nick Love/Louis Panayiotou	CD Single	Western Australia			
Captain Pyjama Band/Louis Panayiotou		Louis Panayiotou/Nick Love	Album	Poons Head Rob. Sam, Bush (08) 9339 4791. 48 Track Studio			
Hobsons Choice Band		Eddie Sikorski	EP	Grahame Dickenson Rob Grant	Rob Grant	Album	
King George the VII Nick Love		Nick Love	Album	Brendan Brendan	Rob Grant	Jingle	
"the fridge" Nigel Sweeting (08) 8231 3588. 16 Tks Digital, 16 Tks Analogue, Fully Automated Mixing				Bolsta Rob Grant	Rob Grant	Album	
Ahker Nigel/Band		Nigel Sweeting	CD Remix	Pokerface Chris Thompson	Rob Grant	Triple J Recording	
Nyk Holt Nigel/Band		Nigel Sweeting	Tracking	Chandra Rob Grant	Rob Grant	Song	
Dave Robinson Nigel/Dave		Nigel Sweeting	CD	The Strange The Strange	Rob Grant	Mastering	
Victoria							
C'est Ca Recording Norman James (03) 9419 1506. Automated 24 Track Digital and Analogue							
Footscray/Yarraville Band Norman James		Norman James	History of CD				
Bernard Bolan Norman James		Norman James	CD Album				
Breadmakers Norman James		Genn Coath	Album				
Bleach Girl Zone Records		Genn Coath	Comp. Album				
Cloudburstz Studio Bruce Jacques (03) 9416 1038. 24 Tk. Digital, Pro Tools/DAB8/MIDI							
Indian Giver Band/M. Pollard		M. Pollard	Demo				
Poesia Andina M. Pollard		M. Pollard	CD Album				
Sam Green Sam Green		D. Warren	Edits/Mastering				
Robert Slaney R. Slaney/B. Jacques		B. Jacques	CD Album				
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BUYERS GUIDE

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UNDER \$7500

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Promix O1 digital mixer, 16 channel, 4 aux, 3 band parametric EQ, stereo cue buss, 2 multi-FX, 3 dynamics, automation and snapshots, MIDI. \$3495.

MACKIE DESIGNS

Australian Audio Supplies (043) 291 711

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MS1402-VL2 6 low noise high headroom mic preamps with phantom power, 8 stereo line inputs, 3 band EQ, 60 mm faders, balanced XLR main outputs. \$1495.

MS1202-VL2 4 low noise high headroom mic preamps with phantom power, 8 stereo line inputs, 3 band EQ, balanced XLR main outputs, solo. \$995.

ALLEN & HEATH

A.R.Audio Engineering (02) 9810 5300

MixWizard 16:2 16 mono input desk top or rack mount mixer, left/right/mono outputs, 6 auxiliary sends, 4 band EQ with 2 mid sweeps, 2 stereo returns, 100 mm faders, direct outs, vertical individual PCB construction. \$2795.

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struction. \$2995.

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SPIRIT

Jands Electronics (02) 9582 0909

Folio Notepad smallest and most affordable mixer in the Spirit Folio range for home studios, multimedia, video post, location mixing. DAT quality; impressive EIN and high RF rejection. Four mic and two stereo inputs; separate mix and monitor outputs. \$595.

Folio SX high quality 4 bus (mix and sub) desktop or rackmount recording or live mixer. 12 mic and 4 stereo inputs; ultramic preamps; 3 auxes; 8 direct outputs; superb low noise, surface mount design; 100mm faders. \$1995.

Folio Protracker 8 channel rack mount mixer designed to interface to digital 8 track recorders for live tracking. Expandable; 3-way EQ; aux send; inbuilt limiters on each output; low noise pre-amps. \$2695.

Spirit Studio 16 professional multitrack recording console. Up to 40 inputs available at mixdown. Split, assignable 4 band EQ; 6 aux sends, 8 groups, di-

rect outs; external power supply. \$6995 (16ch).

FENDER

Fender Australia (02) 9666 5077

MX5224 24 channel, 4 subs, stereo/mono o/p, six sends, 4 returns 3 way EQ with mid-sweep, 100mm faders, separate power supply. 5 year warranty. \$3500.

MX5232 as above but 32 channels. \$4500.

SOUNDTRACS

Synchrotech Systems (02) 9879 0800

Topaz 14/4 10 Mic/Line & 2 stereo line inputs, 3 band EQ, 2 Aux's, a Stereo FX returns, Stereo group & L+R master, 48v phantom power, fully balanced also available 12/4 & 24/4. From \$1475.

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Topaz Project 8 24 or 32 input frame, in line design with dual input/output modules both with EQ, 8 groups + master L + R, 4 band EQ with 2 sweeps, 6 aux's, 10 x Bargraph meters, fully balanced, optional meterbridge and automation. From \$5000.



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continued on page 50



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24.8 24 channels, 8 subgroups, low noise high headroom mic preamps, in line monitoring, true parametric hi-mid EQ. \$8895.

SPIRIT

Jands Electronics (02) 9582 0909

Spirit Studio 24/32 professional multitrack recording console. Up to 72 inputs available at mixdown (32ch). Split, assignable 4 band EQ; 6 aux sends, 8 groups, direct outs; external power supply. \$9995 (24ch).

Spirit 8 16/24/32/40 new 8 bus console for live and recording direct to multitrack applications, 40 UltraMic Plus pre's 12 stereo inputs (40ch); 4 mute groups; 8 audio groups; 4 band British EQ with 2 sweeps; 6 auxes; integral meterbridge. \$11,995 (24ch).

SOUNDCRAFT

Jands Electronics (02) 9582 0909

Ghost 24 unique in it's class, it has transport controls for MIDI machine control; track arming, locate and cycle keys; timecode reader and generator; 128 onboard mute scenes. Inline format with 56 inputs at mixdown; 8 groups; 4 band split EQ with 2 fully parametric mids; 6 mono + 2 stereo auxes; optional meterbridge. \$14,495.

Ghost LE 24/32 as Ghost except no automation and machine control. \$11,995 (24ch).

TASCAM

TEAC Australia 0418 356 501

M-2600 Mk2/24 24 input, mic-line + 24 tape returns-in-line construction, 8 buss, +/- 20v power supply rails for superb audio quality and low noise. 8 aux; 4 band - split EQ; channel, group and L/R buss inserts; phantom. \$7500.

M-2600 Mk2/32 32 (64) input version of above. \$8695.

SOUNDTRACS

Synchrotech Systems (02) 9879 0800

Topaz Maxi 8 group 20 or 28 Mic/Line + 2 stereo line inputs, 4 stereo FX inputs, 4 band EQ (2 sweeps), 8 group, 8 Aux's, 10 x Baragraph meters, 48v phantom power, fully balanced. From \$8600.

OVER \$15,000

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Allen & Heath MixWizard

namic DSP, 8 aux out, user specified AES/EBU, TDIF, ADAT I/O. Expandable to 64/32. \$59,000.

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Yamaha Australia (03) 9699 2388

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M2000-24 24 channel + 2 stereo channels, 8 buss, 6 aux with 4 band EQ (mid swept), direct outputs, inserts, cue, 128 scene memories + MIDI control. \$28,995.

M2000-32 32 channel + 2 stereo channels, 8 buss, 6 aux with 4 band EQ (mid swept), direct outputs, inserts, cue, 128 scene memories + MIDI control. \$33,995.

M2000-40C 40 channel + 2 stereo channels, 8 buss, 6 aux with 4 band EQ (mid swept), direct outputs, inserts, cue, 128 scene memories + MIDI control. \$39,995.

SOUNDCRAFT

Jands Electronics (02) 9582 0909

Ghost 32 unique in it's class, it has transport controls for MIDI machine control; track arming, locate and cycle keys; timecode reader and generator; 128 onboard mute scenes. Inline format with 72 inputs at mixdown; 8 groups; 4 band split EQ; 6 mono + 2 stereo auxes; optional meterbridge. \$16,995.

DC2020 24 (32/40) moving fader automated inline console with touchscreen driven onboard computer that controls console automation; machine control for all popular digital and analogue recorders/sequencers, and project management. Optional patchbay. \$56,900.

TASCAM

TEAC Australia 0418 356 501

TM-D8000 digital production console, 16 analogue, 24 digital inputs, 24 track arming and machine con-

trol, integrated meterbridge, on board dynamics, automation via Mac. ETA Oct. '97. \$16,500.

M-5000/FA up to 80 inputs fully balanced 24 buss, +/- 21v power supply ail, pro-standard 5532 op. amps, 6 EQ bands, 1 stereo + 6 mono aux, VCA automation, programming and control via Mac, independent fader. \$44,330.

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Studio Connections (02) 9873 3994

CS 2000 digitally controlled analogue mixer with 6 inputs per channel, on board signal processing and automation. All controls may be stored and recalled in 1/30 second. \$150,000+.

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SOUNDTRACS

Synchrotech Systems (02) 9879 0800

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AMS Libra a fully digital fully automated console, touch sensitive faders and logicators, 4 band parametric EQ, assignable filters, up to 96 inputs, built in router, LCRS, 16 aux's, sample rate conversion, multi transport machine control, 2 built in screens, jog/shuttle wheel. Up to 48 faders. From \$240,000.



Soundcraft Ghost

Neve VX/VXS 48 bus multitrack routing, 8 mono aux's or 4 stereo, in line or split console monitoring, gate and compressor on each channel, spectrum formant EQ, encode moving fader automation, 5:1 and 7:1 surround sound, joystick and 3 track panner, 200 segment bargraph metering, up to 96 channels. From \$500,000.

Next Month

MICROPHONES

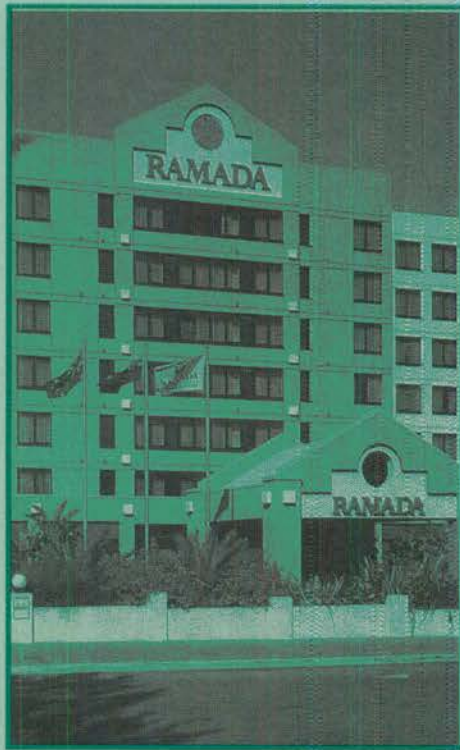
EASY SOLUTIONS

The Concept

The Ramada Hotel at Parramatta needed to improve its audio system in the function areas. The five rooms are used for individual meetings or larger functions when joined together. A central foyer area is also used. Hotel function areas need to be flexible - catering to meetings by day and weddings by night. Quick change and versatile design are essential. The old style 'evacuation system' PA was not adequate. Improved audio would assist the saleability of the function rooms.

The Problem

With five rooms and the foyer area, the customer really needed a room combining system with smart programmable control. Wall switches would activate different preset programs on a 'smart' controller, which would activate other components like preamps and amplifiers using control protocols. But the budget wasn't sufficient! Quality audio for background music and public address was required, but the control needed to be designed without a 'smart' control system! Which was almost impossible.



About the FreeSpace® Business Music System

The FreeSpace 6 system comes with control electronics, and four small full range speakers. Up to 12 additional speakers can be run from one control unit, using an expansion module. Input selection and volume can be controlled from a remote wall panel. Wiring to the remote panel is twisted pair, the volume control is handled by an internal VCA in the control electronics.

A smaller system - the FreeSpace One system is also available.



The Solution

Bose® dealer Trevan Johns & Associates looked at the job and talked with the client. Examining the typical uses of the five rooms, it was decided that a viable system could in fact be designed using separate Bose FreeSpace Business Music Systems combined when necessary. FreeSpace 6 utilises a clever system electronics box with amplifier, mixer and system source switching all integrated. Remote control of volume and source switching is what made FreeSpace viable for this job. The system electronics unit for each room could be switched to one source if required, with the rooms cascading from the first. Although not quite as versatile as a 'smart' system, the design would function to the customers satisfaction, with wall switches providing transparent room combining.

The Result

Trevan Johns & Associates placed all the system electronics together in a control 'cupboard'. Remote microphone connections and volume controls were placed in each room. In the control cupboard are switches to separate or combine the three Marsden and two Anderson rooms or to run separately. Microphone gain control is preset with acoustic conditions in the rooms taken into account. It is also possible to link all the rooms together and to run background music direct to the foyer - 'wedding' mode. The speakers are extremely unobtrusive - FreeSpace 6 comes with either flush mount or surface mount compact speakers. Each FreeSpace 6 control unit can handle up to 16 speakers.

BOSE®

CROWN

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CROWN ATRIUM SOUND REINFORCEMENT SYSTEM

Last month we detailed the mechanical and lighting aspects of this remarkable public space in the new Crown complex in Melbourne. This story, by Stephen Love, details the workings of the audio system.

The Melbourne Crown Casino's audio visual display in the Atrium is spectacular in anyone's language. It boasts many imposing technical statistics not least of which is a sound reinforcement system boasting over 62 kilowatts of available amplifier power.

Rutledge Engineering (Australia) Pty Ltd won the contract to supply, install and service this system in early 1996. The system was installed and operational by December of the same year on schedule for initial programming and room equalisation well before the final fit-out of the room's interior.

The Atrium is a large space separating the Casino's entertainment areas from the main Hotel. It's approximately three floors high and about the same width dissecting the main building east/west from the Yarra towards South Melbourne. Architecturally it is very formal with heaps of glass and brass broken-up with lashings of marble - including a huge marble staircase that sweeps up from the ground floor - the kind you only read about in fairy stories.

The first and second floors offer a series of balconies which overlook the Atrium space. This space forms the performing area for the Atrium's ongoing show "Four Seasons". The balconies provide vantage points from which to view and listen to the audio visual display, however, the design of the show is three dimensional using all of the elements and surfaces to great effect encouraging you to move around the area. From lasers, smoke and mirrors to formal, intricate water features and moving chandeliers the show provides the viewer with an ever changing perspective as they move around the space.

3 Dimensional sound

To reflect this theme the sound reinforcement system had to be substantial and three dimensional. The main control room is situated on the second floor balcony area while the amplifiers and processing equipment is located in the basement car park. The equipment room acts as a hub for the control and signal cable emanating from various control points around the space.

The programme material for the system originates from digital sound storage units located in the main control room. These sources include 2 x Tascam DA88's and 2 x Akai DR8's using Glyph hard drives. These storage units provide up to 3 hours of continuous multi-track material from which each 10 to 15 minute performance is drawn. In this way no two performances are necessarily identical. Along with the audio these machines provide the SMPTE time code which synchronises the other elements

of the show.

A Peavey Media Matrix system comprising a mainframe and nine digital breakout boxes, offering 72 inputs and outputs, provides the processing and distribution control of the audio signals. Up to 36 inputs are used with all 72 outputs feeding individual power amplifiers. The MediMatrix system provides several key processing functions including mixing, routing, equalising, time delays, crossover points for speakers, as well as an output matrix for final signal distribution to the correct speaker.

To accommodate not only the three dimensional aspects of both the show and the viewing position of the audience a total of 115 speakers were installed and wired to 72 amplifiers. To allow for easier control each floor area was divided into 14 segments of zones coinciding with the balconies. The speakers employed include EAW 1X-1 custom built full-range directional boxes, EAW SB120PD1 sub-woofers, EAW SSB215 custom made mid-high boxes, Renkus Heinz CEMH64 directional horn loaded boxes and Tannoy CMS-6 ceiling speakers.

AMP CITY

A total of 9 x Cyberlogic amplifier frames house 48 x 700 watt and 24 x 1200 watt amplifiers. Each Cyberlogic power amplifier frame is provided with its own 30 amp circuit breaker and is hardwired back to the switchboard. Because of the very large turn on current surge each amp frame is turned on sequentially via a PLC. A separate cooling system is provided in the equipment room specifically for the audio equipment.

A mobile rack incorporating a 1604 Mackie mixer, radio microphone, communications and sound sources including digital and analogue replay equipment was also provided as part of the system. This mobile rack allows control of the sound system from any location as well as the ability to use the system in live situations. This was the system used for the opening ceremony supplying the signals not only for the local system but was also distributed throughout the entire casino and provided the audio feed for the press and outside broadcast links. •

Other audio visual work at CROWN that was completed by Rutledge Engineering includes the 'C2', involving the gaming area and the Palladium; 'Interview Suite', 'Aces Buffet', 'In-Venue video system', 'Casino Monitors', and various other work.

Contact Rutledge: +61 3 9419-8111.



The mobile audio rack can be relocated via multipin plugs - without interrupting the program.

The hard disk recorders are located elsewhere, and the Media Matrix mainframe is in the amp room (top).

We made the console,



...you wrote the ad.

● "I just sold my Mackie 8-bus and purchased the new Ghost console. The difference is amazing. The Ghost is the warmest sounding board I've ever used." - Mike Perkin (The Lab Recording Studio, Emmaus, Pa)

● "I replaced a console that was more than 3 times the price, and got a quieter, more transparent, and sweeter sounding console! Big console feel, with an amazing price!" - Kurt Bevers, Brownell Sound, Oregon.

● "An incredibly musical console, ultra flexible with a real usable EQ. It is absolutely the best sounding project studio board that I've heard". - Howard Givens, Spotted Peccary Studios."

● "I love the desk, the EQ is just marvellous. Ghost is the best 8 bus recording desk on the market." - Lee Hamblyn, Engineer.

● "Intuitive handling, flexible routing, great Soundcraft sound." - Melvin Ferrandes, Recording Engineer, CMM Studios, India.

● "I use the Ghost for several radio shows doing live performances. Doing dance stuff is one, doing live stuff is another. But I use only one board for both of them, The Soundcraft Ghost." - Barney Broomer, Sonic One Rotterdam.

● "Ease of operation and the numerous in-line inputs for my synthesizers and samplers is why I purchased the Soundcraft Ghost console." - says President of Saban Entertainment and producer of Mighty Morphin Power Rangers Shuki Levy.

● "I didn't know how useful mute groups could be and how good the EQ had to be until we used the Soundcraft Ghost." - Stefaan Windey, La Linea Musicproductions b.v.b.a., Belgium.

● "It sounds great and the EQ is very precise which makes it very easy to pin-point the frequencies I need to work on. Ghost enables me to finish mixes on the console at home, without having to use any other studio." - Phil Kelsey (Remix Engineer)

● "The console is very user-friendly and is constructed so well that it can easily withstand the rigors of even the most hectic of production schedules." - Corey Dissin, Producer at Paul Turner Productions.

● "Both myself and our Production Director Jeff Thomas used the console for PowerStation and were equally very, very impressed. For the money, the console is fantastically versatile, has good headroom and a very impressive EQ." - Alex Lakey (Engineer for PowerStation)

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Write in Reader Service Number 120

SUPERTRAMP

Australian Angus Davidson has left Melbourne to mix FOH for Supertramp - one of the most prestigious tours of the European and American summer. He is also one of the first to use the new V-DOSC PA. Steve Moles catches up with him at London's famous Albert Hall.



Angus Davidson is like a man possessed. As he stands at the console amidst the wedding cake splendour of the Royal Albert Hall he is literally besieged by a seemingly endless line of sound engineers and the great and good from the UK audio industry. While lighting director Guy Forrester stands there bemused - "This has been going on for the last couple of weeks now", he sighed.

Angus despite the constant harassment, still manages to talk animatedly about what he's doing. His enthusiasm is all too apparent, "Normally in this kind of venue anything over 116 dB and the sound's completely out of control. I'm reaching 125 dB peaks and you don't even realise it."

This is not the first wave of some heavy metal revival, Angus (well known for his work with Crowded House) is mixing the prototype of all lounge acts, Supertramp. If it was religion he was talking about you'd say he was evangelical. It would be nice to think it was the band that was the focus of all this ardour, like some new act that was going to sweep the world and lucky Angus had found himself at the helm. But no. Whatever you may think about the musical merits of Supertramp they are not at this late stage in their career going to set the world on fire. So just why did Brian Grant from Britrow, Tony Andrews and John Newsham of Flashlight fame,

and a host of luminaries of equal calibre troop down to one of the poorest sounding auditoriums in London?

"This system's revolutionary", said Angus of the V-DOSC PA he's using. "All those people out there with warehouses full of SLSs and dinosaurs like that better watch their arse", Angus believes this is the future.

The V-DOSC system has actually been around a couple of years and has received a largely cool reception, not through its inability to impress but possibly as a product of the radical thinking behind it. (It might be different in Aus, but British engineers are a conservative bunch, try asking one to tell you why he prefers Midas to Laregy Recall). It's the kind of system that engenders an, "OK, you take it out on the road and let me know how you get on. I'll think about it next year" Well Angus is the man with the Cajones to go and do just that.

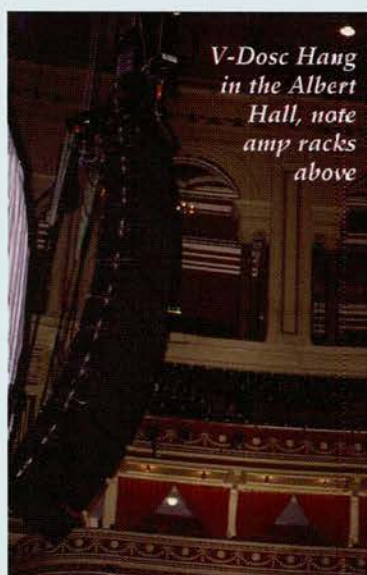
To give you a flavour of the beast, when playing the arenas of Europe, the ten to twenty thousand seater circuit, Angus usually hangs just twelve cabinets a side, and these are modest boxes just 1300mm wide, 690mm deep and slightly over 400mm high. They weigh 103kgs and contain two fifteens, four sevens and two two inchers in each box, this is a tiny system but believe me it delivers. The concept is simple enough, to cre-

ate a line array that behaves just like a single coaxial source, the single source point theory eliminates the destructive forces of comb-filtering and the chaotic energy that compromises more conventional multi-speaker arrays. The actual sculpting of the wavefront that emanates from the array has a more complex explanation but this is not the place for it. What is significant to note is the increase in relative power and coherence,

"Instead of the usual loss of 6dB each time you double the distance from the source, with this it's halved to around three," explained Angus. "What you end up with is that near field sound, that really clear and uncluttered zone where everything is balanced and phase coherent projected right out to the furthest seat."

The proof is in the pudding, Supertramp are a very Hi-fi kind of band, very musical with a great blend of instruments across a

continued on page 56



V-DOSC PA



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SUPERTRAMP

broad dynamic range, horns, strings, percs and synth's with both solo and complex vocal harmonies. What impresses with this system is the consistency of delivery - when accurately deployed the V-DOSC conveys a truly coherent and consistent sound to every corner of the room. If you've ever visited the Albert Hall as an engineer you'll know all about the mush that inhabits the upper gallery and the inconsistencies created by aiming a PA into what is a giant parabola.

Precision is required in hanging the linear array, each box is rigged horizontal one beneath the other, to form a long strip just four foot wide each side of stage. No more than five degrees of kelp can be tolerated between each cabinet in the strip or else the essential coupling that enables the system to behave as a single source is lost.

"We use a laser tape-measure with an inclinometer to draw an accurate cross section of the building and then I feed in



Lighting wise, Guy Forrester may actually have welcomed the focus of attention on or Angus. Although he's worked on many shows for LD Roy Bennett in the past this is his first stint at the controls of the Icon Show Controller (LSD are main lighting contractor). "The desk is not really a problem", he said, "the biggest change I notice is the ability to assign any function to any button but even then that doesn't make up for the fact that I've spent most of my time running an Artisan. The first couple of weeks were tough, especially as we were playing in a range of venues that forced

constant changes to Roy's full design. Forrester was further hampered by not actually programming the show, Gary Westcott being brought in by Bennett to speed this process along and thus maximise rehearsal time. But they'd been out eight weeks by the time the tour reached the Albert Hall and Forrester appeared totally non-plussed that the full rig had been compromised once again for this awkward shaped stage.

Bennett also designed the set for this show, a role he

seems to be taking on increasingly. Fairly minimalist, the show relies heavily upon video and abstract projection, a useful prop what with the band's stage personas verging on the catatonic. Ever some of the between songs banter takes place on the video screen with singer and main songwriter Rick Davies being admonished by a giant image of himself for rambling on about bicycles. In a somewhat crass way such devices do work, the overall imagery associated with Supertramp has always been in the realms of the surreal. The covers of 'Crime...' and 'Breakfast' are reflected here with incongruous juxtapositions of old age pensioners playing chess in outer space and other similar weirdness.

The stage is dominated by a rear wall of irregular square screens, a sort of crooked house of video. Floor and fore-stage are

V-Dosc? A New PA

Analysis by Julius Grafton

Me myself, I heard about this system at the Frankfurt Musik Messe in February, then from Jon Lemon who was in town with Live. It stuck me as significant that there was a 'buzz' happening.

Then of course this story came up when Cat Forcer discovered Supertramp were using the system with an ENTECH award winning sound engineer from Australia as well.

We commissioned UK writer Steve Moles to go and do this story, and of course afterwards he reported back that every other audio magazine in the free world were all running stories on the PA as well.

But at Connections we like to bring you fresh news, so we are happy to pay our writers rather than buy residual articles months afterwards - which you may have already read!

Christian Heil owns Heil Acoustics in Gometz la Ville in France. His philosophy with the V-Dosc system is that you stack the boxes in a single column which becomes effectively one box.

Each cabinet is loaded with 2 x 15", 4 x 7" and 2 x 2" drivers. They are wide and low, measuring 1300mm wide, x 435mm tall, and 510mm deep.

Designed as stated to work in a group, four cabinets stacked together produce a cylindrical wavefront - and require just four power amplifiers. In amplification, V-Dosc is every bit as sensible as the approach taken with EV's new X-Array system, detailed elsewhere in this issue.

Christian Heil says the problem with traditional systems is that you typically set them up in a fan array, to get dispersion. Thus the maximum power available in one direction can only be provided by the enclosure facing this direction and cannot be increased in any way.

Anyone working with arrayed systems will tell you a problem happens with overlapping high frequency horns. The modern approach is a tight dispersion pattern allowing you to 'squirt' sound at a targeted area from one box. This is called 'High Q'.

Clair Brothers decided a long time ago that vertical arrays of components, joined together, worked well. Thus the S4 cabinet, with 2 x 18", 4 x 10" and 2 x horns - all in vertical lines.

ShowCo decided that a number of cabinets would work together as one, thus the Prism system.

Turbo and EAW, and recently JBL and just now EV have all gone the high Q route.

The V-Dosc system has a load of supporting theory, but needs to be auditioned.

Oops! A VL6 misbehaves



basic data to an Excel based programme that Dr Christian Heil (the professor of Particle Physics who developed the system) has written, and it produces a plan to define the kelp. Simple." said Angus.

The fronts of the cabinets are locked together with precision machined links that rigidize the curvature of the array exactly, setting accurate angles that are matched to the seating profile. "The accuracy is astonishing, stand up in the very top row seat and your heads out of field instantly", enthused Angus and he wasn't kidding. "We've walked into rooms on this tour where I've looked and said, 'Ch fuck', but we've hung it and it's still turned out all right".

And there's no doubting the excitement such a sound system manages to engender in what is, lets face it, a crowd of wrinkly middle-agers.

SUPERTRAMP

bare save for low level percussion, drums and keyboard risers which are dressed with full width stairs that slope at awkward angles tricking the eye into believing the band are playing on the deck of some wildly pitching ship. The lighting rig is huge in scale but quietly understated in content. A grid of four main cross stage trusses holds the bulk of the lamps, 38 Icons, 16 Source 4 profiles, even the odd Par can, and a dozen of Bennett's trade mark Boblights with Colormags. All trusses are draped with loose, chiffon style white borders, again following the irregular theme, hanging at diagonally intersecting angles like Phil Oakey's quiff. Behind the rear wall the main centre screen (a trapezoid occupying perhaps 40% of the wall) is mainly utilised by a pair of backstage Barco 9200's, while the smaller surrounding screens are used for gobo and cyc like wash from a battery of VL6 mounted on a small forest of vertical truss towers backstage. There's a great deal for the lights and video to do, providing - as they are required - all the visual entertainment while the band play with precision but little evidence of passion. A busy show for Forrester he appears able to sustain the same level on enthusiasm that Angus has for his PA.

Although the tour doesn't finish it's European stint until late November there is already talk of a visit to South America and thence onto Australia and New Zealand early next year.

If you're lucky Angus will get to bring the system with him, after all it's virtually hand luggage.



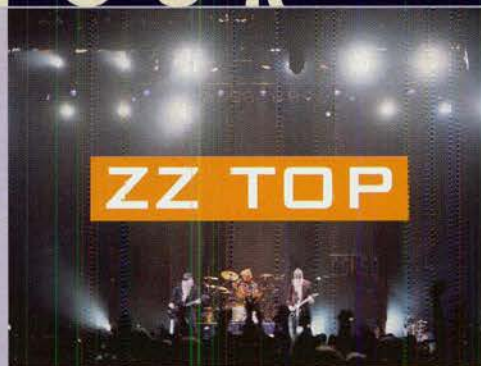
Racks of Crown

The ZZ Top "Mean Global Rhythm Tour '97" deploys a variety of High End Systems products specified by their lighting designer Larry Sizemore.

On stage and in the rig are 24 Studio Color automated wash luminaires, 21 Cyberlights with custom LithoPatterns gobos and six Emulator laser simulators.

Larry uses the Studio Colors as a wash light onstage and on the backdrop as well as for shooting over the audience from behind the amp line and as uplighting. After about 70 shows, he has only had one failure with the fixtures and after a hard reset, it was back on again.

ZZ Top was one of the first bands to use the Cyberlight in conjunction with the Wybron AutoPilot, a relationship that



continues on this tour. Cyberlights are used as both a followspot arc as a hard-edged special.

Rather than flood the stage

with lots of rotating gobos, Larry prefers to spin a few patterns very slowly on the crinkled burlap panels and smooth drapes behind the band.



ROUGH RIDERS

It's no surprise to any of us anymore when we discover that celebrities and superstars, whether they be actors, musos, singers etc have ODD personal habits. Now I'm not talking your garden variety type of odd habits that we all suffer from, I'm talking seriously STRANGE. And the thing with being a celebrity, particularly a very very rich one is that people aren't going to tell them to piss off when they start behaving in a weird way, particularly when most of the people around them are paid to be there.

Which brings me to an intriguing clause that I read in a rider not so long ago. After giving all the usual details re the important stuff like alcohol preferences and preferred decor of dressing rooms etc, the final clause read as follows:

"Under no circumstances is anyone to approach, speak to, make eye contact with or linger in the vicinity of Mr Superstar's dressing room or person. All contact will be made through Mr Superstar's personal assistant Mr Brownnose. (Please note that names have been changed to protect my source who could be in mortal danger if what you are about to read ever became public).

I think you can probably imagine the scene as Mr Superstar walks onto the stage for rehearsal after the crew have been briefed on this request. Stage techs are a fairly hardy breed of people, they put up with a lot of crap and some very weird stuff in the course of

doing a gig and it's usually their sense of humour that gets them through.

So picture this Mr Superstar strides confidently onto the stage and everyone with a spitting range has their heads bowed, pretending to be fascinated by something on the floor. A strange wheezing and rasping sound can be heard as though someone is struggling to speak as Mr Superstar continues to stride purposefully down stage. Then there is a dull thud followed by a whispered "Shit!"

Since everyone had their heads bowed nobody other than Mr Brownnose, witnessed Mr Superstar walk straight off the edge of the stage and disappear into the orchestra pit, which as luck would have it, was still full of high density foam mattresses from the gymnastics display the night before. There's not much sound that accompanies a 65kg man dressed in a purple satin suit, dark glasses and lime green Docs as he falls 3m onto mattresses but Mr Brownnose managed to let out a strangled yell in spite of his laryngitis.

Now the stage edge WAS marked with broad yellow hazard tape and a warning sign was obvious; so what's the moral of this tale? Never use anyone without the power of speech to do your talking and don't walk around in dark places with your Raybans on.

Rufus B.



LIGHTING MONTHLY

August 1997

Edited by Catriona Forcer

A NEW NATIONAL LIGHTING COMPANY IS BORN

SYDNEY: Gearhouse Group PLC have announced the expansion of its Australian operations into the area of corporate event lighting with the purchase of the assets of Enlightenment P/L.

The purchase coupled with an investment of \$1M additional capital will see the opening of Gearhouse Lighting in Sydney and Melbourne. Gearhouse Lighting began operating on July 1st 1997.

Gearhouse Lighting will complement Gearhouse Group's other Australian division - Intercity Gearhouse, specialising in the supply of audio visual services through its national operation.

With the additional \$1M investment to be injected over the next two months, Gearhouse Lighting aim to provide an unparalleled level of service to the corporate event and production market.

Stephen Bond, formerly of Enlightenment, has become Gearhouse Lighting's Managing Director for across the country and he explained how Gearhouse Lighting formed.

"Steve Lakin, the CEO for Gearhouse worldwide, approached me to come onboard and, with the amount of equipment we've got, it made sense. The gear will be distributed to Brisbane, Melbourne and Sydney with maybe some in Perth in the future. Enlightenment was doing it's own thing and Gearhouse were looking at setting up a lighting company in Australia and it was good for them to have Enlightenment's automated inventory. We're going to spend over a \$1M on conventional gear such as dimmer racks and truss to make us a true lighting company."



GEARHOUSE LIGHTING
CORPORATE LIGHTING SPECIALISTS

In Melbourne, Gearhouse Lighting will operate out of Buckhurst St, South Melbourne where Intercity Gearhouse already operate. In Sydney, Gearhouse Lighting is operating out of the Gearhouse Group's new, large

4,078sq metre premises at Rosebery. Stephen is currently looking at space in Brisbane.

Primarily, Gearhouse Lighting can be termed as a corporate lighting specialist.

".....we'll be a new driving force in the industry."

"We're going to hit the corporate area pretty hard," Stephen insisted. "With Intercity Gearhouse's clients there's already a market as well as the client list from Enlightenment. With the rock'n'roll touring market, if something comes in that is applicable we'll take a look at it but we're not necessarily chasing rock'n'roll at this stage."

continued on page 67

Stephen Bond, Managing Director of Gearhouse Lighting



LXbizBITS

LITE DIM FOR TECHSCAPE

Techscape are pleased to announce their appointment as the exclusive Australian Distributor for the Lite Dim range of mechanical dowsers from Lighting Technology (UK). Available in 140mm, 220mm and 400mm aperture sized to suit a range of lighting instruments. The Lite Dim is DMX controlled and allows smooth dimming with no shift in colour temperature. For further information and dealer locations contact Techscape on 1-800-773-187



ELEKTRALITE CP-10XT

Building on the success of the Elektralite CP-10 from Group One is the new CP-10XT Controller which has an extensive library of moving lights. The CP10XT is only two track units high and has a standard 19" rack mount.

A MIDI port is provided which allows control of the CP10XT remotely from another MIDI device. Other features include: auto-masking; timed crossfade; coarse or fine joystick control; 600 programmable channels; 99 chases with up to 99 programmable steps; non-volatile memory; 50 programmable macros; and sound control chase input.

The CP10XT now comes with 128 channels of DMX and costs A\$2999 inc. sales tax.

For further information contact: Show Technology +61 2 9898 1111.

DEALS!

TECHSCAPE have a new package deal with four MADSCAN 305HP moving lights (the groovy coloured looking ones) AND a MAD 4-1 controller for A\$3000 inc. tax. Dial 1-800-773-187 for more (in Aust).

ULA must have seen the above, they offer 4 Abstract Futurescan 1CE moving lights with controller: A\$2899. Call+617 5532-9922.



The not-so-secret practice of an ancient lighting ritual

**To heat or not to heat
Andy Ciddor airs his view**

Sooner or later most lighting people come across practitioners of the ancient preheating ritual.

These are the folk who run their entire lighting rig at around thirty per cent intensity for about fifteen minutes before the show in the belief it will prolong lamp life in the rig. The explanation usually given for the practice is that preheating the lamps reduces the thermal shock caused to the filament by the sudden changes in temperature during the lighting cues. As with most ancient rituals, this one has just enough fact associated with it to give it a ring of authenticity.

Let's look at what actually happens if we practice the ritual. (I can assure even the most sensitive among you that no livestock is treated in an inhumane way at any time.) After the normal lamp check and/or focus check on the rig, all channels are brought up to approximately thirty per cent and left up for about ten to fifteen minutes until the house is opened to the public at the half-hour call, perhaps even earlier if it's a big venue and a full house. At this point the curtain warmers or a stage preset state is brought up and remains up until the start of the show.

There is no doubt that preheating a lamp prior to use will lessen the physical shock caused to the filament by the sudden thermal and electromagnetic changes accompanying switch-on. However we should consider the effectiveness of heating up a lamp and then allowing it to cool for half an hour or more before next using it. When we cut the power to a lamp to create a blackout, the wire in the filament drops from white hot to not even glowing in well under one second. (Even those annoyingly slow to respond 5kw lamps only take about five seconds, although it feels like an eternity to the cast stuck on stage waiting for darkness.) If the filament can drop a couple of thousand degrees in a second, it will be pretty close to room temperature again after half an hour. Even a luminaire that has been running at full for hours is cool enough for relamping without gloves twenty minutes after the lamp blows. The ritual pre-show warm-

ing is going to have a minimal impact on a lamp that has had the chance to return to room temperature.

All is not lost however, as there is a way to preheat a lamp which will not only reduce the thermally related stresses on the lamp, but also rid you of that first 10 to 20 per cent of unproductive fader movement at the start of every fade up: run the required dimmers at about ten per cent for a minute or two before the cue. Not only does this form of preheating lessen thermal shock, it also makes a Par 64 flash up almost as fast as a Par 56. Unfortunately this wonder cure doesn't get rid of unsightly dandruff from the shoulders of your blacks*. Some control desks, most notably of US origin, have a "preheat" function that brings all of the channels in a designated scene up to a preset level.

There is fairly reliable evidence from around the industry that this form of preheating can prolong the life of lamps way beyond their expected demise, if used wisely. The use of preheating in one outdoor venue, which uses the technique to compensate for wide temperature extremes, has seen lamps running for years after their carefully budgeted replacement time, a cause of much glee to the venue and bitter disappointment to their lamp supplier.

Of course there's a down side to preheating, or everyone would use it all the time, and that's *shortened* lamp life. No, I'm not contradicting myself entirely, preheating can reduce one type of lamp failure but only at the cost of increasing another kind. As with most things in the universe, it's a balancing act between tradeoffs.

Virtually every incandescent lamp in production use today uses quartz-halogen technology for increased efficiency and/or prolonged lamp life. High pressure halogen gas surrounds the tungsten filament in a quartz glass envelope. The halogen gas reacts with the tungsten metal which evaporates off the filament to form a transparent tungsten-halide gas, rather than have the tungsten leave black deposits on the glass envelope. If the tungsten halide gas remains hot enough, it will break down

continued on page 64

LXbizzBITS

FRONTIER LIGHTING NEWS

At presstime we had a fax from Frontier Lighting in Brisbane, advising that they were in business and planning to continue in business. The fax says:

"As you are aware we are no longer under the management of Jared Hawke. For legal reasons I am unable to discuss the reasons for his dismissal however I would like to make it perfectly clear that Frontier is open and Trading and will be doing so for a very long time. We will not be filling his position, feeling this puts too much power in the hands of any one person. Some people are asking how a man that owns Frontier Lighting can be fired. Jared does not own any part of Frontier Lighting, and will not ever own any part of Frontier Lighting".

"The management of Frontier is being taken care of by a team consisting of the Sales Manager, Hire Manager, the OWNER and a bloody good accountant".

"So where is Frontier heading? We're taking a step back from the lighting industry and stepping in a new direction. Keep your eyes open you will see Frontier pop up in some unusual places".

"On a lighter note we have just added Ten Trackspots and Two Studio Colour to our existing hire stock with Two Event desks and Six Sections of Truss to come. We took delivery of ETC Source Four Luminaires from Jands Electron.cs for a permanent cinema installation and a laser from Technofear for an overseas Nightclub".

For Sales and Hire Enquiries please call Frontier: +61 7 3357 3244

ORACLE EXPAND

Oracle Laser Productions Pty Ltd (Sydney) have recently doubled their office space to facilitate a manufacturing area and a show room area. They have also expanded their staff to include a full time animator Peter Henry and Show Producer Mark Buczynski - a former show producer and director of design for Los Angeles based Iwerks Entertainment.

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PROFESSIONAL SHOW LIGHTING



Turning Problems into Inspiration

Nigel Levings lights Tartuffe

For Barrie Kosky's *Tartuffe* Nigel Levings had to contend with a set painted in a claustrophobic op art pattern, and a ceiling piece which took away some of his lighting positions. So he put light sources in many unlikely places.

A row of green bulbs framed the proscenium, three lights painted like eyes shone on each side of the stage, the central cupboard had a big light in it, and lights glowed on red vinyl strip curtains on each side of the stage. There was a backlit cyc in the top third of the set, a lit Xmas tree, footlights, porthole lights in the ceiling and back panel, and a huge eye overhead lamp sculpture which moved up and down.

The concept

"I needed to find an appropriate lighting style to work with Barrie's approach, and Peter Corrigan's design," Levings explains. "The design has the vague feel of a rich Australian beach house, with this bizarre paint treatment on it, curious and quite disturbing wavy patterns. The initial dilemma I had to address was the approach, given the ceiling, and other technical difficulties. The basic colour of the set is white, which meant it is paler than the actors' faces. So there's always a bit of a focus problem handling the various levels of brightness between the scenery and the actors.

"The set was so confined as far as the lighting angles were concerned. I wanted to avoid just bashing the light in from the front, and making the whole thing look bland and boring. So I came up with a range of options about how to deal with each technical problem, and work those elements through. The production is pretty bold, and I felt the lighting had to be bold as well."

The method

The op art background is three horizontal panels. The top panel slides down several times during the play, and actors perform from a platform behind the panel. Behind the actors is a cyc, with a beautiful array of colour washes, and gobos. This



little area gives Levings a chance to do something interesting, and relieves the monotony of the set.

"The cyc, a rear projection screen, is backlit with 24 Pars with colour scrollers, containing 15 colours," Levings says. "The Pars are pointed straight at the cyc, so we get maximum brightness on it. We use the scrollers to do live colour shifts on the cyc, and in one sequence, there's a sequential cue that runs the colour from one side of the cyc to the other. That's done with what Galaxy calls a move fade, a lighting cue that moves one channel and leaves everything else where it is.

"There's also a set of Gobo rotators which are back projected onto the cyc, and revolve during one song. On the platform, we had a series of uplights which the actors worked to get some facial definition. The technical problem about lighting faces in the 'guillotine' area, is that any lighting angle hits the cyc, which is a meter behind the actors. So it was a question of trying to find all the lighting angles that could light the actors, but not the cyc. So every available option is used, backlight, sidelight, and uplight, but there's isn't any front light.

"And another time we use some animation discs with gobos, from the front to give a crazy sense of movement across the optical pattern on the set, and try to make it really move around a bit."

There are also the marvellous red plastic strip curtains on each side of the stage.

These catch their backlight in an endlessly interesting way, and remind me of the clever way Levings used blinds, light, shadows, and reflections in *Speaking in Tongues*. This is a man who knows everything about light, and its permutations. Who uses problems not to throw a tantrum, but to come up with inventive solutions.

"I used Ianaro 5K fresnels, with colour scrollers on them," he says. "Initially I thought I'd like to use rock and roll lights in there, to get a broader blast of colour. But I went for the single unit to in-

crease the definition of the shadows of the plastic strips. There's quite a bit of work we do with the projection of the image of the plastic strip across the stage, and giving it a nice breakup.

"The other major element is the very bright footlights, 500w floodlights that I like to use. We also built some cute little things that we call our radiators. They are actually old fashioned Aussie radiators, fitted with a sodium vapour light, the orange street light. They have a very monochromatic output, so when they're on, they totally strip the colour from the set. And it gives a bleak and disgusting and sick feel, which fits the devastation at the end of the play.

"The rest is lit from Opera House standard equipment, and not very much of it! There were limitations about where you could actually put lights in the set. I think that every available lighting position has as much as it can carry.

"The green light bulbs were wired onto cable. In the ceiling we had a series of twelve Par36 pin spots, which I used to give some architectural definition to the three sections of the back wall.

"I put a bit of contrasting colour in the little cupboard, with Pars and scrollers. I often use contrasting colour, and I feel if you put a contrasting colour in the stage picture, it makes that surrounding colour a little bit richer, and gives the eye a bit of contrast to work with."

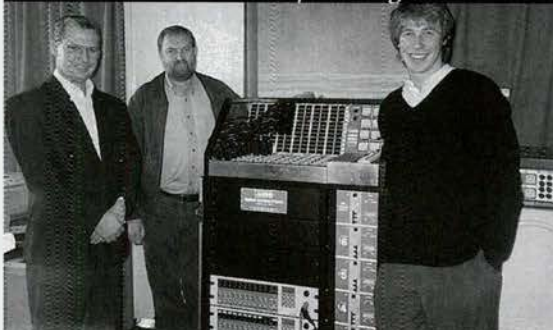
● *Madeleine Murray*

JANDS TOURING RACK

By Mandy Jones

A Jands Touring Dimmer Rack Package can be configured to house up to 6 x HP12 dimmers with options of additional 240V and 110V outlets, and additional auxiliary single and 3 phase power outlets. Also available in a 'mini' version, the smaller touring dimmer rack can house up to six Jands HP12 SC/TR dimmers, and has a basic power distribution and an optional internal patch system. It is also configurable to a number of options.

Tim Kennard of Jands with John McKissock and Sam Redston of Clearlight



the system without taking up dimmer circuits trying to feed 240V directly into the system to operate a moving light. To accommodate this, they built switched outlets into the system to take a 240V feed and dump it straight into one of the outputs on the back so that it doesn't chew up dimmer circuits, and so that there is no confusion about running an arc lamp off a dimmed line.

OPTIONS

When it comes to choice of features, frame and the style of power distribution

are the only fixed components of the dimmer rack - everything else is completely optionable and can be fitted out according to the requirements of the buyer.

THE DESIGN

Rental companies do not want dimmers that are bolted in as they may want a big sixty way system one day and stand alone 12 channel dimmers the next. Secondly it had to be fully patchable so that dimmer circuits can be allocated to outlets and re-arranged. It was necessary to series split those so that you can drive series split par cans.

Other requirements were earth leakage protection and simple, easy to read monitoring that was clearly visible, and simple indications about power status were also needed.

Jands were also conscious of the large numbers of moving light users, and the growing need to be able to run them through

FEATURES

John McKissock, Managing Director of Clearlight Shows in Melbourne commissioned two touring dimmers to be made up to his specifications. They have been using them since March this year and have sent them out on all their major productions.

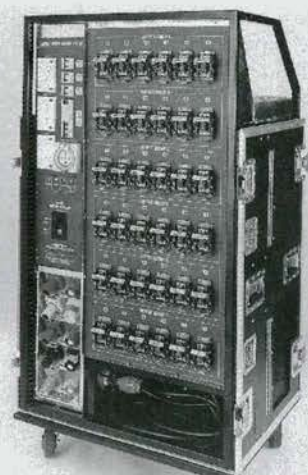
"The touring racks best feature is its flexibility. The fact that you can configure it anyway you want and that it supplies your whole power distribution system so your moving lights, smoke machines or auxiliary power distribution that needs to come off it can all be powered off the one mains power source. It's very easy and very neat to set up."

John says pre-patching is a great bonus because it makes it very easy to pre-patch in the warehouse and then send the touring rack out to a gig all ready to go. It is a very easy way to get a rig together, saving time and money at the other end. And with the dimmer source-output patch being housed on top of the rack frame, it is easy to patch when touring racks are running side to side."

POWER DISTRIBUTION

"The metering and power distribution - everything that has been put in the rack is cost effective and functional. There are analogue meters that will handle being bashed around, thrown in and out of trucks, and the three phase has neon indicators so you can instantly see what is going on. You can't produce a touring system like this without knowledge of the requirements of a production department."

For such a large capacity dimmer and power distribution system, the rack is extremely compact and manoeuvrable. Jands have made the rack in its roadcase compact



Back view

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~ REVIEW ~

enough so that three will fit across the width of a standard 2.4 metre truck.

MAINTENANCE

The touring rack makes life easy by being so accessible. It is a straightforward process to unplug racks through the access panels and replace them with standard HP stock dimmer racks - another benefit of the touring rack in that it is basically a cabinet for existing dimmer racks so that you don't have to get special racks configured for the touring dimmer.

With the HP12s fitted with side mounted fans for cooling and mounted in the rack, the dimmers cool efficiently.

IMPROVEMENTS

John McKissock doesn't have too much to say about ways of improving the current touring racks bought by Clearlight. The touring dimmers were made up according to John's specifications, and by giving input to Jands along the way, John has ended up with exactly what he needs - for now.

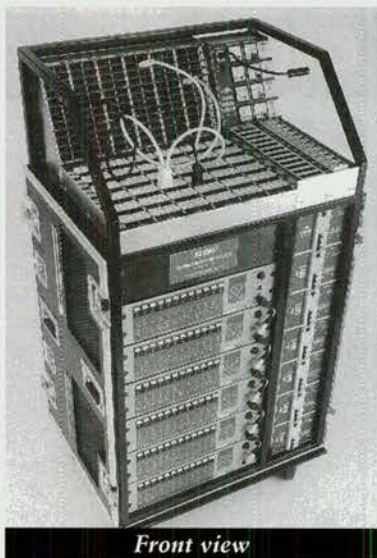
"Ask me in six months time! At this point in time, given what we've done with it we're very happy."

SPECS:

Dimensions (mm): 810(W)x1480(H)x610(D) (without roadcase) or 830(W)x1520(H)x805(D) (with roadcase); Net/shipping weight: 302kg loaded with six HP12 dimmers; 380-440V three-phase operation at 50Hz/60Hz; Master 250A circuit breaker protects the overall system, rated for fault currents up to 25kA; and all dimmer supplies and auxiliary outlets protected by fast acting circuit breakers.

Cost: Dependant on configuration of optional components. A single Jands HP12TR dimmer rack costs \$3600 ex tax. The Jands HP12 SC dimmer rack costs \$4095 ex tax.

Manufactured and distributed by: Jands Electronics + 61 2 9582 0909



Front view

Editor invites feedback on reviews, products, and review format.
Reviews posted on our website, www.ccnpub.com.au

LXbizzBITS

PRODUCTS

SELECON IN VICTORIA

Lightmoves Pty Ltd (Melbourne) have announced that they have been appointed the exclusive Victorian Distributor for Selecon Architectural Lighting Products.

"It is a logical addition in adding Selecon light fittings to our already comprehensive range of Architectural Dimming, Decorative Lighting and Fibre Optics. It gives us the edge and ability over our competitors to better serve our existing and new client base with a total 'lighting solution', says Braham Ciddor. Details, call +61 3 9813-2955.

NEW PRODUCTS NIGHT

The Illumination Engineering Society of Australia (IES) are running a New Products Night on September 2nd in Sydney. A Trade Exhibition runs from 3pm until 5.30pm, followed by product presentations from 5.30pm onwards.

Entry costs \$30, or \$25 if you buy 10 tickets. The price includes drinks and light refreshments.

The venue is the North Sydney Leagues Club, 20 Abbott street, Cammeray.

To book in advance, call the IES Secretariat on +61 2 9553-7881.

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BUYERS GUIDE

DIMMERS & DMX

ARCHITECTURAL

L.S.C. ELECTRONICS

L.S.C. Electronics and Agents 03 9561 5255

Series U Dimmer Single channel dimmer available in 5 sizes ranging from 4 to 25 Amps, offering the following presets; off, preset 1, preset 2, and 100% with separate up and down fade times.

Series U 4 Amp \$615.

Series U Remote Plate A 4 button remote plate to suit the SERIES U dimmer. Allows remote operation of scenes. Multiple plates can be wired in parallel. Series U Remote Plate \$150.

Series H Dimmer 4 channels @ 2400W ea or 2 channels @ 4800W ea. Analogue or DMX512 versions available. Circuit breaker protection for each channel. Quality high performance toroidal inductors used to minimise any interference. Series H 4 channel \$1200.

Avid Architectural Controller Designed for the larger installations allowing for the control of 512 dimmers. Multiple scenes can be stored and recalled via multiple wallplates. To suit any size installation these plates can be intelligent and dumb. Avid Master \$2860.

CCT

Rosco Australia (02) 9906 6262

Freedom Dimmer Modules are designed to mount on to the CCT Freedom range of lights to form an integrated unit with manual dimming and DMX address. Two 5 pin DMX sockets on the base of the dimmer module allow 'daisy chaining' of the DMX signal from one unit to the next. \$210.

BYTECRAFT

Bytecraft (03) 9587 2555, (02) 9550 3955

Solution5 compact, robust, wall mounted 20amp dimmer pack can control variety of loads incl. incandescent, fluorescent, ELV, metal halide and cold cathode. Analogue or digital control. Master/slave operations as well as multiple Solution5 configurations are supported. Stand alone internal sequencing, with presets including fade up and down time, multiple local and remote modes. From \$1200.

Solution28 your specific dimming requirements (10, 20 and/or 40 Amp) can be incorporated into each Solution28 cabinet making it an economical approach to modern dimming specifications. Stand alone internal sequencing with 100 presets each including fade times, internal soft patch, fault detection, status monitoring, RCD protection and more. The perfect answer for permanent dimmer installation in theatre, hotel, conference and exhibition centre. From \$7200.

INTEL CONTROL

Coemar De Sisti (03) 9467 8666

The Master available in 12, 6 and 4 channel versions. All offer dual SCR dimming modules, multiple, user-configurable analogue inputs, full network connectivity, multiple programming modes (including LCD multi-function panel, myriad built-in functions, variable fade times and variable channel configurations and loadings. From \$1215.

Intelligent Series single or dual systems available in Intelligent or Ultra-Intelligent options. Robust electronics and dual SCR dimming modules, multiple, user-configurable analogue inputs, full network connectivity, multiple programming modes, myriad built-in functions, variable fade times and variable channel configurations and loadings. Up to 30 Intelligent Systems can be networked via a single Ultra Intelligent Unit.

From \$636.

Consumer 4/1.7 compact (standard wall-plate size) controller allowing control of up to 400w circuits. Fully programmable and suitable for continuous full-load operation. 20 scenes with variable fade times are programmable. The system features optional timer (10 events per day), inbuilt security mode, auto sequencing and display, and an Infrared Remote Control. From \$530.

Optima Control Stations a range of control stations for use with Intel Control Energy Management Systems. Range includes 8 Button Programmable Preset Station, 5 Button Preset Station, Lever Control Station, Dual Lever Station, Multi-purpose Keyswitch Station, Programming Socket Station as well as peripheral controls such as Photo Electric Cell Monitor and Motion Detector Monitor. All Stations are available in a variety of plastic and metal finishes. From \$52.



Pulsar Rackpak

DYNALITE

Dynalite (02) 9319 5055

Dimtek 902 12 x 2 amp architectural dimmer - 96 scene memory, Dynet and analogue control - most suited for 'smart home' projects. Compatible with most AV control systems. \$1200.

Dimtek 405 4 x 5 amp architectural dimmer - 96 scene memory, Dynet and analogue control - suitable for board rooms and small projects. Compatible with most AV control systems. \$720.

Dimtek 905 12 x 5 amp architectural dimmer - 96 scene memory, 12 CCT breakers, Dynet and analogue control - suitable for clubs ideal **** lighting comes with DMX and LCD options. Compatible with most AV control systems. \$1939.

Dimtek 910CE 12 x 10 amp architectural dimmer - 96 scene memory, 12 CCT breakers, Dynet, DMX and analogue control - suit large commercial projects. LCD option. Compatible with most AV control systems. \$3467.

ANYTRONICS

TechScape (07) 3358 5118

Pro-Dim 2.5 architectural single channel dimmer of 10 amp capacity suitable for switching all types of loads. Master and slave versions available. Heavy duty choke, remote input facility, internal pre-heat and max level controls. 60mm fader and blackout switch (on master). Surface or flush mounting enclosures. From \$199.90.

THEATRE/TOURING

GENI

Show Technology Australia (02) 9898 1111

Light Modulator a four channel dimmer/chaser. Ac-
continued on page 66

The not-so-secret practice of an ancient lighting ritual

continued from page 59

again on to tungsten and halogen when it hits the white-hot filament, depositing the tungsten back on to the filament instead of on the glass, and releasing the halogen gas to re-circulate and capture some more evaporating tungsten. This happy circle of chemical reactions is known as the halogen cycle.

The halogen cycle is very dependent on the tungsten-halide gas remaining hot enough to be broken down by the white hot tungsten filament. One of the reasons that quartz glass envelopes are small is that the gas stays close to the hot filament. Here's where the down side of preheating kicks in: If you run a lamp at levels low enough for heating but no light production, you're still evaporating tungsten and using up halogen to react with it, but you're not getting the tungsten-halide to break down again for re-circulation because the filament isn't hot enough. When the filament finally does run white-hot, most, but unfortunately not all, of the tungsten-halide will break down again for re-circulation**. If you run a lamp in preheat often enough you will eventually lock up all of the available halogen gas as tungsten-halide and severely shorten the life of the lamp.

So here's the verdict on the preheating ritual. The preheating doesn't have any effect on thermal shock due to the long cool down time before use, yet has a detrimental effect on lamp life from running the lamp for an unnecessary time at temperatures too low for efficient functioning of the halogen cycle. Whilst no doubt the originator of this ancient and widely practiced ritual was well intentioned, in reality the effect is quite the opposite. ♦

**Bonus fashion tip: Try wrapping your head in gaffer tape with the adhesive on the outside then brushing it over your backs to remove dandruff and all those bits of tissue that someone always leaves in a pocket in every load of black washing.*

***You may stumble across a "scrub cycle" built in to dimmers designed for use with quartz halogen lamps in display or architectural applications. This is an automatically controlled sequence of running lights at full for part of every day in order to prevent any permanent loss of halogens due to the dimmers being set at low levels for prolonged periods.*

High End



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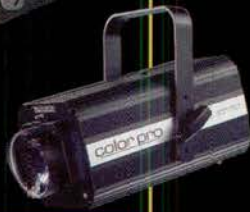
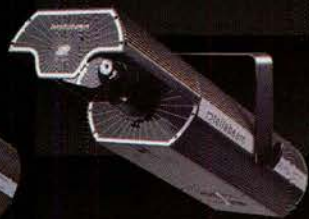
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BUYERS GUIDE

DIMMERS & DMX

curate bass, mid, high, anti bass separation in sound to light mode. It has four individual faders, master faders, background fader, sound chase, speed chase; 0 - 10 volts DC output for further slaving of packs flash buttons, 19" inch rack mount and RCA audio output. Perfect for clubs or mobile DJ's. \$595.55.

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Tour Series Dimmer available as 12 Channels @ 2400W or 6 Channel @ 4800W. Highly reliable rack mount dimmer offering 320 Microsecond rise time from a high quality toroidal inductor, and front panel riggers control. Tour Series 12 channel \$2750.

Wallpak Dimmer features as per Tour Series but designed for permanent wall mounting with circuit breaker channel protection. Wallpak 12 channel \$2900.

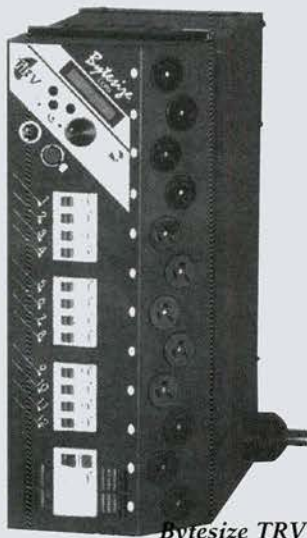
Touring Systems 36 to 72 Channel touring systems offering 2 to 1 series/parallel hot patch, intelligent distro which monitors phase voltages, currents, rack temperature and controls the fan unit. Multiple input and output connectors available. From \$18,000.

CCT

Rosco Australia (02) 9906 6262
Freedom Dimmer Modules are designed to mount on to the CCT Freedom range of lights to form an integrated unit with manual dimming and DMX address. Two 5 pin DMX sockets on the base of the dimmer module allow 'daisy chaining' of the DMX signal from one unit to the next. \$210.

BYTECRAFT I.D.S.

Bytecraft Pty Ltd (03) 9587 2555, (02) 9550 3955
Bytesize TRV budget priced dimmer. 12 x 10A channels; DMX 512 or AVAB input; MCB protected output; output patching and curve control; LCD Display mounted control panel; internal backup. Also available as 6 x 20A channels. From \$3200.



Bytesize TRV

Bytesize 483 broadcast quality dimmer designed for professional use, with iron core filtering and SCR's. 12 x 2.4kW channels. Features as for Bytesize 483/TR. Also available in 6 x 5kW channel model. From \$4200.

COMPULITE

Coemar De Sisti (03) 9467 8666
Corona DMX Dimming Shutters a range of DMX controllable dimming shutters suitable for all non-dim lamp fixtures (HMI, MSR, etc.). 10, 15 and 20 shutter units suitable for all discharge lamps up to 6K. Standard mounting plates to suit all popular lanterns. From \$3300.

DYNALITE

Dynalite (02) 9319 5055
Performer 12 channel x 10A, circuit breaker protection, DMX and analogue control, DyNet control port,

Bytesize 483/TR 12 x 2.4kW channel dimmer. Input DMX 512, AVAB DMX, Felix, Command Link, Analogue +/- 10V. Fault reporting; internal preset programming; soft patch; curve control. Also available in 6 x 5kW channel model. From \$4200.
Bigtop broadcast quality 12 x 2.4kW dimmer designed for touring includes 2 outlets per dimmer and guard rail. Features as for Bytesize 483/TR. Also available in 6 x 5kW channel model. From \$4200.

extensive front panel control, optional load indication, user definable dimming curves, rack mount. \$2895.
Pro Pac 12 channel x 10A, fuse protection, DMX and analogue control, lightweight, rack/shelf mount, some front panel testing facilities. \$2064.
Studio 4 4 channel desk and dimmer, 4 x 1000w. Flash buttons, 4 channel chaser with adjustable speed and level, circuit breaker protection. \$961.

JANDS


Jands Electronics (02) 9582 0909
GP12 19" rack mounting, 12 x 2.4kW DMX512 control dimmer rack. Soft turn on characteristic, fuse protection on outputs and mains supply indication. Available in wall mount version. \$2372.
HP12TR 12 x 2.4kW or 6 x 6kW high performance dimmer. DMX512 control, on board menu driven software for a range of functions including preheat levels, scene storage, neutral failure detection. Circuit Breaker Protection. Also available in wall mount version. CTick and CE approved. \$3600.
HP12SC 12 x 2.4kW or 6 x 6kW hard fired SCR control dimmer rack. DMX512 control, on board software as for HPTR Series. 500 microsecond risetime. CTick and CE approved.

ETC

Jands Electronics (02) 9582 0909
Sensor Installation Racks 12 module to 48 module installation racks. Optional advanced features electronics for full dimmer load reporting. Support for ETC link networking. 32 back up looks and 350, 500 or 800 microsecond risetime options. From \$12,000.
Sensor Touring Racks 48 module sensor touring rack. No tools required for module replacement. Optional advanced features electronics. User program dimmer curves and 32 back up looks. From \$30,000. \$4095.

ANYTRONICS

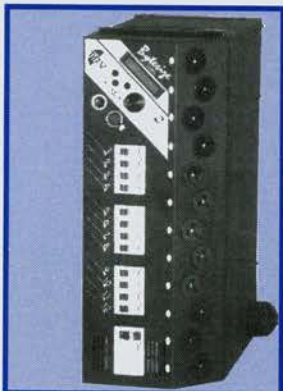
TechScope (07) 3358 5118
Black Box Series range of wall mounted dimming
continued on page 74



BYTECRAFT

Bytesize

TRV



- Budget priced dimmer
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 - Internal Softpatch
 - Curve Control
 - LCD Display
- 10 amp or 20 amp

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GEARHOUSE LIGHTING *continued from page 58*

We'll see how we go with the corporate market first."

Stephen believes that Gearhouse Lighting will be successful due to it's staff and equipment claiming that he will be hiring some of the best corporate staff in the country.

"We've locked up a big deal with High End Systems which is really good equipment," he continued. "Plus we've got so many lighting designers and creative people at hand who can come up with new looks and change the industry a bit. I like to think we'll be a new driving force in the industry."

Stephen definitely believes that corporate lighting is the fastest growing area of the industry.

"Even in the rock'n'roll area, so many tours are sponsored by corporate people like Toyota or Pepsi," he explained. "So even rock'n'roll is turning into a corporate thing!"

The Sydney office of Gearhouse Lighting will be managed by Michael Hewitt ph (02) 9697 0400, fax (02) 9697 0500. The Melbourne office will be managed by Kim Lowes ph (03) 9686 7400, fax (03) 9686 7411. Production Managers based in Melbourne are Bill Surtees and Kevin Gaynor. Details of the Brisbane office will be announced in a later edition of Connections.

Currently the Gearhouse Lighting inventory includes:

Intelligent Fixtures

64 x Studio Colors

32 x High End Cyberlights
16 Clay Paky Miniscans HPE

Fixtures

36 ETC Source Four
48 ETC Source Four Par
8 Selecon 1200 Fresnel
24 Selecon Acclaim Profile
12 Selecon Acclaim Fresnel

**Michael Hewitt, Sydney
Manager**



12 Selecon Acclaim PC
12 Selecon Acclaim Cyc 4
48 Polished Par 36 Pinpoint
72 Polished Par 56
96 Polished Par 64

Control

2 Whole Hog II's
2 Jands Event+ 48
1 High End Status Cue
2 High End Cyberlight
LCD controller
2 High End AF1000 LCD
controller
1 High End Emulator LCD
controller
16 Jands HP12
2 Jands Touring Dimmer

Rack

FX

2 High End F100
2 High End Cold Flow
2 Coemar DeSisti DF50
36 AF1000 Data Flash
4 High End Emulators
4 Wildfire 400w UV Fresnel

Rigging

60 300mm Tri Truss (various lengths)
16 Tri Truss Corners (various types)
12 Tri Truss Bases, 12 Chain Blocks

• **Cat Forcer**

LXbizzBITS

NEWS

VIP SUCCESS

The new **Display Line (VIP 300)** from Clay Paky are proving popular. **Ben FX** of Adelaide have had success selling them to several retailers. While the **Lighting Workshop** in Perth (W.A) have apparently been inundated with enquiries regarding Clay Paky's Display Line since Entech and PRO AV in Perth. They have mounted a VIP 300 under a purpose built perspex sphere enabling projection back onto the buildings facade, and have already sold many units to the retail industry. **Lightmoves** (Melbourne) have just completed the new **Myer Electrical Store** - level four in the heart of Melbourne's shopping district. Four VIP 300's have been installed to project all suppliers corporate logos, including Sony, Panasonic, Teac, etc ... On the other side of the Tasman, Show Lighting Australia's New Zealand counterpart **Metro Productions** in Wellington have confirmed the first **Australasian Museum** project. Twenty one **VIP300 Image Projectors** have been purchased along with gobo, colour, prism and mirror attachments.

TAP DOGS & CHAMELEON

Sydney Theatre Company's Jamie Hensor is presently the lighting director for **Tap Dogs**. Chameleon have provided him with a **Gemini Control System, Jands HP Dimmers, Altman Zipstrips, Prolite 1.2K 15/28 Profiles** and other conventional lighting equipment for the show.

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As industry leaders for over 20 years, CLS continue to specialise in the manufacture, supply and production of stage lighting, rigging & accessories for entertainment, exhibitions and displays throughout Australasia.

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COLOURSET SERIES 2 SCROLLERS

By Catriona Forcer

Sydney Opera House have been using Showcraft Colourset Scrollers for about 18 months in a variety of applications. I visited Phil Dunesky, Stage Lighting Coordinator, at the Opera House to find out his opinion on the scrollers.

One thing that seemed to really impress Phil was Lee Conlon's (Showcraft's Managing Director) attention to those extra details such as the custom road cases he designed especially for them (made by Cadillac). The scrollers don't exactly travel anywhere but the cases keep them safe from damage whilst they are not being used. Lee also supplied all the cabling, a template colour bench for cutting gel and gel templates. Everything that hangs at the Opera House has to be safety chained so Lee organised for his scrollers to be safety chained too.

"Lee is a real craftsman and a perfectionist in his work," said Phil. "We have about 60 1K Colourset Series 2 scrollers and a dozen 2K Colourset Series 2 scrollers. The Concert Hall roof is set up with them which makes it quick and easy to do colour washes for quick turnover jobs. The lamps they are attached to are pretty much in a fixed focus."

PLOTTING PROBLEMS

"Plotting with the scrollers is interesting, you have to know your way around them to plot. If you're plotting out of sequence, which we do here quite often, when you rehearse out of sequence - then you don't account for the scroller re-scrolling. Then you have to go through your whole show before you can show it and put in b-cues where you can allow the scrollers to re-roll in before they come up. Otherwise you see it live which sometimes can look really cool. Usually the subtleties of theatre demand you don't see these things happen. They are a great device but unless you can plot them in sequence



Phil Dunesky with the 2K scroller

you can quite often run into trouble come show time."

WHY COLOURSETS?

"Made in Australia was a very powerful draw card with these scrollers. We always prefer to purchase Australian products where possible. I don't want to say bad things about other scrollers but a system which counts revolutions to know where it is, like the Rainbow scroller does, is quite often prone to inaccuracies when the scrolls get old, scratched and dirty. We like the fact that the Colourset scroller knows where it is by detecting a metal stripe on the gel. The scrolls take more making because you have to fit the metal strips in exactly the right place but when we play them back, we find they are absolutely accurate. We've got the same scrolls in some of these which we put in 18 months ago and they are working reliably. Occasionally you get one that

doesn't know where it is but I suppose that's the same with any technology."

USE

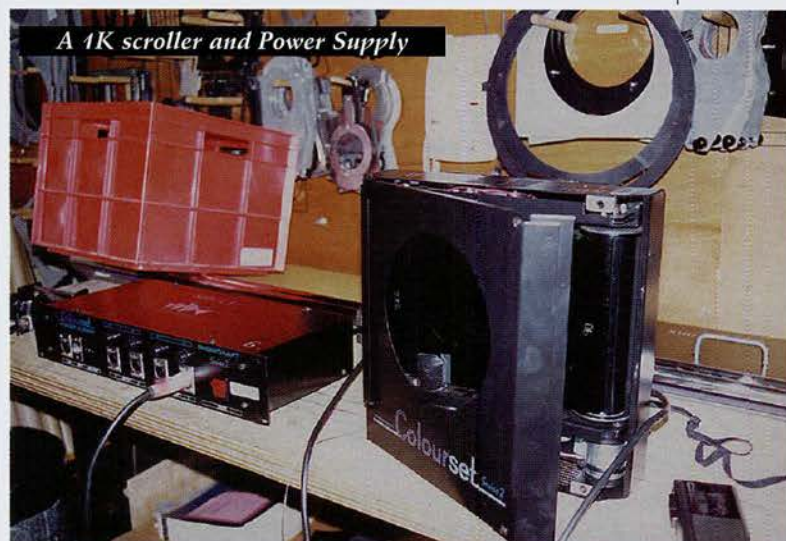
"We've used them in lots of different jobs from plays and operas to concerts. The fan noise doesn't seem to be a problem although the orchestra sometimes doesn't like it. But generally we don't use them for the orchestra, only on special occasions where they have to allow for it if they want the special effects. Sometimes we put them in a particular colour and then switch the fans off if we're not going to be changing the colour again. We've found that we're not burning out colour because the scroller is so far forward of the lamp, they are pretty cool even without the fans running.

"We have some RDS TV lamps which we couldn't put colour in because they were constantly burning out. In order to get some use out of them, Lee designed a back plate that fits the 2K scroller onto the RDS lamps and they've been great."

FEATURES

"The back plates are rotatable - i.e. one side fits Par 64 and the other side a Cadenza - and there are others for different lamps. The scrollers are really quick to get into and the whole front opens right out. They take 21 colours and they are a very simple construction. You do have to watch that the scroll stays in the guide for the eye, occasionally if you're shuffling them back and forward really fast, they can fly out and the unit goes into seizure mode. The scroll is joined by Permaseal heatproof tape, back and front. We have the template board, made up by Lee, which tells us exactly where to put everything as we go along. The edge of the template makes sure the scroll is dead straight which is absolutely neces-

continued on page 70



A 1K scroller and Power Supply

LIMITED OFFER*

4 x Futurescan 1CE's and Mini Controller

Including lamps & sales tax

\$2895

*Until stocks last



Futurescan 1CE Specifications

Lamp type:	12V 100 Watt A1/231
AC Voltage:	EEC 230/240/250v 50/60 Hz US 110/120/130v 50 Hz
Power Consumption:	T/C
Motorised Colours:	White + 6 Dichroic Colours +1 Dichroic Multi-colour
Motorised Gobos:	Open + 7 Gobo Patterns
Tilt Movement:	Microstepping Motor 90°
Pan Movement:	Microstepping Motor 180°
Remote:	CE Lamp On/Off
Controlled:	Via Remote Controller Fast/Slow/Strobing (Variable) /Blackout or via standard DMX 512 Channels
Cooling:	High Flow DC Fan
Input:	Remote Control via 1/4 inch Jack Socket. DMX via 3 pin XLR
Casing:	Styled Sheet Metal with Rolled Edges
Mounting:	3mm Bar with Locking Adjuster
Dimensions:	(LxWxH incl. Bracket) 390 x 135 x 152
Shipping Dimensions:	(LxWxH incl. 4 Heads + Remote) 450 x 280 x 640
Weight:	5.5 Kilo
Packed Weight:	24 Kilo (4 Heads + Remote)

NB: Colours & Gobos are combined

	open		white
	dot tunnel		red
	slash		blue
	segment		green
	triangle		yellow
	tunnel		cyan
	bubbles		orange
	stars		pink
			multi colour



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COLOURSET SERIES 2 SCROLLERS

continued from page 68

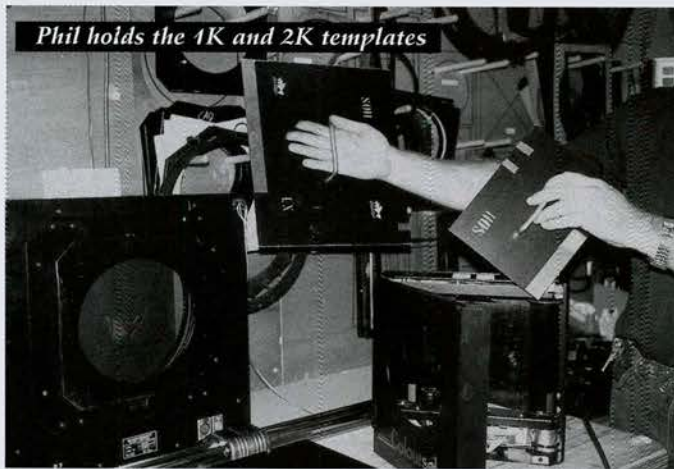
sary. We also have templates for the 1K and the 2K scroller to ensure the piece of colour is exactly the right size."

"When you first plug the scroller in, it lines itself up. Double zeros on the unit puts it into test mode, it'll go right through to the end and back until it finds the starting tab. It then goes forward one frame at a time, if it skipped that you'd know there's a fault in the marking. It's very important to keep the scroll clean along the bottom edge as the electric eye can pick up things

like chinograph and think that it's seeing a tab. We have a standard Opera House scroll ranging from ambers to reds and pinks to blues and greens and finally it ends in Hamburg Frost.

"Another good thing about the Colourset scrollers is that they have a runner in the front that'll take a Par 64 size frame and you can permanently frost it or permanently colour correct it depending on what sort of show you're doing.

"The 2K scrollers have Quartz Colour Inarco castor barndoors which can fit on the front with rollers. They have a two speed fan - high and low - we had thought we'd have to use low but



high isn't that noisy.

"Mechanically they are very rugged. We're sending one back to Lee but only because it was dropped from the top of a ladder and it's the metal work that needs attention not the electronics, it's still functioning.

POWER SUPPLY

There are four power supplies permanently installed at the Opera House as well as two portable ones. One Colourset Power Supply provides power and signal for up to 24 changers.

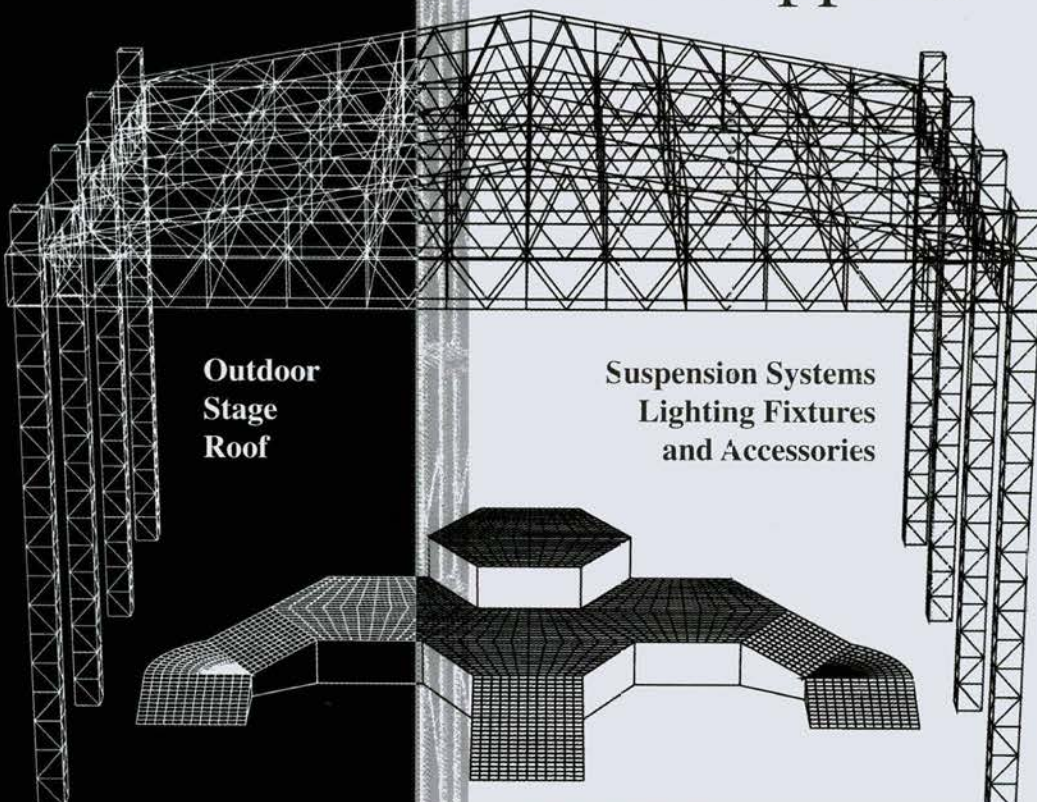
A DMX512 input/output link is provided on the front panel together with a thumbwheel for channel offset selection. Four output lines with individual fusing provide signal and power distribution to the changers. The unit is housed in a two unit standard rack mounting case finished in satin black.

SPEED

"There are two modes of running the scroller. You can give the scroller a speed where it goes from frame to frame in that speed or you give it no speed at all and it follows the crossfade of the

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Our Support!



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Units 3-4, Kingston Industrial Estate 81-86 Glover Street Birmingham B9 4EN, UK
USA ~ Total Fabrications, Inc. ~ Tel. 1 805 676 3322 Fax 1 805 676 1616
1696 Walter Street Ventura, CA 93003, USA

cue. If you're doing a live change from one frame to the very next frame, quite often that's how you want it to happen because it would look like a crossfade then. If you're using b-cues in the blackout to re-colour in, you might want them to go really quickly so that it's done whilst the applause is happening. Or you might want them to go slowly so there's no noise because you've got 15 seconds of another lighting state. Depending on which way you want to plot, you use the speed or not."

BACKUP

"We use other Showcraft gear here and the backup is always good. When we place an order we prefer to get the cabling done at the same time. Everything is so well put together and we know that we don't have potential problems."

CONTROL

"We control the scrollers as DMX channels through the Galaxy or whichever control board we want to use. Each scroller just takes the place of a dimmer and we run them on a percentage basis from 0% to 100%. About every 5% on the fader gives you the next colour on the scroller".

"We don't have the Colourset stand-alone controller because you have to push two buttons - each time you do an electric's cue, if it's a scroll cue you have to push that button as well. If we plot it all through the one board then we're just dealing with the one crossfade."



FINAL COMMENT

"I think they're a good product for what they do - they scroll colour. They're fairly bomb proof when it comes down to running them, once you've got them plotted. The only times you seem

to have problems with them is in the plotting. There's a show (*Tartuffe designed by Nigel Levings*) in the Drama Theatre which uses the 1K version for a back cyc wash in sections all the way across. There's 12 of them so there's 6 sections of colour and the board operator has plotted a chase with them so they've got to be pretty good to keep up with that. It looks really good, like there's a huge rig behind the cyc. They are put to good, hard use all night long - snapping changes all night long and they handle it pretty well."

SPECS

Colourset 1K Changer designed to fit Par 64 and 6" Profiles, Leko, Cantata, CCT sils, Harmony; fitted with standard Par 64 gel frame, removable for replacement with adaptors to suit other lanterns up to 8"; max colours: 21; max speed: 0.1 seconds per frame; control: DMX via Colourset power supply; connectors: 5pin XLR input and output; size: 300mm x 310mm x 75mm plus mounting brackets; weight: 2.3kgs; removable back plates to suit various lanterns; cooling: one 60mm axial fan; gel size: 180 mm x 230 mm per colour; drive system: two DC motors direct drive to motors; gel tensioning: electronic.

Colourset 2K Changer max colours: 11; max speed: 0.2 seconds per frame; control: DMX via Colourset power supply; size: 440mm x 445mm x 75mm plus mounting brackets; weight: 4kgs; cooling: two 60mm axial fans.

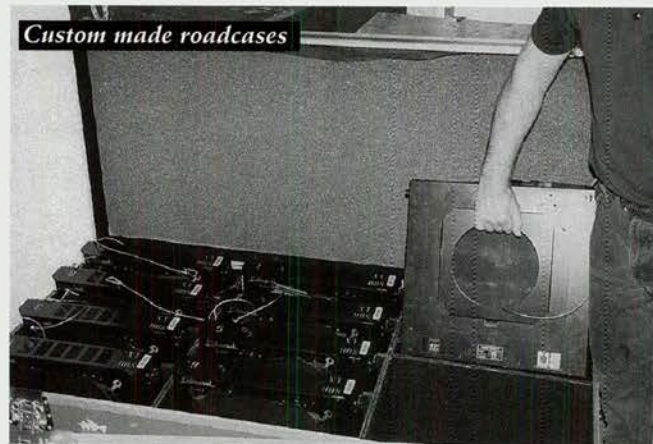
Price: (A\$)

Series Two 1K Colour Changer (to suit Par 64 and 6" Profiles) \$1450. 1K Adaptor Plates: Par \$20; Leko \$20; Source 4 \$33. Series Two 2K Colour Changer (suits 2K Profiles 10/12" lens and 2K Fresnels 8/10") \$1820. 2K Barndoor Set \$290. Colourset 24 Changer Power Supply \$1390. Prices are plus Sales Tax (22%).

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Hands-on Look at Technology of Old

Before the days of moving lights such as Cyberlights and Clay Paky's, there were cumbersome lanterns that didn't move or change colour unless someone climbed up a ladder and did it themselves, and even then it wasn't an easy or quiet process. To look back at these humble beginnings an interactive exhibition at the Performing Arts Museum in Melbourne called Techno-tainment: Revealing Theatre Technology showcases the history of theatre technology through the years, from a Melbourne perspective.

Designed more for non-industry people than your average trade show enthusiast, the exhibition takes you through a production process from design and initial concepts, to the guts of lighting, audio and automation technology.

Interactive stations throughout the exhibition give visitors a chance to have a go at the basic aspects of theatre production. From plotting scenes on a Strand GSX desk using Cyberlights, profiles, colour scrollers and effects projectors; to playing around with sound effects on a Fatar Master digital keyboard. Also on show is a Status automation console, animated puppets running off AM radio signals, and a beautifully detailed model of the State Theatre complete with Fly tower, stage wagon, curtains and revolve mechanisms.

One of the special exhibition features is a restored Strand Pattern 83 Profile used as a Front of House light in the 1940s. The lantern has been restored by retired technician Alex Young with assistance from Leon Dark and the lighting department at the Victorian Art Centre.

"Before the 1940s, theatres only had footlights. With the advent of Front of House lighting, pioneered by Strand Electrics, it meant that the stage could be lit from the balcony, and the colour could be changed



Strand Pattern 83 circa 1940s

by a 4 lens exchange mechanism. Lenses changed with a terrible clunk, encased in the newly architected steel clad balconies. But the effects were brilliant. Impacting on techniques used in theatre lighting and on theatre architecture too."

Alex Young worked as a technician at the Tivoli Theatre at the time the Pattern 83s were in use.

"They used to tell the band to play louder during the lighting changes, but the sound still used to scare the life out of the people sitting up in the gods."

The exhibition also features a display of other significant developments in the

Strand range of Pattern lanterns between the 40s and the 60s. It is interesting to see lanterns in this exhibit considered museum pieces, especially since many venues and companies out there still rely on relics such as the Pattern 23 (circa 1953) and Pattern 123 (circa 1956).

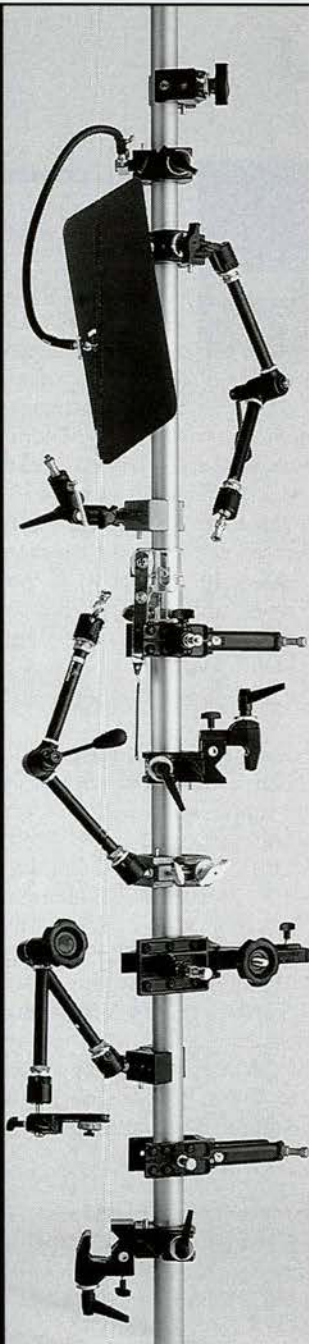
Lanterns in this display consist of Pattern 23 (1953), Pattern 223 (1963), Pattern 35 (1946), Pattern 76 (1956), Pattern 143 (1960), Pattern 47 (1940s), Pattern 53 (1956), Pattern 264 (1963), Pattern 263F (1963), Pattern 45 (1961) and Pattern 123 (1956).

Sponsored by Bytecrafft, other contributors to the exhibition include emagic, Techsafe, Fatar, Mctu, Alesis, Manny's and Scenic Studios.

The exhibition runs until November 30, and is open Monday to Sunday, 11am to 5pm. Tickets are Adults \$5, Concession \$4, Children \$3.50

● Mandy Jones

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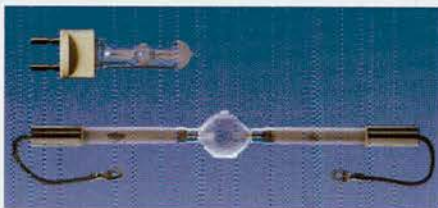
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Series 193 rackmount dimmers in 3, 6 and 12 channel format accepting both analog and DMX512 inputs and with circuit breakers on all outputs. Output capacity of up to 40 amp per channel (D310) 3 phase input, monitor LED's, on board rotary controls and low voltage DC output. From \$1486.60.



Jauds HP6 and HP12

5A and 12 x 5A. \$2786.

Minipack ideal for smaller systems, this unit has a power rating of 5 Amps per channel over 4 channels. It is fitted with one Bulgin multiway outlet with IEC, while the 0-10 volt input signals are supplied via DIN connectors. Main supply is via a 10 metre cable and each channel is individually fused with fast acting fuses to protect outputs. Weighs 4.5kg. \$598.35.

6 x 5A Dimmer Rackpak available in 6 & 8 channels, the unit is designed for 19 inch rack mounting. Unit can be fed from a low voltage power supply and can regulate voltage delivered to lamps. Weighs 4.7 kg (hard-wired). Front panel indicators and test switches/rotary knobs are special features. \$818.85.

Universal Interface decodes 36 channels of serial digital information in DMX512, PMX/RS232 or MIDI format into 36 channels of analogue 0-10 volts. Low voltage supply, needs no mains connection, and receives its low voltage for Pulsar dimming/switching packs or power supply. It is an attractive unit for lighting specialists who need flexible equipment able to cope with the requirement of different lighting designers. Weighs 3.0kg. \$1146.70.

function, battery operation, LCD display, fader control and flash key, comes with padded carry bag. \$245.08.

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Isoport 1,2 and 3 designed for permanent installation, provides fully optically isolated DMX512 outputs at any location. This negates the need for link plates or large patch panels. Available with 1, 2 or 3 outlets per plate. Isop-1 \$220.

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continued on page 81

DMX & NETWORK PRODUCTS

BLACK BOX SOLUTIONS

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Theatrelight DMX Link DMX inputs allow 2 control desks of up to a total of 240 ch to be mixed then patched into the same lighting system. Also a stand alone memory desk. \$3995.

Theatrelight Splitter one input to four DMX outputs. \$725.

MARIS

Electrosonic Systems (02) 9714 0400

DMX-Pico world's smallest DMX remote. Measures all essential DMX parameters, view 4 channels levels simultaneously. Includes flicker finder. Control 512 channels and set 128 different output levels. \$856.

DMX-Fix 1 R/U solution to all DMX compatibility problems! DMX fix allows you to change all the parameters of outgoing DMX and set your own start character. \$4062.

DMX Emulator 128 1 R/U emulator stores every DMX message as you've programmed it. Store up to 6 shows, you no longer need a lighting desk on site! \$5270.

DMX-Splitters provide dependable isolated, opto-coupled and buffered DMX signal distribution, protecting your dimmers, show and lighting desk. Available in mounted and free-standing formats. From \$324.

PULSAR

Show Technology Australia (02) 9898 1111

Datapack 12ch 10A can be either wall or rack mounted and is capable of receiving 3 major control standards - analogue 0-10 volt, PMX and DMX. It is self stabilising against changes in mains voltage, mains frequency, top and bottom control voltage levels, etc. This model is fully resistive and/or inductive load compatible, with a preheat facility on dimming versions. All connections are accessible by removal of front cover. Weighs 10kg. Also available as 18 x 10A, 18 x

GENI

Show Technology Australia (02) 9898 1111

DMX 4 Channel controller multi-function DMX 512 controller. It has 3 selectable models - 4 channel DMX dimmer desk, 16 channel microcolour controller and a 2 channel DMX dynamo strobe controller. It has 4 sliders for individual channel control and master slide for master dimming and function control. All our stuff is 240V 50Hz! \$409.

Single Channel DMX Switch PCB this unit is able to convert any device to switch via DMX 512. It has a 16A rating at 240V AC, and it is small enough to retrofit on almost anything. The unit is supplied as a small PCB with wiring diagram. \$106.55.

LITE PUTER

ELSTA (02) 9568 2100

CX-1 DMX Tester, DMX in and DMX Out signals, auto fade, chasing output, intelligent lighting equipment testing, 10 memories, measures in percentage or hexadecimal, runs on 4 rechargeable batteries, size 95 x 128 x 50mm. \$409.02.

ISO-1 DMX Isolator - Safety device to be used between DMX consoles and DMX lights, can be used as DMX terminator, has error indication, protects DMX equipment from surges or stray voltages., size 130 x 66 x 45mm. \$269.67.

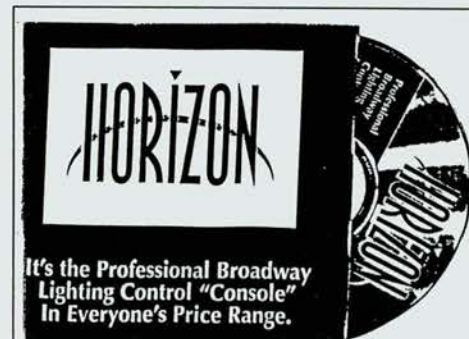
DP-3 DMX- Analogue converter, 72 channels, converts from DMX 512 to 0-10v DC, uses 3 25 pin D-type sockets for analogue signals, size: 482 x 88 x 50mm. \$1064.75.

DX-1220 12 channel DMX and analogue dimming pack, 20A per channel, 3 phase power input, 12 sockets on rear, 12 individual plug in packs, size: 482 x 176 x 260mm. \$2868.03.

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DR-DMX DMX tester, transmits up to 512 channels, 12 channel memory, includes laser pointer, auto scan



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“ONE COUNTRY TWO PARTIES”



Lighting The Pacific Rim Forum at The Handover Of Hong Kong By Stephen Wickham

Designing the lighting for the Pacific Rim Forum and it's associated events always creates a challenge, but when it was timed to coincide with the hand over of Hong Kong to China it became a serious task

Having designed lighting for the PRF in Bangkok in 1995 I became aware that this immense meeting of the most prominent business and political minds of the Asia Pacific region was not only respected for its content but also the quality of its presentation. This has been achieved by the organizers putting together a hand picked team of specialists in various fields who work well together and manage to enjoy it at the same time. My own experience being twenty years of lighting rock n roll, theatre, opera and dance rather than corporate events.

Other elements of the production team came from Perth based company Corporate Theatre headed by Vaughan Emery who created the stage set designs and took care of audio visual and stage management duties as well as coordinating the whole team.

Melbourne based Republic Films headed by Rowan Webb took care of CCTV control supplying image mag with three cameras and recording all events for delegates and news media.

Steve Williamson, Art Director, created all the art work used on site and Richard Foster (Fos) supplied sound design and light relief on the headsets during many a heated debate.

The main ingredient of the forum is the business sessions, running over four days with seating for 1200 delegates. This was held in The Hong Kong Convention & Exhibition Centre's (CEC) 2nd floor Convention Hall.

The other events to design were an opening reception party for all delegates, a key note dinner and a gala show. The exhibition hall on floor 5 was the venue for

these events, right opposite the entrance to the new wing where the Chinese Legislative Council was to be sworn in after the hand over ceremony and one floor under the 7000 strong media army who had set up camp there.

With security being so tight on June 30 we could not hold the last day of the forum in The CEC. It had to move to the Ballroom of the Marriott Hotel a short distance away. This meant building a second smaller version of the stage set, sound and lighting rigs and setting up the entire room along with audio visual, video and

rare and unevenly distributed as honest Hong Kong cab drivers. The gala venue house lights were non dimmable mercury vapours. The average hire prices were up to seven times that of the same gear in Australia and the bump in had to happen in two days.

After a three hour meeting with Vari-Lite Hong Kong I was keen for them to supply moving lights for the gala. Unfortunately they were so slow providing quotes (for gear I had not even specified), they lost my confidence. I decided to cut down the moving light numbers and fly out 10 SuperScan Zooms with Scancommander and an operator I knew from Australia, saving money and peace of mind.

The stage set for the business sessions incorporated a 16' x 12' rear projection screen with an 8' x 6' screen on each side. These were for live image mag, data presentations and video. For the screens to be as bright as possible the light needed to be tightly controlled, without spill. An 18 metre front truss with a range of ETC Source 4 profiles provided the key light. These were focused tightly into each area and then half frosted to blend any hard shutter lines on the set.

High levels of light were needed at the main lectern, the head table with four people and a more open wash for certain sessions. Additional truss with Arri 1k fresnels provided back and top light with extra units washing the set in colours to enhance the paint finishes. Source 4 specials were used to highlight set elements such as the dragon and the Hong Kong Chinese characters.

Sponsor banners suspended from the walls surrounded the seating area. The sponsors, being the backbone of the event, deserve particular attention so each logo was lit individually with a 1k profile spot. Fifty metres of additional truss were re-



image mag starting at midnight and opening the doors at 7am.

The challenge for myself as lighting designer was to come up with designs for all events which were big enough to do the job well and small enough to be rigged and focused in the limited time available. I do not subscribe to the rule that the number of lamps in a rig determine the quality of the production. This event would require more time planning truss positions than lamps.

I made a site visit at the beginning of May, meeting with hire companies and local suppliers to organize quotations. The difficulties soon became apparent.

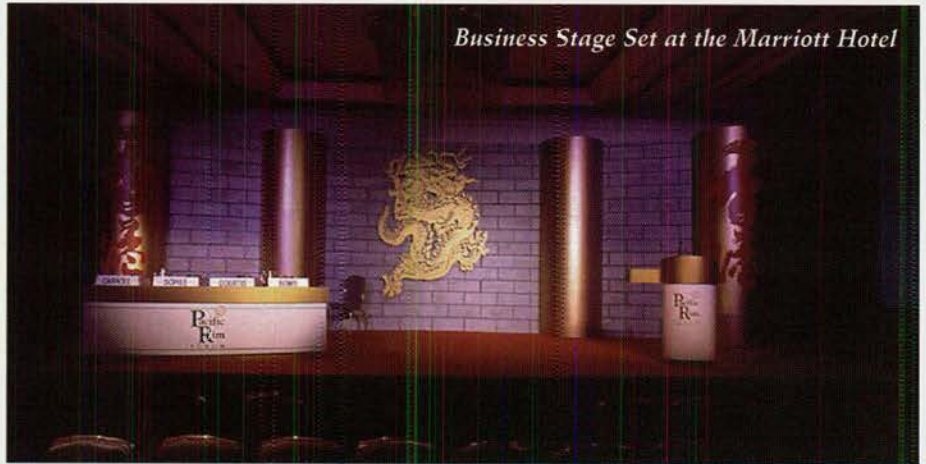
Hanging points in all venues were as



quired for this but the effect transformed the room. During sessions the house lighting was dimmed and the reflected light from the banners provided good ambient levels with the company logos floating around the room.

Upstairs the gala stage set design was clean and simple with a 35 piece orchestra set on two levels up stage and a dance floor area down stage 56 feet wide. This was flanked by two 14 ft rear projection screens used for image mag and video intros.

I decided that the lighting rig should simply outline the stage using a larger rectangle of truss. An additional run through the centre would divide the performance area from the orchestra. At two points on each side, vertical drop sections were added to side light the down stage area without



Business Stage Set at the Marriott Hotel

good alternative to the flat follow spot angle from two towers at the sides of the room. Control for the generic lighting came from an Avolites Roacue Pearl desk.

The opening cocktail reception took place the night before the gala show in the same area as the dinner tables were to be placed. The guest of honor was Mr Tung Chee Hwa, Hong Kongs new Chief Executive. The gala stage was masked and the room lighting rig focused and coloured to highlight the eight set pieces on the floor. The sets were each based on a different Pacific Rim Country

and used as points to serve their particular style of food. Throughout the evening various acts, demonstrations and dances such as the dragon dance took place. Follow spots set on each side for the gala were used for highlighting performers at the reception also.

The following morning the race was on to re-colour and focus the room lighting before catering staff set the dinner tables. I think they cheated because when we arrived at 8 am most of the tables, complete with silver and wine glasses, had beer set.

Technical rehearsals and plotting began

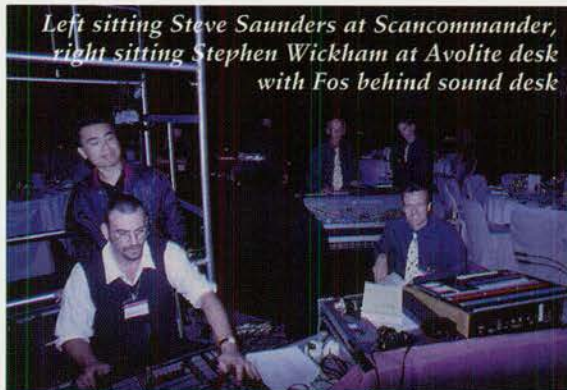
for the gala while business sessions continued downstairs.

The key note speaker at dinner was Senior Minister of Singapore Lee Kuan Yew. Fortunately he was lit with Superscans because ten minutes into his address one follow spot blew. Five minutes later the operator on the other tower collapsed with pains in his legs. Thankfully Steve Saunders on the Scancommander was able to cover all the follow spot cues, at better angles and intensity, so I was not too concerned but very glad I had brought him along.

Actor Michael York was the MC for the evening and the show consisted of The Pacific Rim Orchestra under the direction of Henry Shek, The Hong Kong City Contemporary Dance Company, The Hong Kong Children's Choir, Tenor Bastian Tai, pianist Colleen Lee Ka-Ling and cellist Zhu Lin.

The program lived up to expectations, all three venues ran as planned and all problems solved. The only thing left to do now was to raise a glass and celebrate a moment in history while the fireworks soared over Victoria Harbour.

Stephen Wickham SHADOWLIGHT DESIGNS Phone & Fax +61 2 9569 0653 Mobile 0412 427 405 e mail shadows@real.com.au



Left sitting Steve Saunders at Scancommander, right sitting Stephen Wickham at Avolite desk with Fos behind sound desk

having booms destroying the clean look. This required hanging 118 metres of truss over the stage. Another 70 metres was needed over the audience to rig a room wash suitable for 1400 people to eat dinner under.

The rig consisted of various Par 64s for front, back and side light with some profiles for specials, 8 ACLs on each vertical truss with a Superscan at the bottom. Two scans were set for back lighting and four on the front truss for projecting some custom made gobos. These would also give a

"8 weeks?? I need them NOW!!"

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Clay Paky VIP Projector

By Julius Grafton

When Clay Paky released the Display Line at LDI, they were expecting a reasonably slow start. It went the other way. Braham Ciddor from Lightmoves in Melbourne tells what happened. "The secret came out. For 70 years we've been projecting gobos in theatre, now we can do it in retail".

Lighting designers everywhere can tell you how they needed to light a permanent installation and when it got to gobo projection the leko or profile spot was just too big and too 'theatrical looking'.

Clay Paky found an ideal market. The VIP projector and indeed the whole display line are the missing link for lighting designers working into the architectural and retail lighting field.

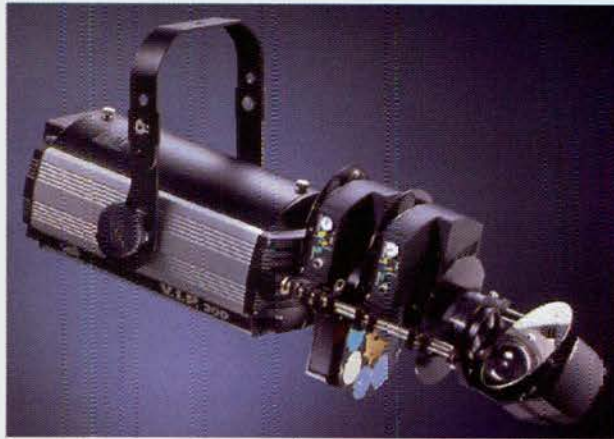
WHAT

Simple thing really. The Display Line is made up of three projector models and heaps of optional effects. We deal with the most popular here.

The picture of the VIP 300 tells it all, an Osram HTI300 lamp runs for around 750 hours up the back, inside you find the ballast, transformer, reflector, primary conditioning lens, secondary lens, and then - out goes the light.

It's a gobo projector. The gobo can be whatever you like, made here in Australia by any one of three gobo engraving firms. A variety of effects are fitted to the front rails. You choose what you want.

In typical projector configuration people want a gobo image, colour and movement. An 8 way gobo wheel, a timed colour wheel and a choice of mirrors to direct light to where you want can all be fitted to the front rails of the VIP. The rails are



powered, one carries 24v positive, the other negative.

On timed (automated) effects there is an RCA connector for analogue on/off triggering as well. When switched to timer, the timer is variable, courtesy of an adjustable control on the side.

GOBOS

The gobos required for VIP are a new size, sadly not standard. They are smaller than M size, and just a little under 'E' size which is the size used on the Miniscan. Mastercard (the Brisbane based

gobo makers) have about 50 titles (like 'exit', 'sale' etc) available off the shelf and any custom design you like can be done. There are another two gobo makers in Australia, and all generally offer a three day service, reports Peter McKenzie from Show Lighting Australia Pty Ltd. Glass or metal gobo's can be accommodated together on a standard gobo wheel.

The glass gobos are created from an etched chrome layer.

A single D sized (larger) gobo can be used in a single gobo holder for a larger image area.

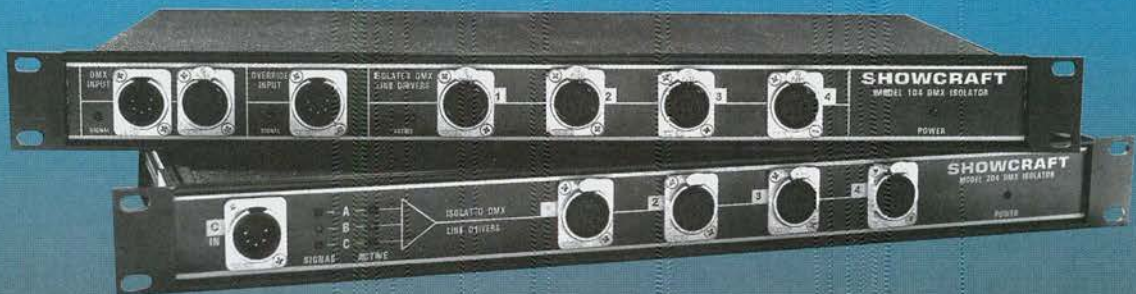
The real primo use is in a retail point of sale area, such as a large fast food chain. Braham from Lightmoves says: "we gave them four different gobos, 2 sets of 4 with a moving colour wheel and panning up and down the street."

The moving mirror is a 'traffic mover', you can project a logo onto a footpath, for example, then move it in through the shop door.

OPTIONS

There are lots of different fixed and moving mirror and prism type beam spreading options many with timers.

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A 'Doa-rama projector' fitting (accessory) is coming for 35mm slides, with fan cooling for the slide, and a UV and a heat filter fitted. It's expected you would get around 2 weeks use of a slide before it faded. A stacker type slide feeder is coming too, which will run a bunch of slides in sequence then chuck them into a bag. Braham reports he has at least one art gallery waiting for the slide unit.

Also a 2500 hour lamp (HMD300) is coming in July. The new lamp will be 4% down in light output, instead of being 5600°K it has a colour temperature of 5000° Kelvin. (*Who is Kelvin, no-one has advised me of this yet!*) Interestingly the standard HTI300 lamp is hand made, a batch number is engraved on each lamp! Osram are the preferred supplier for Clay Paky products. You can take up to four effects plus a motorised one on the front.

CONCLUSION

Braham says it all. "Magnificent. Usual Italian engineering, they don't release it until it's right! To sell the VIP we invest in gobos, and show it to major retailers and manufacturers. We've identified a lot of markets outside our traditional markets".

Distributors

- Australia:** Show Lighting Australia +61 2 9898 1666
- NZ:** Show Lighting Australia +61 2 9898 1666
- Singapore:** Hawco Trading +65 287-0011
- Hong Kong:** A.C.E. International, +852 2424 0387
- PLUG:** Lightmoves Pty Ltd (03) 9813-2955
- Prices :** VIP 300 A\$ 2256 inc. lamp
- 8 gobo timed wheel: (C52152) A\$399
- Adjustable swinging mirror (C52130) A\$249
- List prices including sales tax.

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NEWS

QUT NEW THEATRE

Queensland's University of Technology's new Garden Point campus Theatre chose all **Selecon** luminaires as part of a refit. The QUT Theatre will serve Brisbane's many performing arts groups as both a venue and training facility. The equipment list from Selecon includes 36 x 1200 **Zoomspots**, 88 x **Acclaim Zoomspots**, 40 x **SF1200's**, 28 x **SPC1200's** and 2 x **Performer Quartz Followspots** and **Aurora Cyc** battens. David Whitworth of the Queensland Ballet will be lighting the first season to re-open the theatre. The programme is *Romeo & Juliet* and *West Side Story* in repertoire.

MARTIN RECEIVE A ROYAL AWARD FOR EXPORT

Although a household name in its native Denmark, Martin Professional actually export 95% of its award winning lighting products. Now this worldwide export achievement has been officially recognised at the highest possible level in Denmark. Martin Pro Managing Director Peter Johansen formerly received on behalf of the company, the King Frederick 9th Award of Honour for export achievement from His Majesty Prince Henrik of Denmark. The export award is only presented very rarely in Denmark. Commenting on the award, Peter Johansen said. "This is the proudest moment in the history of Martin Professional. To be honoured at such a level within our own country is the ultimate reward for all our hard work - hard work by ourselves in Denmark, and our distributors and subsidiaries around the world".

AS SEEN AT ENTECH 1997:

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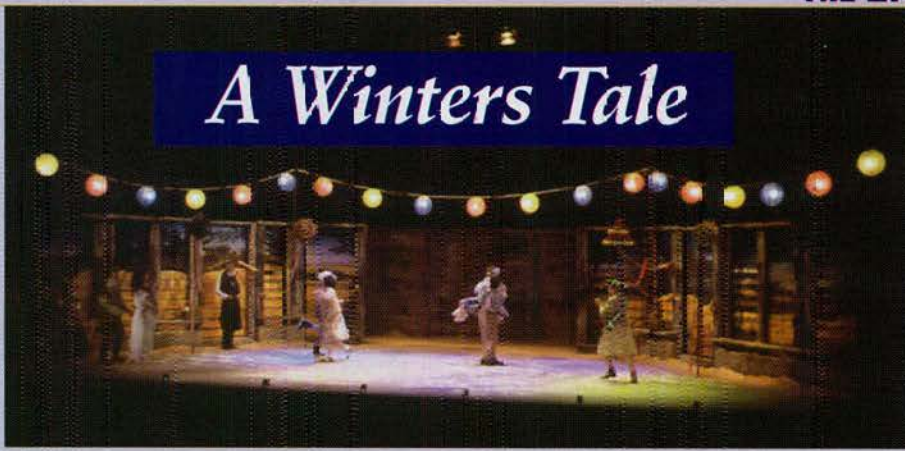
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A Winters Tale



Bell Shakespeare's latest production *A Winter's Tale* opened in Canberra before transferring to Sydney. It is the first time that lighting designer Gavan Swift has worked for Bell Shakespeare although he has worked with the director several times. It is also the first time that Gavan has worked in the Opera House's Drama Theatre.

"I've also never lit anything in Melbourne's Athenaeum where it's going next," said Gavan. "The director wanted the play to look 'epic' as it's quite a big tale covering 16 years. The scope of the play is very large in terms of where it goes emotionally and physically."

The set is very sparse and based upon a bullring. The only props are a throne, a couple of poles and a back wall which can flip over via louvres to give a different surface. Consequently the lighting is heavily relied upon.

"That's why I'm using 7 Mac 600's although they only move twice during the whole show," said Gavan. "The rest of the time they are a static look that colour changes to follow the moods of the play. As the principle male character gets madder and madder, the Mac 600's become colder and colder. As he calms down to a softer blue or whatever colour we've just come from."

"I didn't chose Studio Colors because



Gavan Swift

the version that is currently available doesn't reposition, if they get knocked they stay where they are," Gavan explained. "Apparently the new model doesn't do it but I haven't seen it yet. I also looked at Vari*ites but it came down to the Macs because I had to do the deal to get the whole rig. The seven Mac 600's take up almost the entire lighting budget and I needed more lights so I did a deal with Tony Davies at Chameleon. They agreed to provide the Macs and the rig for whatever the budget was which was very nice! All of the eight Macs, I've also got a spare Mac 600, were bought brand new for the tour.

"The Mac 600 is also a discharge lamp, I looked at the V.5c but when it dims there is still a glow coming out of the lamp whereas when the Mac dims right to zero the shutter kicks in and you don't get any light out of the unit. So when you go to black it is actually black, it's not a physical light source and in this venue that's important because you're looking at the lights all night. Even up in the control room you can still see the front of the lights. They are both incredibly quiet units."

Also in the rig are £9400 Altman Shakespeare Ellipsoids for side light and gobos work as well as eight Altman Zipstrips to light down the walls. There are two Cloud Projectors, eight Preludes and two Lekos a side and a large stage-cloth (fibre optics with the ends snipped off) which is revealed at the end. Standard Drama Theatre lights include 40 Selecor 1.2X Profiles, 743's and the Preludes.

As the set was supposed to be a bullring, some sort

of large light, resembling a stadium fixture, was required to hang from a pole fully in view of the audience for the trial scene. Gavan found some old Strand Acting Area lights from the Alexander Theatre in Melbourne. He then retro fitted them with some Par can bulbs.



"There happens to be a casting inside the unit which the head electrician, Brett Craham, ground down until a Par can base and cap fitted in perfectly," Gavan said. "He then wired it in and they've been there ever since. They are a 110v unit, as with most Par cans, and now we have the world's biggest Par cans. They work better than we originally anticipated."

Gavan did not want to use the Strand Galaxy control desk which is installed in the Drama Theatre preferring to tour an ETC Expression 2X.

"It's always my desk of choice particularly for the musicals," stated Gavan. "Because I've got seven moving lights they are all pre-programmed and set up so you go into the venue, plug it, adapt the one basic backlight look and track/record all those values through. So you can replot all the moving lights in ten minutes which is important on this tour.

"Here we've gone in parallel with the Galaxy so the Galaxy would still work - the system here is the Latest Takes Precedence so the Expression keeps running but if something was to happen, we could just punch in a cue on the Galaxy and the Galaxy would then take over."

Gavan is also lighting *The John Wayne Principle* for the Sydney Theatre Company and he is re-lighting *Sweet Charity* for it's Sydney season at the Capitol Theatre.

• Cat Forcer





BUYERS GUIDE DIMMERS & DMX

available in standard modules from 24 up to 96 channels. From \$1670.

DMX Splitters/Mergers a full range available in a variety of configurations which include single in, up to twelve out. Allow large installations or production DMX distributions to be reliably and correctly routed. From \$1480.

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DMX to Analogue Converters separate modules for analogue to digital DMX512 and vica-versa, several configurations are available. From \$1670.

CRESCIT SOFTWARE *Coemar De Sisti (03) 9467 8666*

DMX Splitter a brand new release from Crescit, this DMX Splitter allows for accurate DMX distribution and is configured for one in, three out. From \$454.

LIGHT PROCESSOR *ULA 1800 648 111*

Q Buffer DMX Splitter 4 totally isolated DMX outputs, 3 and 5 pin XLR connectors allowing a total of 8 outputs, DMX monitoring via LED's, built in termination of inputs, truss or wall mounting, loop in/out XLR. \$1229.50.

JANDS *Jands Electronics (02) 9582 0909*

Jands DD8 8 way isolated DMX splitter. Electrical isolation between outputs of fault currents up to 500v AC. Power and data indicators. \$979.

Jands DDX60 DMX512 to analogue +10v DC converter. DMX repeater to output connector. Back up snapshot facility. Up to 60 channels via 5 x 15 pin output connectors. \$1307.

ETC *Jands Electronics (02) 9582 0909*

Response Opto Splitter 5 way opto isolated DMX splitter. 2500 volt isolation between input and output. Internal fuse protection on output lines. \$2450.

Response Network Controller digital system interface capable of combining input signal from two consoles, patch them and control up to 1024 dimmers. 12 back up snapshots. DMX, AMX192, D192 or K96 protocols. \$10,570.

Response Connector DMX512 to AMX192 converter. Bi directional. Up to 192 channel capacity. \$3434.

SHOWCRAFT *Showcraft (02) 9698 3009*

DMX Isolator Model 204 has 4 outputs, 2 DMX line inputs, riggers control input; constructed for 24 hour continuous operation; features an automatically switched input; can be user configured as 1 in 4 out or 2 in 2 out on individual lines. \$1400.

DMX Isolator Model 104 has 4 outputs, 1 DMX line inputs, riggers control input; features an automatically switched riggers input to enable quick and easy access for dimmer testing or riggers control input. \$1300.

DMX Isolated Wall Socket fully DMX compliant isolated line outlet with a 5 pin XLR connector. Boxes can be fitted with single or dual outlets and provided with custom labelling for specific applications. \$270.

DMX-Analog Converter Model DA12 compact 12 channel unit provides up to plus 10 Volt DC output from a DMX input. Can be set to start on any channel from 1 through to 512. Powered from a plug pack, this unit converts a single analog dimmer rack to digital. \$395.

GREAT AMERICAN MARKET *Showcraft (02) 9698 3009*

Gam Command hand held riggers control for direct access to DMX512 dimmers. Full function keypad can control a full scene or just a single dimmer. Functions as battery operated test device for all 512 dimmers. Checks all 5 pin cables and tests DMX presence on the line. \$425.

Gam Command Two hand held riggers control with LED channel number and level display. Quick to operate both solo and scene controls and provides access to all 512 dimmers. Functions as line and console tester, ideal for when DMX patching mysteries occur. \$620.

Gam Switch DMX automatic line switcher for DMX. Designed to provide a riggers control input to the DMX line without having to plug and unplug DMX connectors which may lead to faults. Switch is activated by turning the power off on the riggers control which returns control back to the main desk. \$295.

Gam Opto-Iso optical isolator and line splitter. Isolates control signal and boosts signal to provide a fully split line with no interference to the main signal. This battery or plug pack powered unit provides a quick solution if trouble develops at the last minute. \$255.

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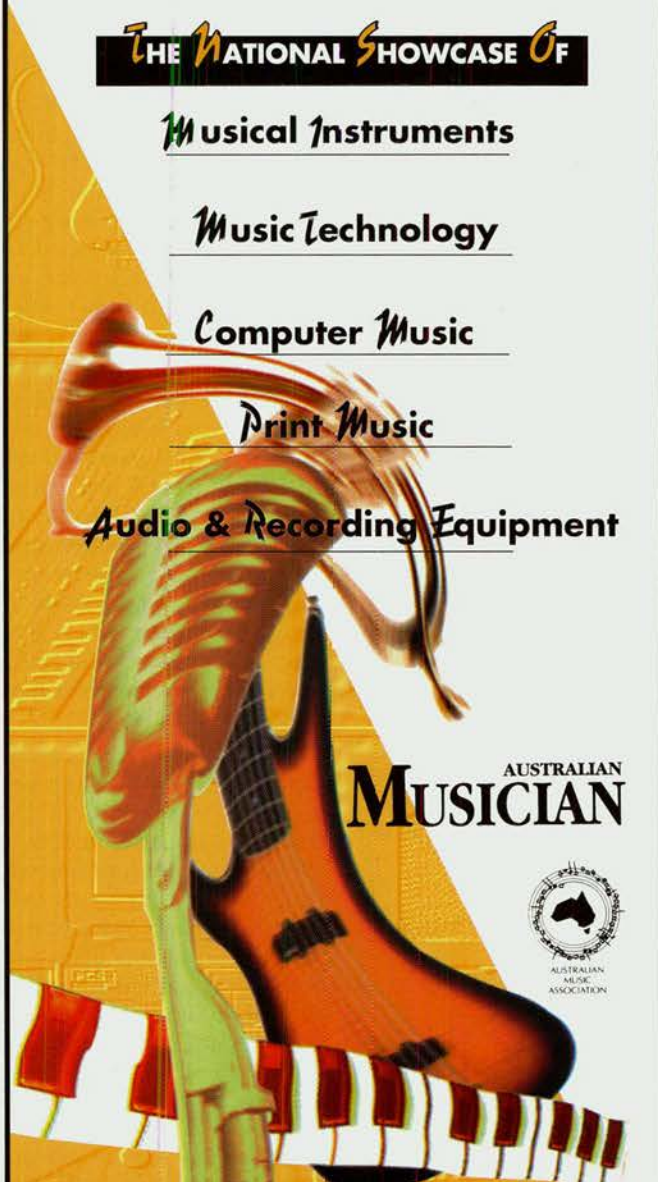
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THE PA PAGE

Don't Panic! (The joys of STEREO)

Part Three in a series, by Michael Orland.

Don't you hate Connections Articles written by boring old dust-farting roadies that begin with "I remember when I started in this business 20 years ago..."

You don't?...Phew...

I remember when I first started in this business 20 years ago, almost all sound systems were in mono. The idea of stereophonic P.A. systems was ridiculed by myself and most other system owners as an unjustifiable expense. Two equalisers? Two crossovers? Why? So you could pan the *%&^* toms?! Gimme a break!

Gradually things changed. I went to an outdoor Sherbert gig where they did pan Alan Sandown's toms across half a kilometre, and it sounded great! Keyboard players stopped turning up at gigs with gas powered mini moogs and started hauling in stereo things with names with Ensonique and Kurzweil on them.

I sold my Yamaha E1010 analogue delay (*memories! Or rather, lack of them ed*) and bought my first stereo digital reverb (up till then I had equated the words "reverb" and "boingg"). At home, I sold my wind-up ear-trumpet gramophone player and bought this new fangled thing called a Compact Disc player, despite the cynicism of my friends (Another fad Michael, certain to go the way of the 8 track cartridge).

A couple of years later, I have a vivid memory of hearing Thomas Dolby's "The Flat Earth" C.D. through electrostatic headphones. The bands I was mixing stopped doing Glitter/Quatro covers and started doing songs by hip young New Roe-surgeon type bands like Duran Duran and Spandau Ballet. With the aid of stereo as a mixing tool it became possible to inject light and air into a mix, and eventually mono became unthinkable. Thus endeth the history lesson (Hmph. Some history lesson. Michael Orland discovers the pan pot)

The other not-quite-so-arty advantage off "going stereo" was sud-

denly having spares to fall back on in emergencies. Dual equalisers, limiters, crossovers, and double on the return lines back to stage could all be utilised in crises simply by reverting to mono for the night.

Say for example a severe crackling develops in one side of the system, which is logically traced to the high end output of one of your crossovers. "Fix it!" says the night's special guest FOH guy.

Well, if you're like me, you can't. I'm not a technician, and even if I was, I would be unlikely to have replacement ICs, etc on hand to do repairs at the gig while the LD is programming wobbly mirrors and adjusting strobe rates. So O.K., I would take my cross stage loom which links the left and right amp racks and simply feed it from the parallel inputs on the first rack. If your amps don't have parallel inputs, I would suggest keeping whatever number of signal Y-split leads necessary in your toolbox for such occasions.

The retro mono thing may be totally unacceptable to many FOH dudes, but I'm basically talking priorities here. Unacceptable noise interference can totally ruin a show, whereas I've never known any punters to demand their money back because of a mono mix.

Actually, the only time we ever had da faulty crossover output was a couple of years back when a low end output connector was cutting in and out. We tried jiggling, positioning and gaffing the line connector into place but nothing was reliable enough. The point at which the board-mounting panel mount XLR joined the circuit board needed resoldering and dilly me didn't have my soldering iron with me that day. The stage guy offered me a lend of his \$10 iron, which was in fact almost hot enough to melt solder, but I declined. I got around the problem by leaving the left and right mids and highs patched as normal. Fortunately the desk at the time, a

Soundcraft Venue, had a mono out and the return 'core, which then ran to an unused equaliser in the monitor EQ rack, before running back to the low end amps.

With the additional EQ I was able to tune the subs for the room as well as pull out all frequencies above the crossover point by 12 db to minimise component overlap. Sure, it was as dodgy as all getout, but it worked, sounded fine, and the stereo imaging wasn't compromised in the lease by mono subs.

When putting together larger systems where you can justify adding side fill stage monitoring, consider running them active, using an electronic crossover with sweepable crossover points. By wiring the cabinets with switchable active/passive crossover options, as detailed in this year's February Connections, you end up with even more spares within your system to be utilised in a crisis.

• **Editors note:** Poor old Orland sends us his column typed on a circa 1928 Remington Rand typewriter. Subsequently it doesn't come on disk or by email, concepts I patiently explain to Michael every time I see him. Thus he has no word count, so the column is either grossly over sized or like this month, somewhat short!

So I'll chip in here and say the sole advantage of a stereo mix on any system used anywhere is to add depth to the main vocal.

To do this you can send a short delay to one side (left or right) with dry vocal to the other. There are 101 reverb / delay possibilities. The best sound engineers I know prefer to mix off-centre, because only a few seats in any house get an entirely stereo mix.

Bruce Jackson ran his 360° arena system for Bruce Springsteen in stereo - left,right,left,right - all around. Because he wanted the extra depth Michael talks about. That's reality!

Michael runs TPAC in Sydney, call (02) 9799-7219.

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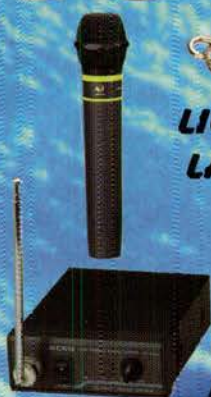
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