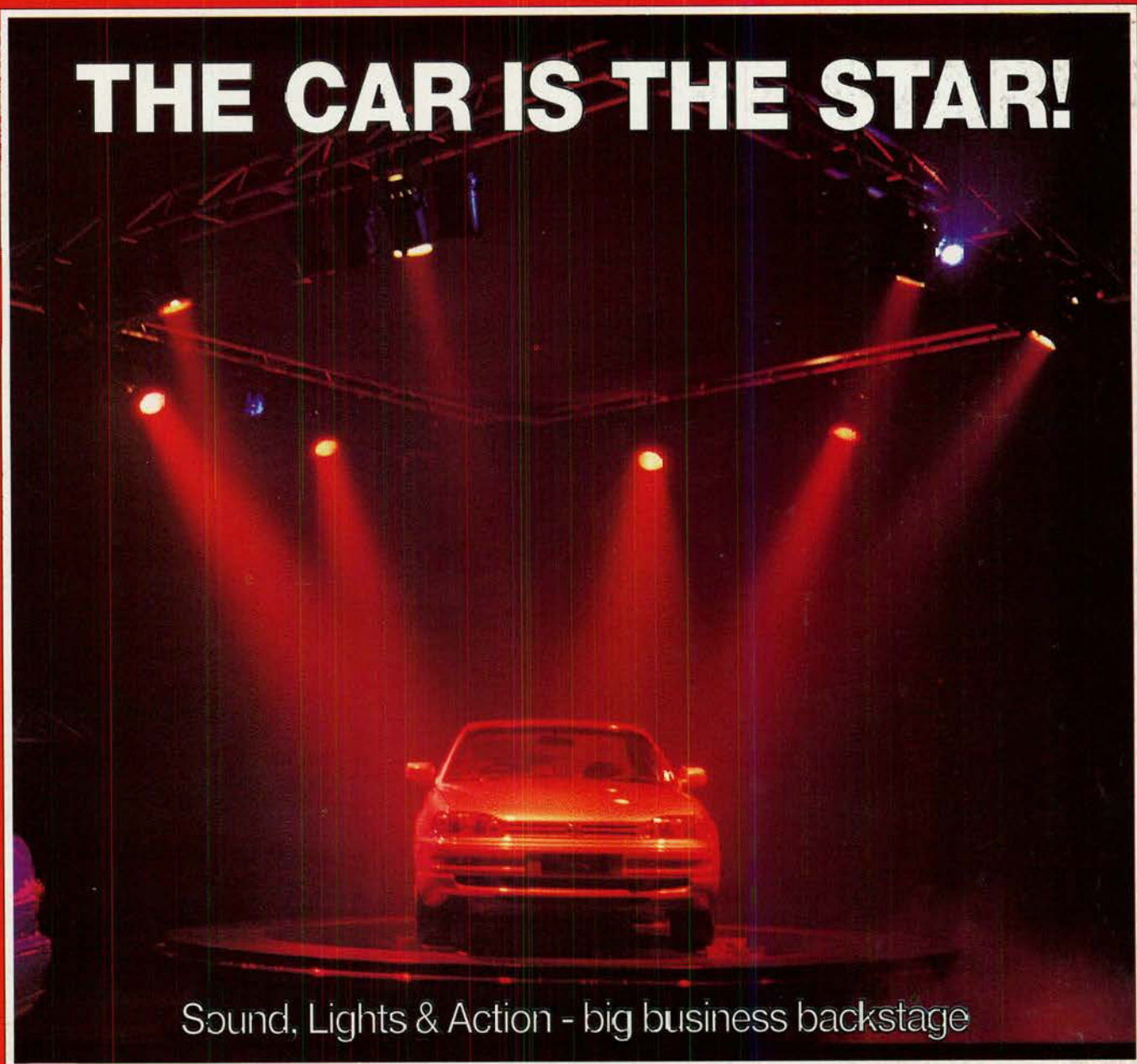


Connections

Australia's SOUND, LIGHTING, A-V & STUDIO Magazine

February's Biggest Gig:

THE CAR IS THE STAR!



Sound, Lights & Action - big business backstage

AUTOMATION FOR ALL

Four Productions Reviewed!

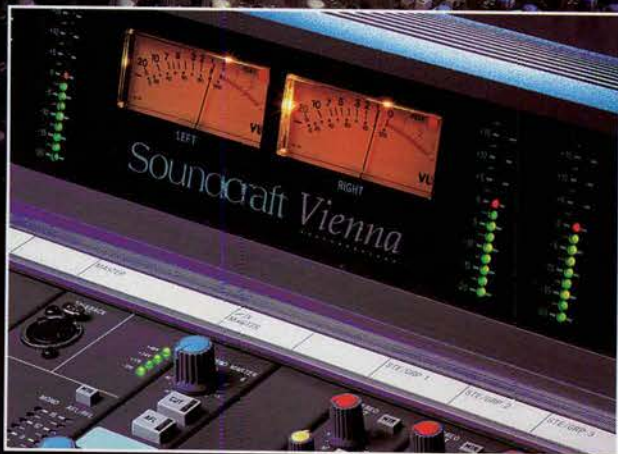
GARTH PORTER talks about recording

The more we listened the better it sounded

Vienna is the direct result of listening to the demands of our customers and shaping our product to meet their needs. So when the other stars are performing, Vienna won't make a song and dance about making sure they sound as good as they look.

As the proud successor to Series 8000, Vienna is ready to meet any challenge. Fully equipped for a life in the theatre, arena or auditorium. A new four band sweep equaliser has been designed specifically with live sound in mind. There are eight mute groups, eight stereo inputs, eight optional VCA groups, an optional 11 x 8 matrix output and control room monitoring. Inputs and outputs are fully balanced throughout and there's an advanced console linking system, compatible with Europa.

In spite of its sophisticated styling Vienna is, like all Soundcraft consoles, built to withstand a tough life on the road. When it comes to live sound, Vienna fits the bill like no other.



Soundcraft Vienna

EUROPA



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DELTA



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CIRCLE 104 ON READER SERVICE CARD



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You pack all the custom mounting hardware right in with the system.

For fast, easy installation. No more running around or waiting for parts to come in.

You build in value for the customer and the dealer.

Need we say more?

You Introduce the new Bose FreeSpace business music system.

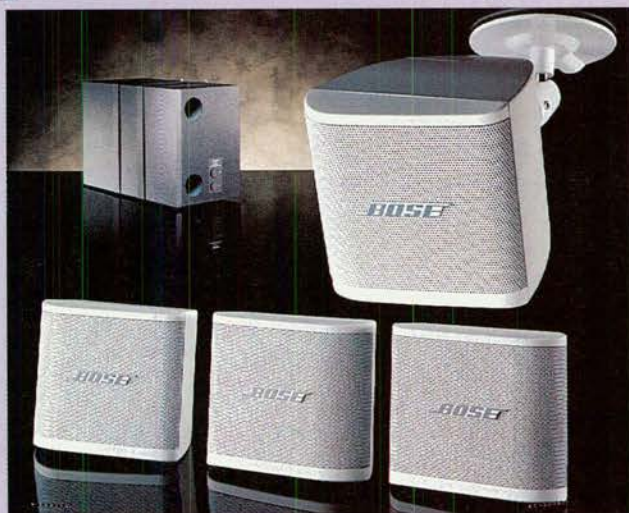
If you're Bose Corporation, you listen. To what business owners and contractors tell you they need in a business music system.

Then you apply your reputation for the world's most highly acclaimed audio products and design a system specifically for restaurants, retail stores, and commercial spaces.

To make the FreeSpace system easy to install, you include all the mounting hardware. And design a mounting plate so the installer can position the bass module, wire it, then flip it into place.

You engineer the FreeSpace system with a Dynamically Equalized amplifier for full, natural fidelity sound at all listening levels. And in all areas. You use renowned Acoustimass speaker technology for deep, clear bass. All in a system that blends into the decor.

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Julius Grafton.

Features writer:

Catriona Forcer.

Partner & Organiser Deluxe:

Caroline Grafton.

Contributing writers

this issue:

Debi Moen, John Monty,
Peter Kemp, Duncan Fry,
Dolly T. Roadbox,
Bruce Waite & Dave Macken.

Advertising:

Caroline Grafton.

Graphic Art & Layout

Grafton Services P/L

Crossword & Ego Check:

The Punter.

Legal Team:

Sue, Grabbit & Runn.

Thanks to:

Josh Luo, Nick & The Boys.

Advertising: (02) 876-3530.

Editorial: (02) 876-2612.

Faxes: (02) 876-5715.

N.Z. enquiries - call Angela in

Auckland - (09) 366-7021

Mail to: P.O. Box 439, Epping

NSW 2121 Australia

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Connections

March 1993

UPDATE

News, Views, Products

If it's new, if it's happening, if it's important - it's here! Our update pages start on PAGE 9 and continue: 10, 11, 66, 67, 68 & 72.

The Car is the Star

Big Business Theatre boosts production incomes. It's huge! Toyota do it with class: **Page 14**



GARTH PORTER

Leading record producer talks to Caroline Grafton about recording, studios, musicians and his tasty valve gear: **Page 49**

Productions:

Rocky Horror **SOUND:** **Page 18**

Melbourne Dance Party: **Page 21**

Midsummer Night's

Dream **LIGHTING:** **Page 62**

Sonic Youth crew talk: **Page 73**

WHO is THIS? ➤

Dolly Roadbox: **Page 35**



GST: Entertainment Biz Implications

OK, it's a boring subject. One day you'll be curious, so it's all here: **P.42**

Rick Doolan prepares to die

Production Company Chief tells how he will leave his business : **P.42**

Computer LX

Aladdin & ShowCAD **P.22**

Automation

Spirit AUTO mixer review: **P.28**

Regulars

Aux 2, foul Gossip **P13**

Duncan Fry **P59**

Hire Biz Buz: **P33**

Production & Tour Activity: **P34**

Studio Tracking Guide: **P46**

X-Track - around & about: **P45**

Great Moments: **P54**

Social Pages - who's where: **P71**

Crossword & fun pages: **P36**

Little Sharkey: **P36**

Deadline 14th

| | |
|----------------|------|
| Late News: | P 7 |
| A.E.S. Column: | P 66 |
| Sound System | |
| Design Manual: | P 70 |

NEWS

| | |
|------------------|-----|
| Acoustics Column | P31 |
| DMX Explained | P65 |

Letters and aggro: **P25**

3 Lighting Columns!

| | |
|----------------------------|-----|
| Munchy Bytes: | P21 |
| Dr. Lite - Michael Tanner: | P42 |
| Peter Kemp: | P59 |

National Industry Classifieds in centre Directory section!

FREE READER SERVICE CARD:

To get free information on products and services inside this magazine, use our Reader Service Card, towards the centre of the magazine. Note the NUMBER at the end of each item or advertisement, and circle corresponding number on the card. FREEPOST to us, and we pass on to the manufacturer or distributor concerned.

Our Cover



The Car IS The Star, alright, the Toyota Camry show boosted production company coffers around the land in February, making it the largest sole employer of production talent in that month. Business theatre is big business! Our Cover Story, with words & pictures by Catriona Forcer starts on page 14.

Cover photo: Catriona Forcer.

Subscriptions: AUSTRALIA- \$29.50. See pull out card towards centre of magazine.
NZ- NZ\$55 inc GST, Ring Angela (09) 366-7021. World Airmail: AU\$55, Fax creditcard details.
DISTRIBUTION: Hundreds of bulk outlets, more wanted! Call (02) 876-3530. Make decent margin!

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CIRCLE 116 ON READER SERVICE CARD FOR MORE INFORMATION

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● **Rick Doolan**, an industry brother and head of Bandanna Productions passed away on February 20th following a debilitating illness of some duration. Shortly before he died Rick told Connections of his plans for his business, which will continue following his departure. Rick Doolan's story is on P 52. Rest well, Rick.

● **Sydney Entertainment Centre** won the gong in Performance Magazines poll as '1992 International Facility of the Year'. The award is made on the basis of votes by tour & production managers, and bookers. Quick to knock our own, a Sydney Music 'Journalist' got on Radio and claimed the joint was a dud, 'from a vibe point of view', with Performance's Drew Wells defending the award. The journo claimed Melbourne's Tennis Centre is a better gig, which it is in terms of acoustics but less so when you need to rig from the opening roof. An additional award for highest grossing venue (\$19,431,314) puts the Sydney Entertainment Centre box-office for last year at about \$120,000,000.

● **Golden Scan 3** is (apparently) for release at SIB Rimini, the worlds largest tradeshow for effects lighting. The Golden Scan 3 is cloaked in secrecy, with a strict embargo in place on information. However, our printer reports that at printing time LAVA switched their advert on our back cover conditional on it not being

shown to anyone - including Editorial staff here at Connections - before release date, March 1st. You can bet it details the latest surprise shot fired in the (here comes a cliché.) Moving Light War!

● **SIB (Rimini)** will be larger than ever this year, the expo starts on March 21st and usually attracts a fair contingent of Aussies. An extra 5000 sq.m hall has been added. In Italy the dance/disco industry invoices over 2.3 BILLION Australian dollars - equal to 3% of our entire economy!

● **ARX** have built their 1,000th EQ 60 dual third octave equaliser, which must be quite popular. Not bad for 3 old hippies in Highett. They also say their AfterBurner was used on the output of the broadcast mix for the American Music Awards, where USCO Audio Engineering say it worked 'musically'. They hope to sell one to Arsenio Hall for hiptalk compression!

● **ACME Merchandising**, Australia's largest merchandiser, are on the war path against bootleggers, having won two legal actions in New Zealand (East N.S.W.) and stopped a gang of rustlers in Australia. They have gone to the naughty and extreme tactic of NAMING the principals of the firms they have fought. In the interests of avoiding a libel action, we will not relay these, suffice to say action against anyone pirating items featuring Guns & Roses, Cure, AC/DC, Megadeath, Prince and other ACME licenses continues

● **The Australian DJ Supply Co** have released 'The Ignitor' flash system, a bi-directional flash tube that comprises a controller, ignitor tubes and terminators at the end of each branch. They say you can create unlimited patterns, and the flash is brighter with long life etc. Call (02) 564-2277 for details.

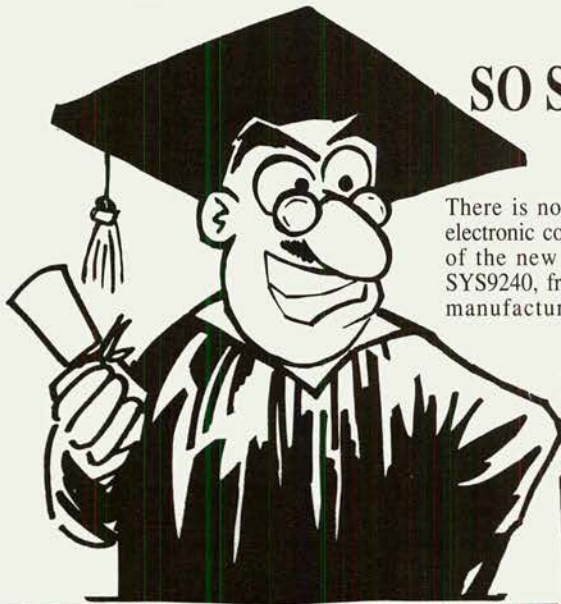
● **Lightmoves** in Sydney, as distributors of LeMaitre, have just completed a training course in Stage Pyrotechnics. The course, on Monday Feb. 22nd, covered safe use and firing, transportation, statutory regulations and storage of LeMaitre pyro and firing systems. Keiran Usher, a freelance pyro technician, conducted the course, which was limited to 25 people. People from a diverse range of industries including advertising, AV, Circuses - and even a magician - were on hand. Lightmoves chief Jonathan Ciddor said it was the firms aim to improve the safety knowledge of prospective pyro users, and the course would be run around the country. Contact them: (02) 560-0000.

● **Lone Wolf**, (USA) the creators of the new Media Link protocol, have announced an 'interest group' of seriously interested manufacturers has been created. It is a roll call of major audio players - Mark IV, Peavey, Yamaha, Rane, QSC, Carver, TOA, Stewart, Yorkville and many more - are all intently focussed on this. We'll keep you posted on developments

MIDI, Music & Computers EXPO

- Sunday March 28, Parramatta: This is a huge undertaking for Bava's Music, 'the mouse that roared' according to Nick Bava. The expo will feature music and recording technology, with seminars and demonstrations - and answer urban myths like: 'if a cassette player can record from a Midi Module/Sequencer, can the Sequencer record from the cassette player?' Midi with: lighting, multimedia, sampling and voice are just some of the topics, product from all the majors will be on show. 11am-6pm, Park Royal, Parramatta, Sun. 28th March. \$5 entry (\$2.50 with coupon from advert in centre pages). Call Bava's on (02) 727-4999 for details.

✓ **EASY DEADLINES:**
14th of every month!
 Classifieds taken up to
 the **25th of the Month!**

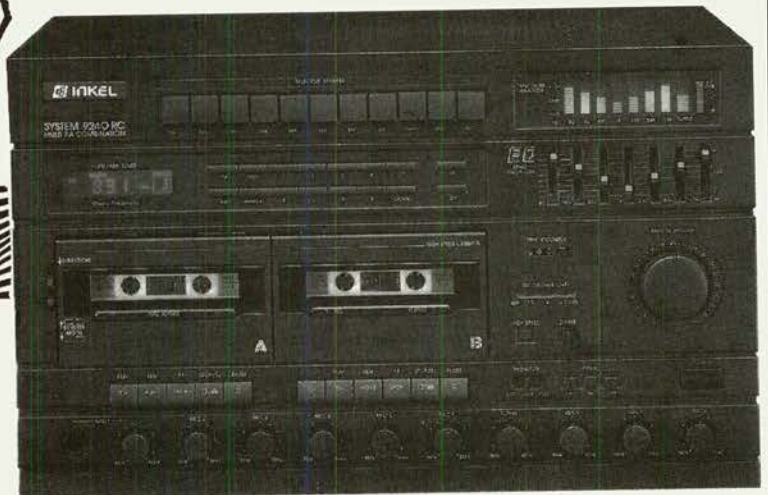


SO SIMPLE EVEN A HEADMASTER CAN OPERATE IT!

There is no need for stacks of confusing electronic components, with the introduction of the new easy to operate "all-in-one" SYS9240, from Inkel P.A., Korea's leading manufacturer of public address and

commercial sound products. The Inkel SYS9240 is ideally designed for use in schools, clubs, factories, or anywhere you require an easy to install, easy to operate, all-in-one professional public address system.

•240 Watt RMS •10 Channel Input (cannon balanced) •10 Speaker Zone Selector •Graphic Equaliser •18 Channel Digital Tuner •Twin Auto Reverse Cassette with High Speed Dubbing •Selectable Mute



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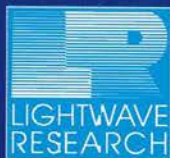
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The new Trackspot® from Lightwave Research will challenge the way you look at automated lighting. Trackspot is the versatile and affordable automated luminaire designers and operators have been asking for. Superb engineering and numerous control options make Trackspot the perfect performance tool for a wide variety of lighting applications.

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- Lightweight, weighs 11.34 kg (25 lbs)
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CIRCLE 111 OF READER SERVICE CARD

EVENTS

AV 'AV Revolution' Seminars

Eastern States set for AV Presentation dates in March

Computerised audio-visual presentations and electronic conferencing are revolutionising communications in some of Australia's leading organisations - and now the rest of the commercial community is poised to follow, says seminar presenter, Peter Blackmore.

The "Room With a View" technology seminars will be held in Melbourne (March 18), Sydney (March 23), Brisbane (March 25) and Canberra (March 30) for one day in each state. The seminars are designed to detail new computerised technologies, including single touch multimedia control systems, and include practical 'howto' workshop sessions.

"Most organisations recognise that modern society is information dependent", says Peter Blackmore, "many also recognise that success can depend on the strength and quality of their communications. By communications I mean information that travels between an organisation and its customers, staff, stakeholders and the community in which it functions".

Mr. Blackmore is spreading the message of the revolution from the vantage point of a consultant. He is not a contractor and has no vested interest in selling any particular device or system. "What I'm inter-

ested in is getting across to organisations the great advantages of computerised, integrated systems that work - tying them into existing computer facilities", he said.

"There are audio-visual presentation systems or teleconferencing systems that can be worked with a control panel so simple it is virtually foolproof. They can be used without any prior instructions. I think a lot of Australian executives overlook the visual literacy of the average Australian" he continues, making the point people watch slick presentations on the evening news, for example.

The seminars will demonstrate new technology that uses simple systems with touch screens that can automatically select sources, raise and lower sound levels, dim lights, control curtains and control slide and video projectors. In convention centres or hotels, a touch of a switch can convert a ballroom into three or more seminar rooms, each with its separate sound, lighting and control system - which any staff member, even a head waiter, can operate.

For more information about the seminars, contact Alan Cooper, RWV Seminars, phone (03) 882-8039 or fax (03) 882-9997.

MI Larger AIMS '93 show set for Sydney's Darling Harbour - WITH Lighting Area Music show for September

SYDNEY- Australia's music show is set for Sydney from September 9th through 12th inclusive, according to organisers, VRF.

This year the show will operate separate trade only and public days, with extensive advertising and promotion aimed at attracting both - including television advertising.

Last year AIMS '92 attracted nearly 8,000 members of the public, along with 1,400 trade visitors, who poured through the 80 exhibitors stands. Dealers undertook training sessions on topics such as 'Surviving Hard Times', and 'Store Presentation and

security, amongst others.

This year sees the show run in September, and the intent is to go biannual, according to VRF's Rob Walker. More floorspace has already been allocated than last year, with Lighting exhibitors invited to participate as well. "We are planning different areas to suit exhibitors", says Rob Walker.

The show is run by the Australian Music Association, (on behalf of the industry) which has recently expanded its membership to include Retailers. Enquiries - contact Rob Walker on (03) 696-2022.

GRAPHICS SPOT

LX Profile spots and moving lights feature gobos that are increasingly detailed, with new, finer gobo designs testing optics - and often not resulting in satisfactory projections. To answer a need for ultra-detailed gobo projection, Light Technology of Germany have developed a dedicated range of gobo projectors capable of very fine resolution indeed.

The range uses unique gobos made from vaporised chrome plates, on 1.5mm thick glass, which are said to provide razor sharp image projection over a long period of time. Clearly the display, architectural and advertising markets are where the units are heading, but there are entertainment applications too. The 70mm square gobo's come ex-stock,

CIRCLE 109 ON READER SERVICE CARD



GL-200MSD gobo projector - water proof version.

or the importers can make them for you, so a logo can be projected.

Attachments and options like gobo wheels and deflection mirrors make interesting applications. The projector/spotlight comes in 5 sizes, including £60w MSD. Details from John Stewart, (049) 29-4620.

PA ARX Monitor Rig for Singapore

SINGAPORE- Concert Sound Pte Ltd, a major regional rental co, have taken delivery of a complete ARX Concert Monitor system. The system comprises 12 ARX 215L wedges, and 6 ARX 222 wedges - all controlled by 9CU 215s dual channel speaker processors. 18 ARX SS1200VC amps run the rig. ARX's Gaston Goossens won the deal from ARX's Singapore office.

Colin Parix (left) hands over the system to Jawhari (Joe) Rais & Kamsani (Sani) Ahmad of Concert Sound.



ON THE JOB.

#02 in a series

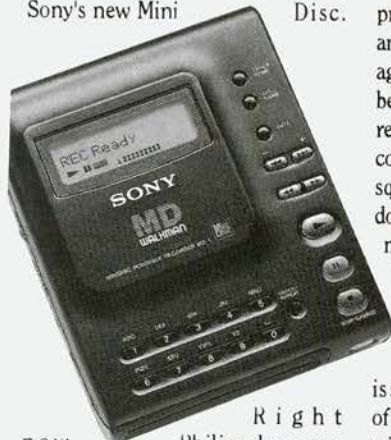
"I'm the oldest man in the business", joked JOHN BUTLER of Butlers Hire (pictured under the hat at right). Butlers are the people who supply a diverse A to Z of things for concerts - things like mobile stages, tents, tables, duck boards, fences, crash barriers, fete stalls, chairs - and the list goes on. John recently celebrated his 60th birthday, where a rollcall of industry types gathered to hear a speech. John laughingly says Jands Production Services boss Eric Robinson was asked to speak, but declined - joking instead "...but I don't even LIKE the old c....!" Peter Rix did the honours instead.



Mini Disc launched in USA

Sony wait down-under, Philips launch rival DCC

The war for the hearts, minds, and dollars of the average consumer is on right now in the USA - we get to wait awhile before we see the tussle between Philips with the Digital Compact Cassette (DCC) and Sony's new Mini Disc.



Right now Philips have released the DCC, with pre-recorded titles available in record stores from some labels. The key to getting either of these new formats up and running is getting enough pre-recorded titles into stores.

The question of stores stocking pre-recorded titles is of little consequence to those who want to record at or near CD quality - and that is

what is promised here. DCC comes close, according to the specs and listening tests, and MiniDisc may equal CD in quality - the difference being you can record onto Mini Disc, and you can re-record too.

Mini Disc allows 74 minutes of programme, the disk is 2.75" in size, and comes with a serial-code management system to prevent copies being made from other copies. Pre-recorded Mini Discs cannot be re-recorded over. The Disc itself sits in a square cartridge like a floppy disk does, so handling damage will be minimised.

The Sony Mini Disc Walkman just released in the U.S.A. will, of course, not only replay - it will record too. This little machine is said to withstand up to 10 seconds of continuous shock or vibration, with on-board memory handling music reproduction, while the laser gets about re-establishing tracking.

You can tag each recorded track with an ident showing on a screen.

Last month in the USA over 100 pre-recorded titles were available at the Mini Disc's launch.

We will not get Sony's Mini Disc for at least a few more months yet.



Rainbow Colour Changers have new UK based owners. Pictured with a new 20" model for Searchlights, are Michael Goldberg & the original inventor - Magnus Anvell. They own Camelont Ltd, it owns Rainbow!

New Product Briefs

LX Rosco have LEE number range!

Well well. Now you can get a new range from Rosco, with numbers and hues that correspond to the old Cinemoid system - the one LEE so successfully adopted. Now when you ask for 103, you get RED - as long as you ask for Rosco's new E-Colour - or Leel. There are 71 colours, and 21 colour correction filters - plus 15 diffusion materials. The E in E-Colour stands for 'European'.

The range conforms with the new BS3944 standard, and comes on 25' (7.6m) long rolls, that are 48" wide (1.2m). You can still get Cinégel and Supergel, of course.

Here in Australia Rosco is handled by Rosco Australia Pty Ltd, the helpful Ian Baseby can fit you out with a swatch book. Call Ian on (02) 906-5262

● **DODD Electronics** have released the 1642 mixer, with 16 inputs and a whopping SIX auxiliary sends per channel. The 1642 has an extra pair of outputs, sub 1 and sub 2, making it suitable where extra zones of sound are needed. The mixer has 3 band EQ and an extra four stereo auxiliary returns - for 24 inputs. It's versatile & different and could be used for recording, stage monitors, or stage mixing & FA. Get info: C.M.I. (03) 315-2244.

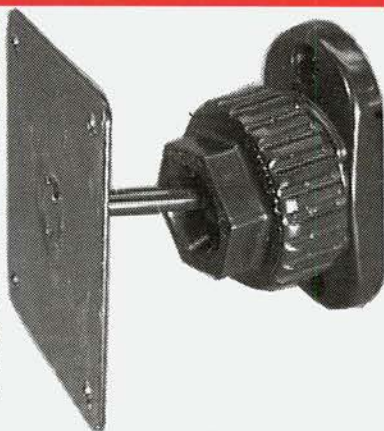
● **Hextronics** say they make 75% of the video walls in Australia. They have released a new product which is a world first, they say, and it is a Multi-lingual Information Display System. More common applications are in the tourism industry, but who knows? Call them - (07) 279-3350.

● **Catalogue** - from CC's Light & Sound, detailing all that is available. It's a nice 14 page one, get it! Call them on (03) 532-9488.

Good THINGS to know about Dept.

At right is the **WACKI BRACKET-1** which will mount things up to 5kg in weight and move up to 50°. Just \$39.95 a pair in black or white - from Altronics - call 008 999-007.

Below is the **DENNON AVR-2000** surround sound amplifier for AV applications. It has a circuit that adds and enhances to the four channel, 3D quad type sound. Heaps of features - and \$1499 retail. Call AWA for more details! (02) 888-9000



HOW What Is A Mixing Bus?

Small to huge mixing consoles all have mixing buses, which send channel output to either a sub-group (as shown on right, there are 8 bus assign switches) and/or direct to the left/right mixer outputs. An auxiliary 'send' is a bus too, so if you have 8 sub-groups, 8 auxiliaries and Stereo outputs, that's 18 busses total.

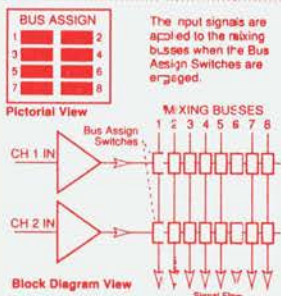


DIAGRAM COURTESY YAMAHA

Soundtracs Release Solo Monitor Console

10 send console sits between Spirit Monitor & Yamaha MC II Series

PA Monitors or Foldback - whatever you'd like to call it - are increasingly important today, with a foldback 'send' comprising anything from a pair of monster bi-amped wedges to a little speaker in a dressing room. Or a set of headphones.

Soundtracs have released their entrant in the monitor mixer stakes, the SOLO, which joins Soundcraft's Spirit and Yamaha's MC-II Series at the mass market end of the fray. With 10 sends SOLO comes between the others, Soundcraft's Spirit offers 8, and Yamaha's MC-II has 10 with 2 extra auxiliaries - for an effective 12 sends.

Each of SOLO's inputs has a MIC Split so the signal can be sent to the FOH without the need to use splitter boxes. This is handy. A phase switch and switchable 48v phantom power is provided on each channel.

The input module equaliser is a quasi parametric 4 band with fixed HF and LF and swept mids. The frequencies have been chosen to overlap. An EQ button switches the EQ in and out of circuit.



There are 10 monitor sends, each of which can be selected as pre or post fade. A 60mm fader allows control over post fade monitor sends, (acting as a kind of group master on each channel) and the 4 mute groups allow the stage engineer to preset mixes for recall during a show.

This is somewhere Soundcraft and Yamaha differ, with the Solo the only one of the trio offering mute groups. Soundcraft's Spirit does have a linear fader like Solo, Yamaha's MC II doesn't. To compound

the choice, Soundcraft also offer a Monitor version of DELTA, which offers 12 sends.

Monitor outputs are arranged in two rows with adjacent metering to enable the engineer to quickly locate the relevant output. Each output has a fully parametric equaliser which is used to notch out feedback frequencies. The SOLO Monitor also has a variable roll off filter which is adjustable from 10Hz to 200Hz.

The stage engineer's monitor speaker is fed from the master module and the master output is balanced on an XLR and appears on the rear panel. The master meter follows the source selected on the source buttons, and the monitor engineer can listen to any combination of monitor outputs by selecting monitor output buttons.

The company says its SOLO Monitor incorporates the same high quality design as its high end equipment. It is available in 24-10 and 32-10 formats both with an external 19" rack mounted power supply. *Call AMEER for details - (02) 975-1211*

CIRCLE 110 ON SERVICE CARD

Yamaha ARE in the Digital 8 Track War



Our story last issue detailed a 3 way tussle between Tascam, Alesis and Postex, and inferred Yamaha were not active in this market - well they are. The DRU-8 and DMR 8 are, according to their expert keeper Geoff Crane 'the best'. I'd think the

Yamaha system with its stationary head, is pitched somewhere above the others - but the Geoff says he has a comparison chart spelling out the benefits. SO - call him on the infoline, 008 803-049 and ask for all the data. -Julius Grafton.

STUDIO BRIEFS

DMR 8 New Features: Yamaha's Digital Mixer/Recorder has a raft of updates, including an integral noise gate effect program. In mixdown mode up to 24 inputs can be mixed down to two DMR-8 tape decks. Automix can be used with an external timecode source independent of tape playback. A gaggle of improvements are onboard, and recording start-up time has been improved.

...& DRU8 has new software

The 8 track recorder Yamaha say is well and truly 'in the race' (see story, this page) has some extra features too, with version 2.0 software making it even more attractive as a stand-alone 20-bit machine. Now you can control the 8 bus outputs via your remote computer; also extra features like control resolution improvements, and a new chase mode add versatility. Yamaha have a direct line to their Digital specialists, headed up by Geoff Crane.

Call direct: 008 803-049

LEXICON MODEL 300: New Software from Lexicon allows the 300 to operate either in its existing single machine configuration, or in one of two new dual machine modes. The single mode runs two DSP processors as a single engine, while the dual mode allows stereo or cascade effect processing. With 3.0 software there are five new algorithms, including Split Chamber, Dual Delays, and Mono Pitch Shift.

Details, call Amber: (02) 975-1211

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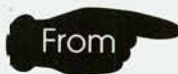
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CIRCLE 127 ON READER SERVICE CARD

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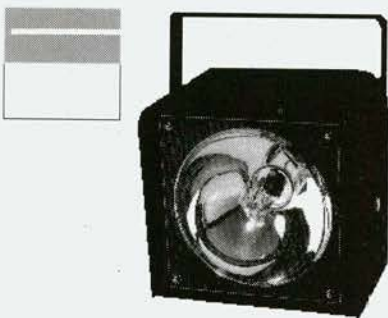
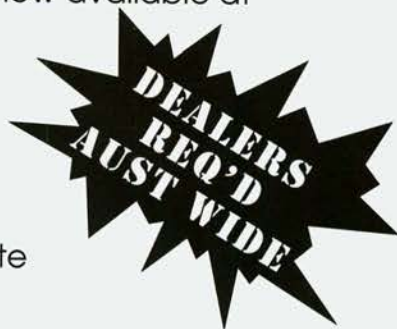
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CIRCLE 135 ON READER SERVICE CARD

AUX 2

New address notes: Anything Audio (ex ARX NSW) have moved 'next door', to 256 Victoria Rd Gladesville. Phone (02) 879-6788.

Also with a new address is Wild Gravity, the audio hire and sales operation in Townsville run by Noel 'The Joker' Anthony. Ask him about the naked drummer some day! Now at 106 Boundary St, Townsville. Phone (077) 213-540.

T.C.P. in Sydney are growing - first comes news that one time Jands Sales Manager Chris Connolly is now Audio Sales Manager at the Sydney firm. They have also engaged the services of Ray Scott, 'Spol' - formerly at Revolver. Spol joins TCP in the technical dept, where another seasoned tech, Dave Doyle has worked for the past year. Spol & Dave add to the outfits abilities, according to owners Tony Musico and Richard Skarzinski. TCP are thought to be shopping for a new \$1.5 million 20,000 sq.ft building, having somewhat outgrown their Guildford premises.

Breakwater Entertainment Centre in Townsville say they are only following established practice in charging venue hirers for airconditioning during technical setups. This is probably true, it's just that in steamy Townsville you notice the lack of ventilation as you drip all over your gear. General Manager Tony Sadler was distressed when we called to verify this, fearing we were doing a hatchett job on his new venue. He added they charge \$350 for 2 hours air conditioning, and at his previous venue, Canberra Institute of Sport it cost \$125/hour for heating. Another local has

contacted us to complain about the acoustics at the new Centre, which he likened to a 'basketball stadium'. Our correspondent went on to attack the choice of house PA, the choice of consultant, and the fact the opening ceremony had production imported from Brisbane. No local was asked to quote, he went on. Ouch! Country town politics are not foreign to Aux, who spent a period in exile 'out bush' earlier this decade. Anyway, after the heat dies down we are sure the new Centre will go on to serve it's community in admirable style. Queensland is asset rich in venues, the former National Party government managed to motivate construction of Civic Centres in virtually every whistletop - including mining towns like Dysart. These in turn create touring income!

Reports of his demise are greatly exaggerated, it was only a rumour. It seems the growth on the appendage was initially feared to be terminal, with removal the first step, followed by Chemotherapy and then even death. Our hero faced the knife, and has emerged intact. His real name we cannot report here, but when you next see him, ask: "How're they hangin', Woodie?" If you can correctly guess which one it was, you could win the actual surgically removed offending growth, appropriately packaged.

Security staff at the Anaheim Hilton during NAMM report a bizzare encounter with a 6'2" alien stumbling down corridor E, level 6 at 2.15am - dressed in a tasteless nightshirt and nothing else. The creature was escorted back to the room it was sharing, apparently having sleep walked out of there, mumbling about profit and loss statements and Ramsa. The other occupant of the room was fast asleep dreaming about missing microphones and who to blame!

SEND GOSSIP. Confidences respected.
Fax to (02) 876-5715, or call (02) 876-2612.

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BAVA's MIDI & Music Expo, SYDNEY March 28
Frankfurt Musik Messe, **MARCH 3 - 7.** MI
AES Europe, Berlin, **MARCH 16 - 19.** PA
USITT, Wichita USA, **MARCH 17 - 21.** TH
SIB-MAGIS, Rimini, **MARCH 21 - 24.** LX
NSCA, Orlando, **APRIL 2 - 4.** CO
NAB, Las Vegas, **APRIL 19 - 22.** IT
APRS, London, **JUNE 23, 25.** PA
Pro Audio & Lighting, Singapore, JULY 7 - 9
Summer NAMM, Nashville, **July 17 - 18.** MI
AES, Melbourne, AUGUST 24 - 26. PA
Australian International Music Show, Sydney, SEPTEMBER 9 - 12. MI
PLASA, London, **SEPTEMBER 12 - 15.** LX, PA
AES, New York, **OCTOBER 7 - 10.** PA
SMPTE, Los Angeles, **OCT 30 - NOV 2.** IT
LDI '93, Orlando, **NOVEMBER 13 - 15.** LX
COMDEX, Las Vegas, **NOVEMBER 15 - 19.**
NAMM, Anaheim L.A., **JANUARY 21 - 24 1994**

Descriptions used: (E. & O.E.)

CO: Contracting. **IT:** Information Technology.
MI: Music Industry. **LX:** Lighting. **TH:** Theatre.
PA: Professional Audio.



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Toyota's **BIG** Production



Toyota is counting on the biggest corporate theatre production ever staged in Australia to make sure new car buyers "keep the feeling" in 1993. The multi-million dollar Toyota Wide Body Camry Expo was held at a converted pier in Darling Harbour, Sydney and it launched the new-model Camry.

The Camry Expo has been in preparation for eight months and more than 300 theatrical technicians, carpenters, electricians, scaffolders, painters and construction workers have worked on transforming the empty 5000sq m wharf warehouse into the Expo.

For Toyota, the total on road cost of the new Camry will be in the order of \$160 million - from development through to the multi-million dollar publicity extravaganza. The production uses the latest in electronic imagery, video production techniques, 3D film, robotics and staging.

"Basically we're building an expo which has multiple areas with three of them theatres," explained Mike Emerson, production manager. "The first one is a sort of lobby area where people assemble and wait.

Then they are taken through in groups of a hundred and fifty at a time with each complete show taking about an hour and a quarter. The shows are staggered so that by the time one group are into 'Design, Test & Manufacture' we then bring another group in behind them. That means the shows will start on half hour intervals so they'll be overlapping. On some of the days there will be up to twenty one shows in a day which means 3,150 people. We have ten or eleven days of shows."

Business Theatre reaches a new level with Australia's largest product release yet.

The major problem for audio director Garry Hall was sound isolation as they were in an open warehouse in which three theatres had been created. Even though they are running theatre shows, some of the material was of a high sound level particularly some of the scenes in the DTM theatre. A large budget was not

available to sound proof the area so they had to look at the sound levels very closely in each area, how the shows linked together and how they could still maintain a good sound level in each theatre without them interfering with each other. Consequently sound levels were adjusted slightly but not to interfere with

Cover story

the audio dynamics of the show. Heavy curtaining was added between the theatres, two curtains a foot apart creating a sound insulation area.

"The first thing we installed was a paging system so there could be communication throughout the warehouse during construction," said Garry. "That was done with 16 full range JBL Control 1 speakers mounted up above the catwalk and angled down."



The foyer had a theme of a hall of fame with a 1963 Toyota Tiara (first Toyota manufactured in Australia) mounted in the middle of the room. Above this was a rectangular truss with 26 silver par cans as well as two separate par cans lighting the video wall which comprises of nine screens. The ceiling was a cloth stretched across with 2K lights above it to give a glow through the fabric. There were old posters and the video wall showing old footage and archive material. People mingled in this pseudo-marbled room until their tour guide came to lead them through to the first theatre. The doorways were very high tech in appearance - guide touches a panel and the door automatically slides open. Further investigation revealed a certain amount of trickery involved in that operation.

At all times in the building the people were enclosed either within the rooms or within a tunnel which linked one theatre to the next. The tunnels were decorated with a fluorescent, abstract design taken from the original drawing plans for the Camry. There was also a small Control 1 speaker in the tunnel just filtering sound down through the space. The sound was of industrial noises, to compliment the drawings, and Garry put the tape together from original sound sources recorded at

the factory in Melbourne. It's run through six Control 5 monitors stuck above the grills, pointing down and it's a continuous 90 minute tape in a loop mode.

The first theatre was a fairly straight A/V rear projection room where there was a 15 minute video presentation. There was a nice trick on the audience when it appeared that one of them had escaped the attention of the guide to slip behind the presentation

"It's a very complex theatre in that it runs six scenes of theatre all relating the development of the Camry and the philosophy behind it - with a 3D movie!"

screen and surprise, surprise there he was in the film.

The foyer and first theatre lighting and audio system, as well as the video machines, is operated by one person, Cameron Ellias, who has quite a complex task to master. The system is not complicated in the amount of equipment it's got but in terms of operation for one person. The lighting is preset on lighting masters but a lot of the operations happen simultaneously where it is necessary to fade lights, fade audio and also roll a video.

For audio there was a 16 channel Yamaha 916 console, 4 cassette decks and JBL 4726 speakers, one a side running stereo, and the foyer had two control 5's. It was important to set the level of sound low in the foyer so it kept the audiences expectations down and then gradually the level grew through the show.

None of the sound operators were in a good acoustic environment to hear what was

going on so all the levels had to be preset during rehearsals and marked on the board.

Next you arrive in the 'Design, Test & Manufacture' theatre and sit up on a grandstand. It's a very complex theatre in that it runs six scenes of theatre all relating the development of the Camry and the philosophy behind it and it also runs a 3D movie in Dolby surround sound. The audio design had to be that there was not

Toyota's **BIG** Production *(Continued)*

two audio systems in there so Garry had to ensure that the theatre system and the Dolby system fitted together. The speakers are once again JBL 4726s with two JBL sub woofers which are mounted under the stage. The show starts when a capsule suddenly appears down from the roof and, through a array of colourful gobo projections, a man steps out and the entire grandstand begins to revolve. Its quite a major engineering feat because we're talking 20 tonnes of grandstand, people, chairs, carpets etc all revolving around with various little live scenes happening all the way around them. The first scene is of a family discussing what they would like in a car - all the actors, nine through all the scenes, use radio mikes except for the presenter who had a headset radio mike.

"We have 12 channels of radio frequencies operating simultaneously," said Garry. "We've had to change a few frequencies because we found a 900Mg system works well for us in this particular venue. We have one or two frequencies which give us a bit of trouble but it's one of those things we can't beat as it's probably due to outside interference. Most of them are a Shure system, the W series and the L system, and the 900Mg is a Sony system."

After the family scene, a comedian comes out followed by a talking crash test dummy with the revolve turning around to each scene everytime. Then there is a presenter talking about the safety aspects of the Camry followed by another talking about the environmental aspects of the car. The final scene is a presenter mainly talking about the technical features of the car. Because of the rake of the grandstand and the way it was designed it was necessary to place the speakers behind and above the actor which created problems with things like feedback. Across each radio frequency there was a 4 band parametric equaliser to help tune out feedback frequencies.

The main control was a PM2000 24 channel console and every facility on it is used - all the matrix outputs, the group outputs, the auxiliary outputs, the sub sends - in fact there are cables everywhere! Also used is a Quad Pan control which locates sound effects that open and close certain scenes. Greg Rosman and Jonathan Rutledge operate that console. The speakers are JBL 4726s with Yamaha DDL3 delay units as crossovers with time alignment. There were a lot of synchronised sound effects with lighting where a certain light appeared on an actor and at the same time a sound cue would occur. As the show grew in planning, Greg had to accommodate about 90 sound effect cues and so he hired a machine called a Digital Message Store. This has 32 memory banks and each one can be accessed through a keyboard by the sound operator and also

they can be triggered by the Expression lighting desk and they programme it in as just another light. So when a particular lighting scene is hit it also triggers the sound effect machine.

Another measure taken to help with the sound isolation was to lay music beds under all the actors and that gave a constant background level to lay all the actors dialogue on. So any background noise tends to be filtered out by the sound beds. Operation is by a cassette player and two DAT machines because they have fast cueing ability and can locate the start of a sequence quite readily.

Entrance into the DTM theatre is actually beneath the screen which was covered with drapes until ready for the movie. The conclusion of that particular area was when there was a fake emergency - alarm bells rang and sirens wailed. Everybody was already carrying plastic glasses, which they thought were safety glasses, when the announcement came on to put them on. They turned out to be 3D specs and there was a really big Hoyts size screen which the audience revolved back to face and then watch a 3D movie. The film was about the manufacture of the Camry car in Melbourne and it featured robot arms coming out of the screen at you and sparks flying off (the manufacture of the new Camry involves a lot of robotics for the first time in Australia). The main circular truss in this room was actually the one used in Jesus Christ Superstar as it fitted perfectly into the required size. It held par cans, a mirrorball and four Goldenscans whilst other smaller trusses were placed around the room.

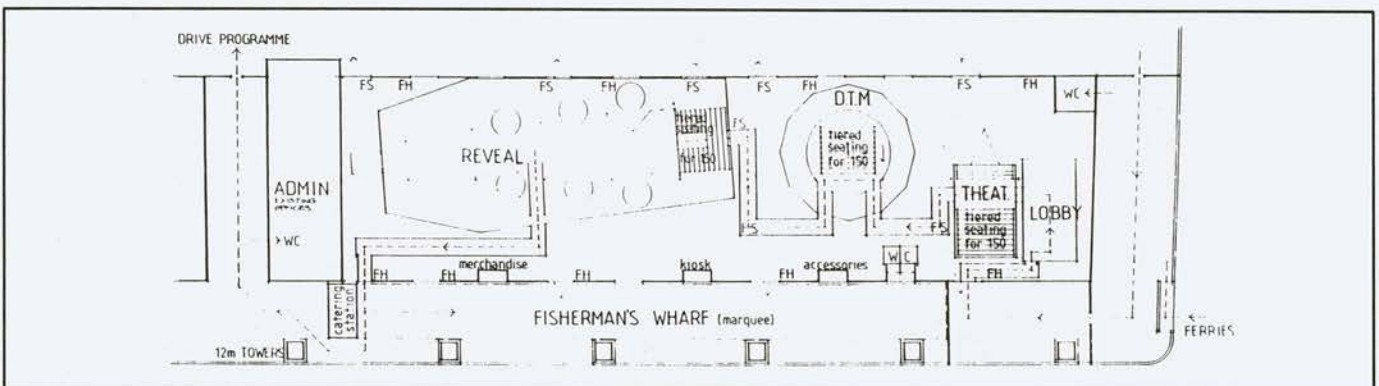
The audience then proceeded through another tunnel, still having not yet seen the whole new car only glimpses. They arrived in the next area which was called 'the reveal' and they sat in yet another grandstand which was enclosed all the way around and was a similar size to the first theatre. There was a video screen in front of them which displayed a very short video presentation, then all of a sudden the video screen flew up and the walls around them, which were actually drapes, opened.

Revealed was a large area, longer than an Olympic swimming pool, and down the middle was a ramp which stretched off into a perspective view in the distance. To the sides Vari*lites lit up the area and, all of a sudden, way up out of a black box

appeared lights and smoke and the new Camry finally appeared at the far end of the ramp. It drives down the runway towards the audience ending up just in front of them on a revolve which starts to spin. Meanwhile out to the sides, which were now dark and gloomy, (thus focusing the attention on what was termed as the 'hero' car), large square trusses started to lift up on motors. Each truss contained 32 par cans. Stretched across the top of

"With all the drapes and stuff, the riggers joke if you fell off the catwalk you'd bounce around for 20 minutes like a pinball!"

"As you look across from the city, you wonder what is going on!"



these trusses was some fabric and as each pod went up there was another car revealed until there was a total of six more cars on display representing the whole range of models. The pods went up and down whilst the Vari*lites flashed and it was quite spectacular. Down one side of the ramp were the buildings' pillars and false pillars were built along the other side of the ramp to give it a correct symmetry. In fact, the whole area had to be angled simply to give enough space and the shape required for the perspective look to increase the sense of distance. It was a huge area to enclose and the amount of drapes needed to do this was quite phenomenal.

The reveal music was generally quite loud and punchy to enhance the lighting effects. From an operational point of view it is not a hard theatre to run. Again there is a DAT machine as well as a cassette backup operating and three video machines. The speakers are SLP wedges and there are two JBL subwoofers whilst further down the ramp are two JBL 4726 speakers for when the tour guide walks down that end. The console is a Yamaha M916.

"Out of all the audio consoles in each three areas we've got a programme feed running into the intercoms as well," explained Garry. "Also there is programme relay so the actors know when their cues are on. There's lots of little add ons that tend to make up the system. All the speakers, where possible, are rigged behind scrims and the focusing of them was very critical. We used a lot of sound coming from the rear so we didn't have to run our front speakers so loud. Also where the speakers were located up in the air we got insulating batts and directed the sound heavily into these areas so it wouldn't leak out of there. We still have a slight leakage problem but I think we've done pretty good considering the circumstances."

"That's basically the conclusion of the show," said Mike Emerson. "People leave that grandstand, walk down past the hero car, down the ramp and out of the exit tunnel to the outside area called Fishermans Wharf where food and refreshments are served. Built along the side of this wharf, on the eastern side facing the city skyline, are six large towers which are taller than the building. Each tower has a pyramid flag pole on top with a large letter on it spelling out Toyota. The building has been painted white, windows as well, and the roof is signwritten with Camry logos so, as you look across from the city, you see all this and wonder what's going on. Also along the wharf side of the building there is a 100m mural depicting sea life which was painted by a scenic art team."

The official launch date and gala party night was on February 11th and catered for Toyota major dealers and VIPs, people from Japan through the Toyota hierarchy of staff and dealers. On that first gala night people came across from the city on ferries in groups of 150 onto the

wharf at the northern end. On that night only there was an Aquashell, which is a floating stage, placed in the harbour and John Paul Young and also The Upsetters (formerly The Eddies) performed there. There was also another flat barge which was used as a floating dance floor. So people could either dance on the wharf or try their luck on the floating area which, depending on which ferries were going past, may have been a little rocky. (*A Catriona pun?* -Ed)

Mike Emerson has been working full time on this project from the end of July 1992. His background is in rock tours and this was a whole new area for him which he found exciting. Peter Rix is overall Producer of the event, with Gay Black and Shane McLachlan. Meri Took was Production Director of construction. The overall designer for the building was Eamon D'Arcy and he came up with the concepts for each individual area. Doug Tremlett was the show director and was involved in organising what went on in each area. The lighting designer was Rory Dempster and the audio director was Garry Hall. Jands supplied the lighting and sound equipment apart from a few specialist pieces of sound equipment which came from The PA People.

"We're lucky here in that the access is wonderful," said Mike. "We have roller doors, loading docks down one side and you can drive right in on the other side. Areas are fenced off and we have all our generators, air conditioners and so forth parked there. Obviously if you're in the Entertainment Centre or Darling Harbour Exhibition halls so much of the stuff is already there. The dressing rooms are already there, the facilities and we've had to spend an awful lot of money just getting this up to a basic starting point. The rigging points are close to 200 just with all the drapes and stuff we've put through. The riggers keep making the joke that if you fell off the cat walk now, you wouldn't hit the floor for about 20 minutes because you'd just be bouncing around like a pinball machine. But the good side of that is that we've had five weeks to set up."

When asked how much it all cost to put on such an extravaganza, Mike did not think his bosses would like him to reveal the exact amount. He did say it sounded like quite a lot but they had already run out of it a few times and had to revise certain elements! For example the tunnels were going to be super high tech all the way through and instead they've had to make them a little more basic to try cut a few corners.

Unfortunately the lighting designer Rory Dempster had left the show by the time I visited so I attempted to extract some information on the system from Garry Chamberlain, the head lighting technician. All Garry would say was 'that it was a load of lights and cables' and thus the interview was terminated.

-By Catriona Forcer.

C R E D I T S

Gay Black: Producer
Shane McLachlan: Producer
Peter Rix: Producer
Meri Took: Production Director, Construction
Mike Emerson: Production Manager
Eamon D'Arcy: Production Director
Peter Savage: Technical Director / Associate Director
Doug Tremlett: Show Director
Carien Sticklen: Assistant Show Director
Jo Wilcox: Production Director Administration
Orysia Sywak-Spinner: Production Assistant
Megan Worthy: Production Assistant
Danielle Sherlock: Production Assistant
Rory Dempster: Lighting Designer
Garry Hall: Audio Director
Ian Eden: A/V Director
Arthur Carruthers: Head Site Electrician
Simon Ambrose: Rigging
Zig Moskwa: Scenic Artist
John Hoenig: Stage Manager
Tony Moffat: Dep. Stage Manager/Reveal, Comms
Cathy Dadd: Deputy Stage Manager, DT&M
Henri Schipper: Reveal Mechanist
Paula Tierney: Assist. Stage manager DT&M
Nigel Hodgson: Mechanist
Ian Hitchcock: Assist. Stage Manager 1 Reveal
Chris Davies: Assist. Stage Manager 2 Reveal
Udo Schoenfeldt: Maintenance
Dave Comer: Maintenance
James Tucker: Assistant Stage Manager/Theatre 1
Garry Chamberlain: Head Lighting Technician
Craig Knight: Lighting Technician/Operator DT&M
Dave Harding: Vari*Lite Operator
Kylie Morris: Lighting Tech
Greg Rosman: Audio Technician/Operator DT&M
Steve Couper: Audio Technician/Operator Reveal
Cameron Ellias: Audio Tech
Martin Harding: A/V Operator
Ric Norris: A/V Operator
Michael Johnson: 3D Operator
Stewart Luke: Assist. Stage Manager
Paul Bourke: Reveal Driver



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Rocky - not a Horror Sound

Paul Dainty has a winner with his Rocky Horror Picture Show, currently showing at Her Majesties Theatre in Sydney. The sound engineer answers to the name: 'Sex God'. Such is the nature of theatre, perhaps? Why is this? "It's a long story, it came from my Rock & Roll days!" says Rob.

Young Rob Boumanis isn't that young anymore at 28 years old, but he is accomplished, having worked FOH for Buddy in the latter part of its run. "I left Buddy to start Rocky, probably just as well", he said, referring to the implosion of that production, a saga of musical producers, funding crisis and eventually a receiver running a musical.

Not so for Rocky, in Sydney Her Majesties' had their best January for 12 years with this show, averaging 1200 seats plus sold for each show from a maximum 1400. Promoter Paul Dainty runs the production tight, "we don't usually know too much about where the show will go next, or when", said Rob, "because it changes daily". This is probably a necessarily flexible approach in the turbulent world of theatre where shows like Buddy -and 'Chess' before it- overspent in some areas. Paul Dainty has a concert touring background of great magnitude, and this is where some street savvy regarding costs comes from.

Sound for Rocky is similar to that for Buddy, only in as much as the two shows are sort of Rock & Roll, but Rocky is more full ahead, with the band in a pit instead of on the stage like Buddy. Down in the pit the drumkit is in a padded booth to keep the beast contained- and I ask about the necessity for musicians at all in a show in this digital age. "If the performers ab-lib a bit, or slow down, the musical director responds", says Rob, stating the obvious. The muso is here to stay, it seems. "Conrad the Musical Director lets the band improvise a bit too, and if a radio mic goes down we would have to re-choreograph the show mic-wise. It's all about timing and the M.D. can whack a couple of bars in, or if someone comes in late drop a bar. Since Melbourne the show's changed musically, it's evolving."

Up on the stage itself is a set that is a masterpiece of design, and a sound engineers nightmare because it is full- chocka - of neon. Neon everywhere- well, 150 sections of neon actually, with resultant static discharge guaranteed to fox the commissioning of a wireless microphone system. "We've got 16 wireless channels, 7 hand held and the rest lapels". The finetuning of wireless around neon is where much trial and error occurs!

When the show moves, Rob is able to pack out and setup pretty quick, because the effects racks are multi-pinned and the show designed to tour. "In a setup the big delay is building the false floor, which is built over the stage to

accommodate the revolve." The revolve itself turns 360° then stops, so the lighting cables inside drop through the floor - a floor that you can't drill a hole through would present an impossibility for this show!

What is new is the speaker system, which comprises 16 JBL 4892 Array Series speaker cabinets, and four System 80 subwoofers. The Array Series is an ultra-compact range of cabinets that for once, use proprietary components - which means you can't buy the woofer, compression driver, or bi-radial horn. The real asset with Array is the woofer, a 14" neodymium vented gap-cooled (V.G.C.) creation that is engineered especially for this application. Dispersion is cunningly optimised at 45° horizontal at the crossover frequency, where the high frequency horn comes into affect. Naturally enough, the bi-radial horn has a 45° horizontal x 35° vertical dispersion also.

Accurate control of dispersion is critical in theatre, indeed any professional sound reinforcement application. The 16 boxes utilised in the production of Rocky allow coverage from a left and right stereo system, both for the upstairs (dress circle) and downstairs (stalls), with all seats except those right at the front given a full frequency mix from the Array boxes. To cover the very front row, JBL Control monitors are hidden under the stage lip above the orchestra pit, which fill out the sound.

Rob is very happy with the sound of the speaker system, and also impressed that the actual footprint, or real estate, taken up by the speakers is so small. "The flown arrays are only 250kg's each", he said, which each comprise four boxes with a subwoofer hung underneath. This sort of low weight almost negates the need for a chain motor, and could be hauled up on a chain block. J.P.S.'s Ian Messner designed the flying bars to accommodate the subwoofer rigging. "It's clear and crisp, it's directional without hotspots. I don't like (Meyer) UPA's, these are about the same size."

Jands Production Services are the sound contractors, and in fact J.P.S. General Manager Peter Ratcliffe was the sound designer for the show when it opened last year, Wyn Milson, who mixed the original version of the show some years ago was called in as a consultant before opening night. Rob Boumanis has added and tweaked as the show evolved.

Two questions needed answering. Firstly, why employ a band hidden in a pit - why not use a DAT. Second, how are the new JBL Array series boxes shaping up?

The show is mixed on a Yamaha PM-3000, with 40 channels or so appearing at the inputs. The choice of microphones was Sony ECM77 capsules for the chorus singers and a Hypercardioid Shure WL-84 placed on the performers forehead. The amount of gain I can get out of them before feedback is just fantastic! I can get almost as much level as a handheld".

A 360 System Digi-Cart provides effects on cue, the digital cart machine has effects like a rocket ship taking off and such-like, Rob just hits up the cue on a remote and away it goes. It sure beats tapes! The day of the two Revox machines may be over. "Murray Tregonning got it, I can edit, move the start point around, it's great!"

The amp racks are under the stage, naturally enough, and well out the way. The system processing is there too.

Foldback for the show is 'set and forget', with four wedges flown on stage, a send to the prompt corner, and the band wearing headphones into which they can mix their own.

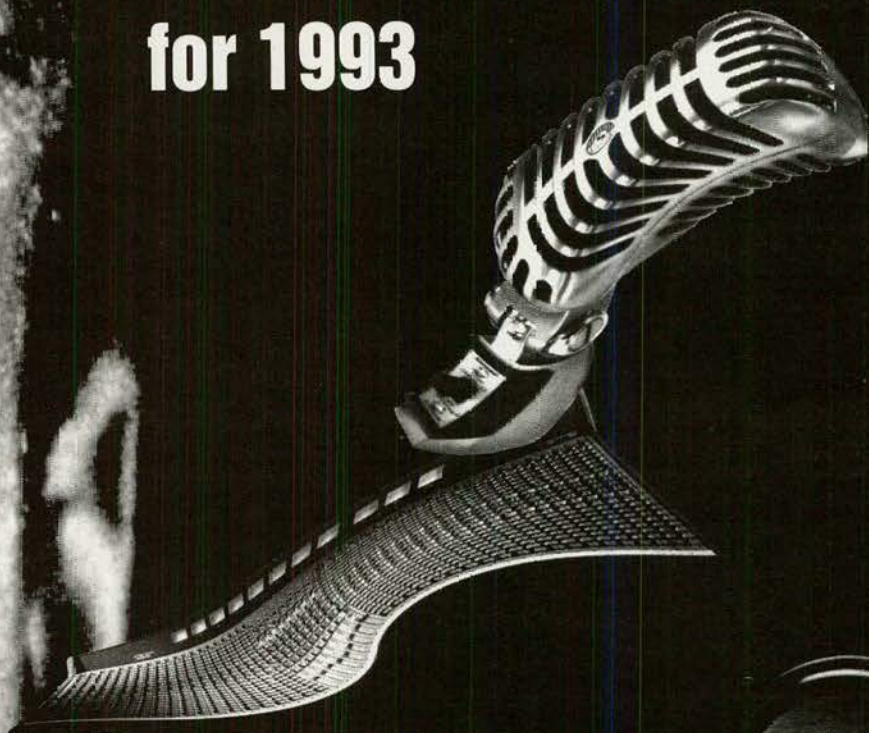


Sound Engineer Rob Boumanis. Note the Digi Cart sitting on the rack.

"The setup is like we used on Buddy, and Chess before that", says Rob. Each muso has a small Rane HM42 headphone mixer into which run four lines from FOH. A band mix, vocal mix, dialogue mix and drum mix are run from the PM-3000's auxiliary sends, and the muso's then decide what and how much they'd like in their headset. A line out from their personal instrument is also run into their little mixers, so they can pump themselves into, or over, the whole mix.

Handling second in charge duties on the sound team is John Colins, who looks after the wireless mics and the band, and is also understudy to Rob. "We work well together" is Robs parting comment.

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Peter Kemp reports on the largest weekend yet in Dance Party Land

Melbourne Dance Parties peak Jan 28

The Australia Day long weekend in Melbourne saw the staging of Melbourne's biggest weekend of dance parties yet.

The parties are organised by the "ALSO" Foundation (Alternative Life Style Organization) and commenced some 10 years ago. Over the years the parties have grown in size, production etc, with attendance figures of 2400 in 1989 and now 6000 (on the Sunday evening only) in 1993.

The parties have been held in various venues over the years ranging from Factory Warehouse, Princess Pier, Festival Hall and this year in two huge cargo sheds at Victoria Docks.

The attendees to these parties are mainly from the gay/lesbian community and this year the party was held over three nights with Friday for females, Saturday was a "Techno night" for everybody, and Sunday (being the big night) was gay.

The Director and Event Co-ordinator is Mark Peterson and the events are staffed by a large number of volunteers for the bars, set up, parking etc.

The events have always been extremely well run and this is due to the amount of effort and organization that goes into arranging them.

Pre-production starts some 6 months in advance including all technical aspects, such as Lighting, Sound, Lasers and Pyrotechnics.

In the early days of the parties, Getlit was responsible for lighting, however this was taken over by Clearlight Shows quiet some years back. Sound was organised by "Troy Balance Corporation", Lasers by "The Staging Company".

At the pre-production meeting a suitable venue is selected, then the logistics are sorted regarding all technical services.

This year "Clearlight" were confronted with two huge cargo sheds (shed 9 and 10), with which they were require to produce two separate light shows including a stage show in Shed 10.

Shed 9 was to be utilized for Friday, Saturday and Sunday as a huge dance area, and shed 10 was to be the main dance and stage area for Sunday night. As it can be seen from the following lighting equipment list and plots, shed 9 contained a vast array of equipment as did shed 10. In order to provide sufficient power for the event, they used 1 x 200 KVA, 2 x 100 KVA and 2 x 30 KVA generators.

The Lighting design for the event was based around 400 MSR Intellabeams in shed 9 and a combination of 700 MSR Intellabeams and Vari*Lites in shed 10. In addition to the Intelligent Moving Lights, a heap of Disco effects, Profiles and Fresnels, Scrollers, Par cans, Ray lights, Projectors and whatever else could be found were used.

Shed 10 incorporated a stage area approximately 15m x 9m with a full choreographed show, plus a huge open dance area, approxi-

mately 15m x 45m. The rig consisted of huge central mirror ball cluster, which incorporated a central spinning drive, which had attached to it individual mirror ball motors for 21 mirror balls. Radiating out from the mirror ball cluster were 4 truss arms approximately 21m in length, plus two side trusses.

The lighting design for this event was by Paul Guthrie (Clearlight), together with input from John McKissock (Clearlight) and Mark and Matthew (ALSO Foundation). Paul followed through the design and was in charge of installations and programming/operation on the nights.

The set-up took 5 days and a period in excess of 16 hours was devoted to the programming which was quiet evident on the night, by the excellent effects/looks that Paul achieved.

The Staging Company supplied 2 x 5 Watt Argon Laser systems for the weekend, which greatly enhanced the overall look of both sheds. On the Saturday night one Argon Laser controlled by an Aries Twin Scan Optic bench was located in shed 9. On the Sunday night they used 2 x 5 Watt Coherent Argon Lasers located at either end of Shed 10.

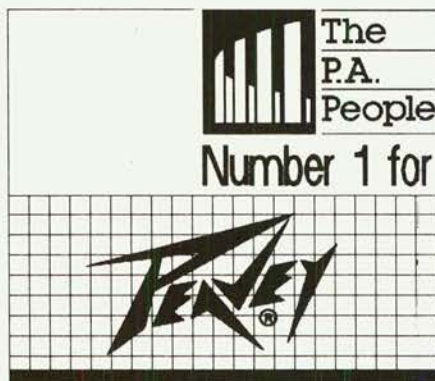
These two systems were synchronised together and controlled simultaneously via the Aries II Controller.

This resulted in a full coverage of the room with Laser effects. Many outboard effects were used including moving sheet mirrors, cone spinning mirrors, diffraction mirrors etc. The overall effect with the Lasers, Vari*Lites and Intellabeams was truly spectacular.

The funds raised at these events go to assist HIV positive people, for rent assistance, food, transport, improvement of hospital facilities etc.

The Melbourne Media had a field day over the event, beating it up as a big drug party, but if you saw "Real Life" the reporter said, "There were 6000 people enjoying themselves with no violence". How many parties of this size or even smaller can say that.

Further information available from -
Clearlight Shows, Ph: 03 553 1688 John
McKissock and - The Staging Company
Ph: 03 696 5000 Greg McGeachin



The
P.A.
People
Number 1 for
PENNY

Well - We survived the first issue and what a great mag Connections has turned out to be. The potential is tremendous and I know that Julius and Caroline (don't forget your glasses) are working very hard. Congrats!

Last month we reported on Dr Dark's successful overseas trip. Since then, he has suffered a somewhat traumatic trip to Perth, coming down with an ear, throat and chest (and goodness knows what else) infection. Joe says he spent most of the visit in bed.

Back on the international front, while the installation of Bytecraft's State flying system nears completion at the Opera de Lyon in France, Stephen has just returned from Hong Kong with a piece of paper saying "one State flying system please" for the Hong Kong Cultural Centre. Meanwhile, Patrick and Ted have been to this year's Siel, one of the world's foremost trade exhibitions held annually in France where they have released Bytecraft's exciting new international dimmer. Watch this mag for full details in the next issue. Incidentally, we will give you all the other lowdown on Siel next month.

At home, the continued expansion of both hire and Strand distribution stocks has resulted in the move of Eytecraft's Head Office Hire and Distribution operations into new and larger combined premises in Mordialloc. Greater customer service will follow this reorganisation which also sees improved staffing arrangements to ensure efficiency.

Talking about Strand, latest advice is that production of the faithful old Cadenza has now ceased and this lantern has been replaced by the new Alto range. Available in 8/16, 14/32 and 20/38 profiles as well as F and PC configurations plus a choice of 2.5kW or 2kW CP91/92 lamps. Contact Bytecraft on 03 587 2555 for your nearest reseller.

Some people have all the fun. Old Haggis Breath has just returned from a stint on Plantation Island. We'd like to say that he's back from "a well earned break" but we wouldn't want him to get a swollen head. Anyway, watch out for him around the traps. His batteries have been recharged after a couple of weeks away from phones, pagers, fax machines and the like. If you're unlucky enough, he'll probably bore you to death telling you all about his wonderful holiday. Don't know if he took any pics - you could always ask him if you're game. Of course, if you give him an order, you can probably get rid of him. By the way, I should mention that I'm not the least bit jealous. You can give him a hard time on 02 646 5999.

Further north, Geoff Biggs is now stocking a range of consumables at Bytecraft's South Brisbane office. Lamps, Gaff tape and Rosco colour. 07 846 3777- Geoff or Peter.

You CAN use a PC to drive your lightshow or production. Janine Reid looks at two packages, one Australian made, the other from the U.K.

The Computer Option

ALADDIN for AMIGA

- Australian Software
- Can run A/V Presentations
- 48 or 96 channel versions
- Multitasking Capabilities

Amiga is the platform for Aladdin, a lighting control system that as you've already guessed, runs on a computer. In fact the computer is the tool that is driven by the software, and but for the fact Aladdin is created for Amiga, the computer could be any type of hardware. So why Amiga?

"Krystof (Koslowski) came in to our shop on a Saturday and sat and talked about a lot of things". Mel Bice is the sales manager from Phoenix Technology, who are the Amiga distributors in Adelaide, and he's recounting a chance encounter. Polish lighting designers are scarce in Adelaide, so the guy from Phoenix paid attention when discussion of Amiga's potential driving lighting came up. The firm undertook development of software for the stage lighting industry, with Michael Warner hacking Koslowski's ideas and writing the code.

"The stage lighting market in Australia is a lot more limited than I first thought," Mel now concedes, but with determination. "Well, there's less money around than there was when this was conceived".

It's the potential of Aladdin that has Phoenix perplexed as to where to go next. "If I'd planned to sell 100 units in Australia, then

exports would have to be ten times that", Mel says. "What's really happened is the support for the product has really come from Amiga users." This is not a viable base, because Lighting users don't usually always own an Amiga computer.

The profusion of lighting control software we are starting to see always relies on the willingness of the operator to trust all on a computer. At the serious road touring end of the business, L.D.'s like to use traditional consoles with memory engraved into flash Eproms, non volatile I think they call it, whereas the console has no moving parts like disk drives. Phoenix specify a Quantum drive for their Amiga's, mindful of the distrust some older computer users - particularly those with no-name Clone P.C.'s - have. Once bitten they say, the trauma associated with a hard disk drive crash needs to be experienced.

Initially released as a 24 channel lighting control system, Aladdin now offers a 48 channel and a 96 channel version, but the basic concept hasn't really altered. The computer drives your lighting system via DMX-512, output from a card to your XLR chain. With the 48ch software, a mid range Amiga A2000 with a 52Mb drive and 1Mb RAM will happily run at lighting speed.

Lighting speed, it should be noted, is something close to instantaneous. This story is being written at 41,000' en route to LA, on a Mac Powerbook 140 laptop. This machine does not operate at lighting speed. If I had software installed that ran lighting, my snap blackout would be a beat or two behind the action. Stage Lighting states wait for no-one, software designers included. Now I've seen Aladdin work in a demonstration environment, but a serious user would load that 52Mb hard disk with as many cues as possible, then perform a serious routine to establish

SHOWCAD for P.C.

- 1024 channels
- 2 DMX-512 outputs
- Infinite Scene Capability
- 'Moving Light' Ready

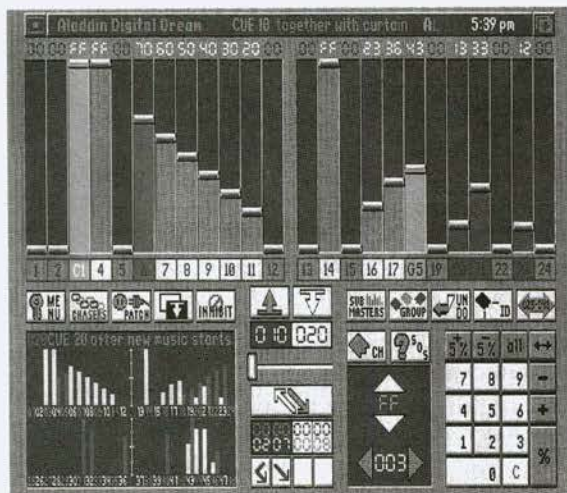
ShowCAD will run 1024 channels of DMX-512 from two DMX outputs, and you are not limited to just DMX. The RS-232 port on your P.C. can also send signals to things that like serial data, like laser controllers and motor controllers. A MIDI/SMPTE card will run SMPTE, and ShowCAD will even apparently stripe the tape for you.

Having got over this, the package sort of



walks like a duck and quacks like a duck - in lighting operation terms - but it is still a P.C., and this may or may not be the greatest impediment to the end user. Your scene capability is limited only by your hard disk storage, and naturally you'll want to run the thing on a 486, although a 16MHz 386 is the base specification. An optional card will be available soon to allow you to connect a touch panel or even a conventional desk if you prefer that sort of control surface. This would be something to carefully check before going to far.

Your first action once you've fired up the software is to set the output patch - and of course moving lights can be configured so their channel-hungry motors can be addressed in any sequence. Each channel can have a unique description written on it through the keyboard, ie: "Golden Scan 1 - Gobo wheel".



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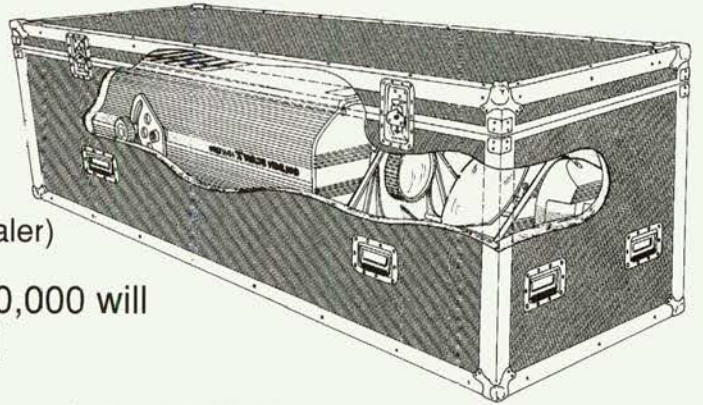
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Contact Mark Algie on **(03) 819 4566**

Aladdin (continued)

speed. But so far so good.

Multi media is where Aladdin is really different. Amiga is well regarded for it's still image manipulation capabilities, with software like Scala. This means absolutely nothing to lighting operators and users - rather the fact is this is a lighting control system that can generate an audio visual display. You can capture images from anywhere using a non-expensive video camera. You grab your image, you can manipulate, add colour and graphics. Where this becomes interesting is away from the standard stage, where perhaps you have a retail display that warrants a video presentation.

The demonstration I saw had Aladdin output a choreographed chain of still video images with a soundtrack. The Sound, it should be noted, was recorded on the hard disk with the still images. This didn't produce what would be regarded as wildly fantastic fidelity, but good enough for the purpose at hand. All the images were captured on a Sony video camera, then edited on the very same Amiga as Aladdin was run upon this day.

The true usefulness of the system is that along with the video presentation you have lighting control. Expand your thinking to include moving lights and creative projection of high resolution advertising gobo's created on glass, and you have the means to automatically produce a very impactful display. You could, of course, programme this display any way you wanted - with venue lighting dimming, video projection and sound starting, moving lights and creative projections, then returning to a static room state. All of this could be done on one command, or even set to run on a clock.

Some of the suggestions put forward include triggering Aladdin by a light or motion sensor, reed switch or pressure mat. Conceivably you

could link the Amiga to things like CD ROM drives, DAT, CD Audio, Laser Disk players - in fact anything in the new world of technology that has a universal protocol of some kind. This is where an outfit like Phoenix are useful, as system vendors beyond the strict scope of lighting software.

Look, to this writer a lighting interface is just something that has architectural appeal. Unless you are a working lighting operator, and I am not, you can't really comment on the upside and down side of any particular software design. Having qualified this, the Aladdin demo did reveal a fairly attractive and simple operating screen, that graphically did what it should - display the scene status, reveal the patch, and encourage the operator.

Aladdin is available from the vendors, Phoenix Microtechnologies Pty Ltd, (08) 293-8257.

CIRCLE 108 ON READER SERVICE CARD

System Requirements

Aladdin 48ch Software, with DMX Card

Amiga A2000, A3000, or A4000
1 Mb RAM, One floppy drive, and 52Mb Quantum Hard Drive.

Monitor: Commodore 1084 (A2000)
Commodore 1960 (A3000, A4000)
Zorro II DMX Card included.

Aladdin 96ch Software, with DMX Card

Use Amiga A3000 or A4000 as above.

ShowCAD Software, with DMX Card incl.

P.C. 386SX minimum, MS-DOS 3.3 or 5.0 (Not 4.0). A mouse is required, & VGA or SVGA Monitor. 16MHz clock speed min, 1Mb RAM, 1.44Mb floppy drive, and at 20Mb hard disk. Everyone is buying 100Mb plus today!

ShowCAD (continued)

ShowCAD can store multiple output patches.

Likewise Scenes are sort of infinite, depending on hard disk space. Like you'd imagine, every kind of manipulation can be done. More interesting is the range of wave-form 'ramps' that can be selected for moving light control. When programming moving lights from conventional controllers, it is necessary to store a number of separate positions into memory to create elliptical and geometric scanning movements. The various pre-configured 'ramps' within ShowCAD are elliptical paths of movement - and even circles and figure 8's can be traced by storing a single start position, saving considerable time and effort in programming. You can do step one as a pan, step two as tilt, and use the ramp with your centre position.

Scenes can be made from 'Sub Scenes', which can save a lot of tedium in programming, and a Scene can represent a part of a sequence. Of course.

Top and bottom limits can be set in the output patch mode, so you can leave your incandescent lights just ticking over, to promote lamp life, likewise you could top limit output to 90% to prolong life. Who wants full intensity anyway? You can invert the output if your moving light hasn't got a pan/tilt invert switch, which is handy.

Really, talking about software is hopeless, because you need to try it for yourself. Ask for a demo disk from each of these vendors, and before buying sit for an hour and load the things with as much as possible. Check the speed of the program, try to freak it out, and think long and hard before outlaying your bucks. But you'd do that anyway, Right? ShowCAD comes from Cerebrum Lighting. In Oz the distributor is CDA - call (03) 467-8666.

CIRCLE 101 ON READER SERVICE CARD

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CIRCLE 167 ON READER SERVICE CARD

Sexist, Part 1

I will subscribe for now but do not like the sexist (patriarchial) feel of the magazine. The information is great, not the sexist bits. Please observe this otherwise I will cancel my subscription and encourage others to do the same. Please keep up the interesting information and articles.

**-Ballaratt University College
Len Bahska
Production Lecturer.**

Sexist, Part 2

Yet again the proscriptive sexist attitudes of your editor are expoused in this new magazine, which as vital as it is, surely should be free of blatant male chauvinism.

I refer, of course, to the Dolly Roadbox page in issue one, where the female form is displayed for no apparent reason, other than to illustrate the regressive tendencies of those males in the majority within the entertainment industry. How is the inside of the ladies lav at the Anaheim Hilton during the NAMM Show relevant to anything? Why are the three women depicted as 'waiting for Mr. Right'? How do you know this? They could be NAMM delegates for all you know - in fact they probably were, and were probably fending off clumsy and insensitive males at the time the picture was taken, which explains the gagging motion displayed in the picture.

The protozoan mind of your editor is at work diminishing the role of women in the entertainment industry by choosing to picture them in the pages of your magazine as decorative and ornamental icons, rather than acknowledging the positive and purposeful role they play. Get some balance.

-Shiela Yates, Glebe, NSW.

**Shiela, yet again you are wrong. So wrong it's laughable. -Julius Grafton, editor.*

Fertile Jands MD

The fertiliser shown being offered by Robert Young of Jands to your magazine in the last issue (Social Pages) is not my first recommendation. BetterGrow is inferior to Amgrow in my view.

**-Michael Bird, Wondabah Nursery,
Carlingford.**

Lighting Cat Fight

Re: Peter Kemps LX Column Connections Feb'93. "Intelligent Moving Light"? When did you last see a moving light on "Sale of the Century". How about "moving lights", plain old moving lights.

P.S.1985, Coemar first with Moving Lights? Peter are you sure? I seem to remember the Telescan with waggling mirror, 1200w HMI lamp, gobos and dichroic colours back in 1980-81, not forgetting Genesis, who first used Vari*Lites in 1981.

-Mike Tanner - Dr. Light

Sonics Man Spells!

Dear Mr Graphtone,

Kongratulashions on yoor ishew of "Corrections" magazin. I was verry exsited to sea my photow in the payjes of yoor presteejus publikayshon. Butt I must poynt owt a spellin misyayk in the capshun. My name is speld "Simmons", not "Simmonds". I no its trikkey, sumtimes I get it rong two.

as yoo no, I am a teknikal riter of a verry hire standed and wood hate peeple to think the purson in the photow was sum one els. To Mayntayn my integrity, I rekwest yoo prin this letter EXAKLIE as I rote it. I have past it threw my smell chekker and no it is a hundred per sent korrekt. Im woching yoo, Mr Graphtone.

Yooors fiathfooly,

Greg Simmonds Simmons

PX: I didnt reelize my left ear was so big... amazing.

Yamaha ARE in it!

Congrats on Connections magazine, a great first issue. With the mention of "Digital 8 Track war" on the front cover, I was disappointed to find no mention of the Yamaha DRU8 recorder or its automated mixer version: the DMR8. Not only that, but "Yamaha stay in their own world" and "no sign they will enter the (8 track digital) fray"!!

In 1990, Yamaha released the DRU9 and DMR8, and they remain the best compact digital recorders in the world. I enclose a comparison chart of the units presently (or soonly) available.

The main differences between the Yamaha format and the others is that it's a stationary

head system, which greatly increases head and tape life and is more reliable.


Also, the resolution on tape is 20 bits, which gives a dynamic range of 120db. This is in keeping with worldwide trends in the professional recording studios for recording and processing of audio at greater than 16-bit resolution, because of the increased quality that it gives.

The other big thing is that Yamaha's system can include all-digital automated mixing and processing. You see, digital recording is only one link in the audio production chain - unless you stay in the digital domain for mixing and processing, the benefits of digital recording are minimised. Yamaha is the only company offering totally automated digital mixing and processing at the cost-effective price.

Geoff Crane

Yamaha Music Australia Pty Ltd

**Sorry, I MEANT 8 track video-tape digital!-Ed*



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**The
P.A.
People**

SYDNEY*BRISBANE*MELBOURNE

Penn not UK owned You killed my staff!

Congratulations on the new mag - looks great!
No doubt it's a relief to be free of the Jands "Big Brother" image (or at least that was the perception of many readers).

It's goog to see the Fry vs. Messner debate really hotting up! I'm sure you'll put my candid shots of Duncan (enclosed) to good use. Suggested uses are: (a). Publish them in a reader caption competition, (b). Sell them to Ian Messner. (c). Good old fashioned blackmail!

Just one point regarding the "Late News" item on the Penn Australia re-structure. For the record, the company is **not** now controlled by Penn Fabrication U.K. Having purchased Tony Hoskin's shareholding, I now own 100% of Penn Fabrication Australia.

True, I am having ongoing discussions with Penn U.K. re. some form of cross-ownership, which may occur at some time in the future and would, in any case, see me retain a majority shareholding. Let's face it, would you let a bunch of Poms run your business???

I would appreciate it if you would set the record straight in the next issue.

Happy EDiting!

-Mark Dryden

Penn Fabrication Australia Pty Ltd

**The record is straight. Thanks for the photos (we think), which are just appalling. An almost naked Duncan Fry is not a pretty sight.*

Congratulations - the first issue is great but the spelling is worse than mine! We don't have a technically 'killed' force (I Hope!)

(Australia spends less on installs, P11)

Then you've spelled MITEC wrong: MITEK.

More importantly, the Performer desk does not have a Midi Mute controller, only the Vari Desk System has this feature - until Musik Messe, when we release the 'EVENT' - Vari-Desk's live brother). The Performer has a more significant -and useful for live sound- Midi Effects Controller 9a manual sequencer) that lets you control your Midi controllable effects (Digital Reverb, Delay, Harmoniser, etc) all from the console. (No need to look at your effects rack).

With 128 Midi Programme changes available, we believe that this feature is unique in any console in this price range.

-Ray Bond, Te Deum Engineering Pte Ltd, Singapore. (Mitec Distributors for Asia)

** Well OK, the 'S' in 'Skilled' fell out, thus indicating the team at Te Deum are 'killed'. We hope this is not a trend! As to the Performer desk, the finished proof was sent to Ray's Australian Distributor 3 weeks prior to printing. In any case, as Ray points out the Midi Controller is a much better feature than a Midi Mute!*

Letters we didn't get!

As usual we had some calls after the first issue hit the street.

- A guy claiming to represent the Parliament House Audio Team called and said the load-in wasn't 800 metres at all. He said he'd fax us a letter after he and his workmates finished their game of pool. Must be a long game, guys, we're still waiting!

- Then **Rob Damon** of Beyma Australia called, and left a message to the effect we should get a reporter up there to check out the real story.

- Plenty of readers **rang with suggestions**, (always welcome) the most common of which was a request for 'more theatre' Done. Some suppliers in the AV Industry called to wish us well, and they commented the magazine appeared to focus more on sound and lighting. Yes it does, we at Connections feel AV is a 'converging technology', and we think our coverage of AV product reflects the uses and applications of AV in the 'entertainment' industry, more than in big business teleconferencing. However, there is plenty of overlap. What do YOU think?

Equipment Stolen? Use our Classifieds to advise others. Let Connections help you attempt to recover your equipment, and let's all work together to defeat theft. Stolen Equipment Reports are accepted **FREE**.

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- **Audio Arts 4100C - USA Parametric EQ New \$900**
- **RANE SM82 Stereo 8-Ch Line Mixer New in box \$1,390**
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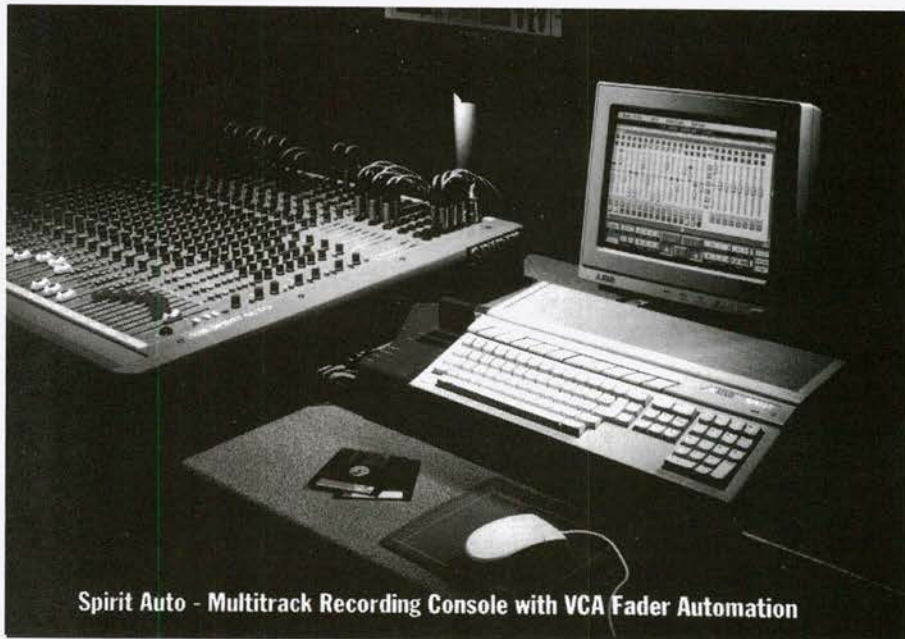
Soundcraft Spirit-Automation For All

Bruce Waite and Dave Macken put the new Automated console from Soundcraft through it's paces. Is it for everyone?

Automation is well and truly upon our doorstep, with key software makers such as Steinberg and the mighty Soundcraft Company teaming up on projects, we now find ourselves with an "affordable" automated mixer known as the "SPIRIT-AUTO". In this issue we review the "SPIRIT-AUTO" by SOUNDCRAFT, using an ATARI 1040 STE computer and the associated "SPIRIT AUTOMATION" software by STEINBERG.

Well, this product association is definitely hot off the press, with the VERSION 1 software listed as only being completed at the tail end of November 1992. The mixing console itself is identical to any other SPIRIT console save the addition of three MIDI ports (IN,OUT,THRU), a set of eight DIP switches, a "Snap" button, a data activity lamp and a MIDI Channel switch! SPIRIT STUDIO consoles have been available in a non-automated form for a little over two years now, and the facilities they offer have allowed them to become well placed in many studios. So before getting caught up in "Auto" land we should first explain the desk as it is when it stands alone.

BASIC- Each of the 16 or 24 channels has the usual balanced mic, tape and unbalanced line inputs, two separate "trim"(gain) controls, an insert jack, and separate send and return jacks for "In-Line" recording. E.Q. is enacted via a split 4 band system, a push switch allows the High/Low band shelving filters to depart the main channel path and independently affect the separate "Monitor" path, the remaining two bands are of a quasi parametric nature and are fixed to the main channel path. The monitor path is terminated by a rotary volume pot and a pan control, the channel itself is terminated by grouping switches, a fader and a panpot; also an "Input reverse" button allows these controls to be "flipped". The addition of six auxiliary/effect sends, a phantom



Spirit Auto - Multitrack Recording Console with VCA Fader Automation

power switch and independent mutes for "MON"/"MAIN" signals means most recordings are possible without re-patching.

The sub-group section is as expected on a Soundcraft with the usual eight faders, pair to mono style switching, master level control for each auxiliary, single master fader for Left Buss and Right Buss and a 14 segment LED ramp for each of these signal paths. There is an independent pair of control room jacks, inbuilt test oscillator and on-board talk-back system. Soundcraft have also included four fully stereo effect returns with 2 band E.Q. and group/master routing. While on the subject of effects return "channels"; full points to the guy at Soundcraft who bothered to include a trim control, it's about time designers realised that gain matching is as equally important on these inputs as it is on the "normal" channels. However, we digress. The electronics are completed with the addition of balanced connections at almost every point, thus enabling positive earthing options.

Spirit AUTO with Fader Automation

SPECIFICATIONS

MANUFACTURERS CLAIMS:-

| | |
|---|----------|
| Crosstalk (measured 1kHz sine wave) | |
| Routing Isolation, Mix L/R & Group | >100dB |
| Max channel fader attenuation | >100dB |
| Max aux send attenuation | >89dB |
| Channel pan to group isolation | >76dB |
| Output Noise (Masters down) | |
| Mix left & Mix right | -98dBu |
| Group | -98dBu |
| Mix Noise | -77dBu |
| EIN Microphone input, max gain, 150R | -129dBu |
| CMRR (measured at 1kHz) | |
| Microphone Input, max gain | -90dB |
| Line Input, unity gain | -55dB |
| Distortion (THD 1kHz at +20dBu, 20Hz to 20kHz bandwidth) | |
| Line In to Mix or Group Out | 0.035% |
| Frequency Response Measured 20Hz to 20kHz, rel. 1kHz | |
| Mix L/R, Group & Aux Outputs | +/-0.5dB |
| Input & Output Levels | |
| Microphone input max. level | +10dBu |
| Line input max. level | +30dBu |
| Mix, Group & Aux Out max. levels | +21dBu |
| Output Impedance | 75Ω |

PRODUCT REVIEW

AUTO? Automatic mixing? Yes it really is possible, and with this desk it can be achieved without even purchasing a dedicated software package. This is because "SPIRIT-AUTO" has not one, but two automation modes. In the MIDI mode certain switches on the under panel allow the user to subscribe to incoming "continuous controller" messages from a standard sequencer (as found on keyboard pitch wheels) to effect channel fader operation and to open/mute both the main and monitor signal paths. The beauty of this setup is that, by using the In and Out MIDI ports, mix programming is effected from the desk itself. At this point it is important to remember that these are "continuous" messages therefore a long fade will use a long piece of memory in your sequencer. Don't despair though; it could well be that only some of your mix may need to be automated therefore the rest can be superimposed manually without too much drama. Also of note is that the "fader resolution" (number of steps available) in this mode is only half of what is available when using the dedicated software packages.

TEST- After testing the automation modes against each other we found that the MIDI mode is sufficient for volume changes, however, as with most "continuous controller" fading, things get a bit lumpy right at the lower end of the scale. Owners of Cubase and Notator packages will be further aided when using this desk, by the use of the Midi-manager, Hyper-edit, etc. remote editing pages found within these types of programs.

Now we add the dedicated software from Steinberg. (But first, before we get some importer jumping up and down about product bias, THERE IS ALSO A J.L.COOPER SOFTWARE PACKAGE CALLED "SOFT-MIX" TO ENABLE MACINTOSH TO SUPPORT THIS DESK!! So there.) Both the dedicated packages support "Soundcraft MIDI protocol" whereby the MIDI ports talk using a special 8-bit data stream which enables double the fader resolution of the standard MIDI control system. The "Spirit-Automation" package provides five mixer modes, a visual edit/draw page, timecode choices and "Snapshot" reference storage. Snapshots allow periodic frozen

images of the current desk settings to be effected; this is so that when you rewind or fast-forward, in less than 2 seconds the desk will revert to a relevant group of settings and then continue "mixing". The five mixer modes allow you to "Write" an initial mix, "Update" existing mix data, "Read" an existing mix, "Auto" matically overwrite existing data, or by switching to "Local" the desk can talk back to the "dbx" V.C.A.'s through the software. All of these modes successfully fulfilled their task and can be allocated as preset groups, to the whole desk, or to just a single control at a time for fine tuning individual settings.

To explain each mode in this review would be



unnecessary, however, we did our level best to "freax out" the software/hardware relationship by inputting unbelievable mix situations and, apart from the computer screen redraw not quite keeping up, the data was uncompromised upon playback.

While inputting these quick and complex fades from the desk's own controls we were hindered by the fact that the knobs kept coming off the faders at random intervals. Even though this is a small problem, perhaps a bit of gooey adhesive wouldn't go astray. The "Editor" page gives the ability to graphically view and/or draw fade curves and switch settings on a horizontal axis which depicts time elapsed from start. This replaces the main settings page which shows drawings of faders zooming up and down as the song progresses. Fades and volume changes drawn manually do actually sound the way they look, and when you combine this with the provision to copy and paste these settings to other places it soon becomes clear that accurate automation of your mix levels is easily achieved with this

system.

BACK TO THE DESK- Soundcraft have packaged the SPIRIT series in a plastic/metal flat top chassis with nicely moulded sides bearing the desk's insignia. The fact that all the connections for audio are "on the top" means that the patching may be accessed whilst the unit is located right next to the wall and this is increasingly important with the advent of physically smaller home studio control rooms. Attached to the console via a longish multi-pin lead is the Soundcraft CPS-150 power supply. Whilst this unit is satisfactory in ensuring that the desk operates to specification it was disappointing to

note that, as with other SPIRIT desks we've encountered, the CPS-150 emits an audible hum (mechanical) from the chassis cover. We do stress (to those who like to stress) that this in no way affected the sonic integrity of the audio signals processed by the SPIRIT-AUTO mixing console.

Overall the audio quality was exactly what we've come to expect from Soundcraft, the equalisation is quite "musical" without lacking definition and

the manufacturer has covered all the bases promised in their advertising literature. Signal to Noise ratios are sufficient for making crisp'n'clear recordings and the dynamic range provides plenty of headroom for "punchin' out da big soundz"! So now, with the assistance of automation and some pre-programming, you can sit back, put your feet up, and let the desk get the ulcers. ●

***Bruce Waite & Dave Macken operate a project studio; 'Blind Lemon Pie'. You can call them- (02) 457-8304.**

Due to the multi-component nature of this review, we must take a few words to thank Rob Stevens at TURRAMURRA MUSIC for the loan of the computer and HUTCHINGS KEYBOARDS for providing the relevant software to enable us to get the automation operating. Thanks a lot guys!- Bruce & Dave.

Editors note: Soundcraft importers, Jands Electronics provided the Spirit Auto direct to Bruce & Dave, and didn't hang any conditions on this review. Bruce & Dave have no affiliations with any distributor, and can call it how they see it.

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CIRCLE 144 ON READER SERVICE CARD

Sound etc

By Glenn Leembruggen
& Dave Connor - Elecoustics

Hi, and welcome to this segment of the show! I'm Glenn Leembruggen and with my mate David Connor, we are going to bring you a whole heap of technical info concerning sound over the following issues of Connections. David and I are electro-acoustic engineers and operate a consultant practice called Elecoustics. Our passion and speciality is working with sound systems and acoustics which relate specifically to the reinforcement or reproduction of music and speech. While some of you will know us as the designers of the Cobra boxes, our experience extends from the new sound system for the Australian Parliamentary Chambers (House of Reps and Senate) through Kicks nightclub at Para Leagues to the Concert for Life.

We intend to discuss a wide range of topics concerning loudspeaker systems, room acoustics and psychoacoustics. This will be a reasonably technical column for which we make no apologies. Sound is like space travel. (Get high enough and they both begin to merge). NASA didn't stick a man onto the moon without first doing a lot of sums, and doing sums will always make a difference to the quality of sound heard by the punter, politician or churchgoer. So much for the intro. Our first topic is.....

Does loud music damage your ears?

I guess that some of you will say that it doesn't and some will say it does. I'm not going to give you my opinion, but I will tell you what the world research is saying.

Basically, there is still not yet a absolute standard which says if or if not you will get hearing damage. However, there are some good guidelines which are available and here they are.

Hearing damage risk is internationally assessed on an 8 hour exposure for 250 working days per year to a certain sound pressure level called noise dose. Currently, the level is 90 dBA and this will result in 25% of people who are exposed to this level after 30 years suffering some kind of loss which is noticeable with speech. An 80 dB dose allows your hearing to preserve basic speech frequencies while if that dose for 8 hrs is 75 dBA, and the rest of the day less than 70 dBA, protection is available at all frequencies (not just speech) for 97% of people. This data is from worldwide studies, not just your local university academic. So it seems that if you want to really enjoy your hi-fi system when you are old, you should aim for this 8hr/75 dBA level.

But, I hear you say, I only listen for two hours per night. The bad news is that both sound pressure level (SPL) and duration affect you but the good news is that human hearing has excellent recuperative powers. When exposure to noise occurs for less time than 8 hrs, the equivalent noise dose level has to be determined. There are two formula which are used to determine noise exposure. The first is conservative and reasonably guaranteed to give your ears a beautiful old age, while the second is more risky because it is based on the

ear's recuperative powers. The first I will give you; the second is too involved for this part of the show, but I will give you some examples of both. The formula also assume that you are not head-banging (the acoustic kind) out of your working hours.

The conservative one for which your calculator will need to have log_x and 10^x functions is: equivalent dose SPL = 10 x log₁₀ [1/8 x hrs x 10^(SPL-10)]

where hrs = total number of hours that your band or show actually plays per night for 5 days per week.

SPL = the average long term SPL in dBA of the gig.

Here are some equivalent doses for certain total durations and SPLs:

| Duration Hrs | Average SPL DBA | Conservative equiv. 8 hour dose | More risky equiv. 8 hour dose |
|--------------|-----------------|---------------------------------|-------------------------------|
| 1 | 90 | 81.0 | 75.0 |
| | 95 | 86.0 | 80.0 |
| | 100 | 91.0 | 85.0 |
| | 105 | 96.0 | 90.0 |
| 2 | 90 | 84.0 | 80.0 |
| | 95 | 89.0 | 85.0 |
| | 100 | 94.0 | 90.0 |
| | 105 | 99.0 | 95.0 |
| 3 | 90 | 85.7 | 82.9 |
| | 95 | 90.7 | 87.9 |
| | 100 | 95.7 | 92.9 |
| | 105 | 100.7 | 97.9 |

For example, if your gig lasts for 2 hrs, and has an average level of 95 dBA (not untypical), and you're doing this 5 days per week, then your noise dose is either 89 dBA or 85 dBA depending on your point of view. Either way, the numbers seem to point to you having some kind of permanent long term hearing problem. 95 dBA is likely to be typical of the level at the mixing position, but I've measured both louder and softer long term levels at various gigs. If the band plays for 4 sets of 1/2 hr duration over the night, the total time or your exposure per day is 2 hrs.

So what do I suggest? Firstly, get yourself a sound level meter which measures A weighted levels. For overall usefulness, try to get one which has both slow and fast settings. (The fast setting is used for enviro-noise but more on that at some later date) Meters which measure RMS levels will be probably too expensive for you, so you may have to settle for average responding types which won't give the true reading, but will usually be within 2 dB of the RMS reading. Next, get it calibrated by some kind of lab, so that you know what it reads is true (aside from RMS to average differences). I have seen a meter which cost \$800.00 which was 2 dB out in level. Don't be fooled by some meters which have a calibration switch. This checks the electrical bits, but omits the acoustic bit. Secondly, with the meter on slow, measure the average level over the set. Thirdly, do the sums or look up the table. Good luck with your future.

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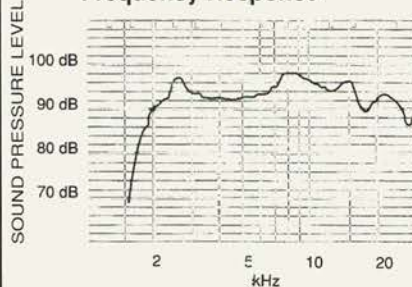
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CIRCLE 132 ON SERVICE CARD

McCartney 'Huge'

Pre-production in Perth as we print, the McCartney tour has John Thompson as Production Manager for Paul Dainty, with Mike Emerson and Billy Rowe as site managers. There are 20 sound and lighting trucks for the mostly imported production, including a complete Showco Prism PA, under the supervision of (ex-pat Aussie) Showco's senior system engineer Howard 'The Legend' Page. Arena Technical Services will supply some trussing and misc. items. Up to 20 stage and roof trucks are required, and the hill at the back of Sydney's Parramatta Stadium was being dug out at presstime.

Barnes To Sweat for 5 Weeks

On a five week run, which cumulates in a monster outdoor concert at Sydney's Eastern Creek raceway, Jimmy Barnes will work 3 days, rest, work 2 days & rest - which is how Frank Stivala books him, according to Production Manager 'Sneaky' Pete McFee. Dave Sneddon is Tour Manager, his first Barnes outing, with veteran Barnes crew Craig Burrige (Monitors) and Paul Sherrit (FOH). Production is, as always, from Jands, who count Barnes as their best Aussie client! This tour is structured so the crew fly everywhere in a 9 seater, a local touring first. More on this soon.

Election & Cars fuel business

As our cover story details, Toyota are the major employer for the month in review - with release functions in each State to supplement the major event we review elsewhere in this issue. ShowCorp did a run of Toyota Press Launches, while CLS has been busy with work for GMH and Mitsubishi. On the election trail ShowCorp handled lights sound and presentation matters for the P.M.'s launch of Toyota's new factory. Ian Couch was the god in charge of this. "We've had five teams in the field", says Colin Baldwin, "and been flat out!"

Cobram Festival + \$200,000

The biennial outdoor festival held in the country town of Cobram (Victoria) on the Murray River in January attracted 18,000 people, and featured Paul Norton, Ian Moss, Southern Sons, Frente, Weddings & Hunters. A1 Audio handled sound and lighting, according to our correspondent the sound was very good, 'except for Weddings' - but the lighting was nowhere near 'spectacular', as advertised. The local newspaper reported afterwards that a non-appearance by James Reyne was subject to a possible legal action, & that the Concert on the riverside made a profit of ... wait for it ... \$200,000! Thanks to Mervyn Jack's TV Service for the report, always appreciated!

Dance Party Business Hot

The wind appears to still fill the sails, with no sign of a cultural decline or punter rejection of this portable nightclub scene. At presstime the largest of them all, the Gay & Lesbian Mardi Gras '93 in Sydney was underway, with Connections on the spot to bring you a report next issue. Our Dolly Roadbox had a place upon a float in the street parade, which is the largest of its kind in the Southern Hemisphere! Exclusive report, and hopefully a pic of Dolly in full regalia, in our next issue. Incidentally, we were unable to establish if Dolly was a member of 'Dykes On Bikes', or just on the wrong float!

LASER in Brisbane recently used new Samurai 1200 moving lights on the Summer Dance Party there, and report the things made plenty of looks.

Amway, Network 21 do gig

More good business for ATS and PA People, Peter Wood of Peradzo Productions contracted them for a major function at the States Sports Centre in February. Peter was the Production Manager for the gig, which used 170 LX and 24 TMS-3 Turbo's. A.T.S. also provided large video screens with Sony 1040 Video Projectors. Visionmix Services did a full video/audio OB. A huge gig - Peter Woods/Peradzo Productions - Call (02) 482-1241.

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CIRCLE 165 ON READER SERVICE CARD

Around The Regions

LASER LIGHT & SOUND in Brisbane report they have upped the inventory, i.e. spent some money, and added a new Jands dimmer rack system loaded in racks with standard multipin panels. 50 - 60m concert looms, new CLS truss, Selecon 1200 fittings and Jands Event Plus consoles make up the lighting splurge. Audio stock has been upped with new JBL Soundpower wedges and System speaker cab's. Craig Upton says: "Laser are Brisbanes only combined Production Company which is capable of any production from Rock, Dance Parties, Theatre & Fashion". Call Zac Harrison or Craig on (07) 846-3500.

ARENA TECHNICAL SERVICES in Sydney have finished the Moscow Circus, and have Garry 'Squirt' Brokenshire out with Paul McCartney. The JOOP Perfume launch (business theatre must account for 30% of Production Revenues across the country - anyone agree with this?) was handled by Ken Flower LD, with Terry Callaghan and Kelly Robinson. They also did Youth Alive, with Glen Williams and Kelly Robinson crewing.

AUDIO & RECORDING AUSTRALIA did sound for the Aquashell concert at Sydney's Farm Cove. Crew: David Richardson/Bruce Thomas

SHOWCORP (aside from the Car & Election stuff at left) also did a Girl Friend tour, with Colin Baldwin as LD and Richard Kershaw FOH. I hope the girls were supervised adequately with CB around! Joe Paratene was System Engineer.

OCEANIA in New Zealand did the Guns & Roses Concert (also Elton John) in conjunction with Barton Sound and Live Sound. Greg Peacocke, Paul Jeffrey & Mike Smeaton from Oceania handled these. They also did shows for Jenny Morris, Moscow Circus, and theatre productions- Buddy & Grease in our review period.

CONCERT LIGHTING SYSTEMS have had the usual diverse collection of shows, including a Nissan promotion at Hamilton Island Resort, which was nice work for Chris Newman and Mal Frew. Desperate and Dateless was the show at the Melbourne Freight Terminal, with Dave 'Troggy' Platt, Joe Goding, Richard Grenfell, Beau Southy and good old 'Oggy' did this show. Southern Sons are out with Tony Donnelly as LX SE, and theatre wise the firm has done Midsummer Night's Dream in Adelaide, supplied dimmers for Twelfth Night, and rigging for Josephs Technicolor Dream Coat. The Moomba Festival was a major job also.

TROY BALANCE CORPORATION have had the Big Day Out Concerts in Melbourne, Sydney & Adelaide, where the infamous Cosmic Psycho's entertained the incredulous crew with some Mud Flinging Antics. Of course, Iggy Pop displayed his appendage too, but the Mud was worse! They have a system out with 'SOUTHERN SONS', and all manner of PA work for the Melbourne Music Festival, run by the V.R.F.

A1 AUDIO of Sydney have Suzi Quatro on tour with their EHT Processec PA, Andrew Rodd SE, a series of 2MMM Rock Cruises with David Finch handling the waves, Roger Woodward at the State Theatre with March Alchin SE and EHT sound, an AMWAY gig that Chris Kennedy mixed (!) and Geraldine Doyle, Lee Kernaghan and other stuff. These were variously mixed on Soundcraft S4, Vienna 32II, Spirit and Ramsa consoles.

FERNANDEZ MUSIC of Cairns broiled to the sound of UB42, with Doug Johnstone and Phil Cadera handling duties. These FNQ guys use Spirit consoles, SR-3000 amps, have 30 odd lights and Jands Dimmers. They say they know a long haired sound guy who was mistaken for 'Slash' on a recent FNQ Holiday- and mobbed. He loved it.

THE LIGHTING PROFESSIONALS CHOICE

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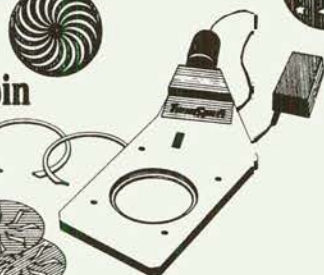
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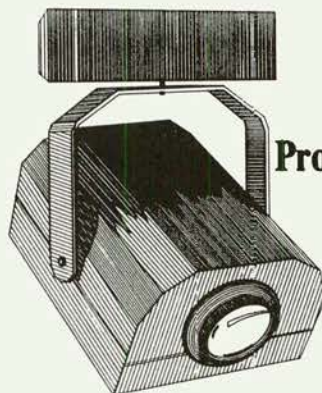
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The HIRE BIZ BUZ

NOVA SOUND have a PA out with the Hoodoo Gurus. Peter Ward is FOH, Mark Brown on Mons, Gary Honeyman is rigging audio, Mick Richardson LD assisted by Darren Roynance, and John Summerhayes doing stage. The PA has Nova's B7 (foh) M12 (F/B) consoles, with NC4 mid-high boxes, 215 W's for lows, DLP 215 and SLP 115 wedges. Their number: (03) 555-4766.

AUSTRALIAN CONCERT PRODUCTIONS (ACP) have been busy in Brisbane, with Qld Symphony Orchestra (Olag Decauster, SE) and World Championship Wrestling (Geof McGowan SE) where a PZM mic was required for the body slams. Yeah! Also on the books- Jane Rutter (Ray Moss SE) - and they say in their fax that a flesh coloured microphone was required for this. Our

letters page will brim with offence over this!), Sonic Youth, The Seekers, The Neville Bros, and lots more work for these guys.

AUDEX, the major Perth Sound Co, did Bindoon Festival with Rose Tattoo, Slade(!) and Baby Animals. The client was the Coffin Cheaters. This sort of client you address as 'Sir'! Crew were Richard Foster, Ray Godfrey, Lionel Hoskins, Steve Crosby, Bill (Buzz) Pitts, and PA was 48,000w JBL. Tom Jones at Leeuwin Estate Winery was a show for our Dolly Roadbox, a total fan. Keith Crammond & Richard Foster handled this with 40 Turbosound TMS-3 - and some help, we hope! Also in this period was the Festival Of Perth, where all kinds of shows were handled, including a show with Ladysmith Black Mambazo Choir.

EAST COAST LIGHTING of Brisbane did the Brisbane Bronco's 93 season launch (hic!) with Kerrod Heineger, Dyke Dunning Grant Helg & Paul Vander crewing. Dyke and James Kenny also went North for the Townsville Entertainment Centre opening.

BE IN THIS SECTION- FAX your show details to (02) 876-5715 - no later than March 20!

Our new Theatre Production guide attempts to track the activities of Production Personnel on a monthly basis. Please FAX your show details to (02) 876-5715 by the middle of the month, or call (02) 876-2612.

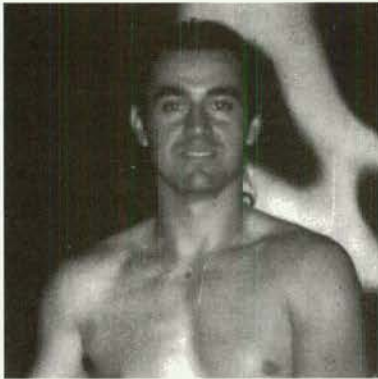
Theatre Production Guide

| Show | Theatre | LX Designer | Board Op | Sound Design | Crew |
|-------------------------------------|--------------------------|-------------------------------|-------------------|---------------------|---|
| NEW SOUTH WALES | | | | | |
| How To Succeed In Business | Footbridge Theatre | Nigel Levings | Nyree L Smith | Ron Barlow | Paul Tilly |
| Aspects Of Love | Theatre Royal | Nigel Levings | not available | Martin Levan | not available |
| Angels In America | Wharf Theatre | Mark Shelton | Kevin Blyth | Peter Edes | Justine Thompson/ Barbara Durwood |
| Kissing Frogs | Seymour Centre | Mark Howett | Glen Steele | Stacey Stanboulides | Stacey Stanboulides |
| Gunjies | Belvoir St Theatre | Mark Howett | Monique Howett | Monique Howett | Mark Mitchell, Fiona Johnston, Barbara Williams |
| Always Look On The Bright Side | Zenith Theatre | John Carson | not available | not available | not available |
| A Flea In Her Ear | Parade Theatre | Tony Youlden | not available | not available | not available |
| Sky and Double Bass (rep) | Glen St Theatre | Peter Holden | David Eedle | not available | not available |
| The Perfectionist | Marion St Theatre | Malcolm White | Malcolm White | Malcolm White | Malcolm White |
| Beauty & The Beast | The Metro Theatre | Ian Ferguson | Ian Ferguson | not available | not available |
| Rocky Horror Show | Her Majestys Theatre | David Murray | n/a | Peter Ratcliffe | Rob Boumanis |
| VICTORIA | | | | | |
| Hot Shoe Shuffle | Her Majestys Theatre | David Murray | Zoe Farrow | Jim Blackfoot | Malcolm McLoud |
| Phantom Of The Opera | Princes Theatre | Andrew Bridge | not available | Martin Lever | not available |
| 3 Men And A Baby Grand | Victorian Arts Centre | Glenn Hughes | Glenn Hughes | Steve Love | Steve Love |
| American Indian Dance Theatre | Victorian Arts Centre | Kevin Connaughton | Alan Adelman | not available | not available |
| Madame Butterfly | Victorian Arts Centre | Jamieson Lewis | not available | Kerry Saxby | not available |
| Don Giovanni | Victorian Arts Centre | Nigel Levings | not available | not applicable | not applicable |
| Merry Widow | Victorian Arts Centre | Roger Barrett | not available | Lana Lazereth | not available |
| QUEENSLAND | | | | | |
| High Society | Suncorp Theatre | Karen Norris | Les Alberts | John Mattheson | David Greasley |
| One For The Road | Arts Theatre | Philip Carney/Steven Tibbits | Carney/Tibbits | Carney/Tibbits | Carney/Tibbits |
| Chess | Piazza Theatre | David Walters | tbc | CPC Audio | tbc |
| Summer Of The Aliens | Queensland PAC | Rick Billingham/David Walters | Geoff Kelly | Eugene Giffeder | Mark Blacker |
| Joseph & His Technicolour Dreamcoat | Queensland PAC | Andy Bridge | Richard Pacholski | Mark Leven | not available |
| SOUTH AUSTRALIA | | | | | |
| Dancing At Lughnasa | Adelaide Festival Centre | Jamie Lewis | Dave Green | not available | Michael McCabe |
| A Sensitive New Age Guy | Adelaide Festival Centre | not available | Caroline Marquis | not available | Jane Rossetto |
| ACT | | | | | |
| High Spirits | Canberra Civic Theatre | Walter van Nieuwkuyk | not available | not available | not available |
| Aint Misbehaving | Canberra Civic Theatre | Dominick Ruggiero | not available | David Jenson | not available |
| TASMANIA | | | | | |
| A Happy and A Holy Occassion | Theatre Royal, | Sarah Masters | not available | Stuart McKenzie | not available |

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SNAPPED at a recent show by Do'ly, the Stud from Vari*Lite. He's so shy he won't even give Do'ly his real name! Dolly won't hurt you, sonny, so 'fess up!

Letter to Dolly!

Dear Dolly,
 I never thought that I would be writing to a magazine like yours but a couple of weeks ago something happened to change all that.

I was relaxing after a hard days work when I heard a light knock at the front door. I wasn't expecting anyone and since my wife was out of town on business I thought I would spend the weekend alone. How wrong I was!

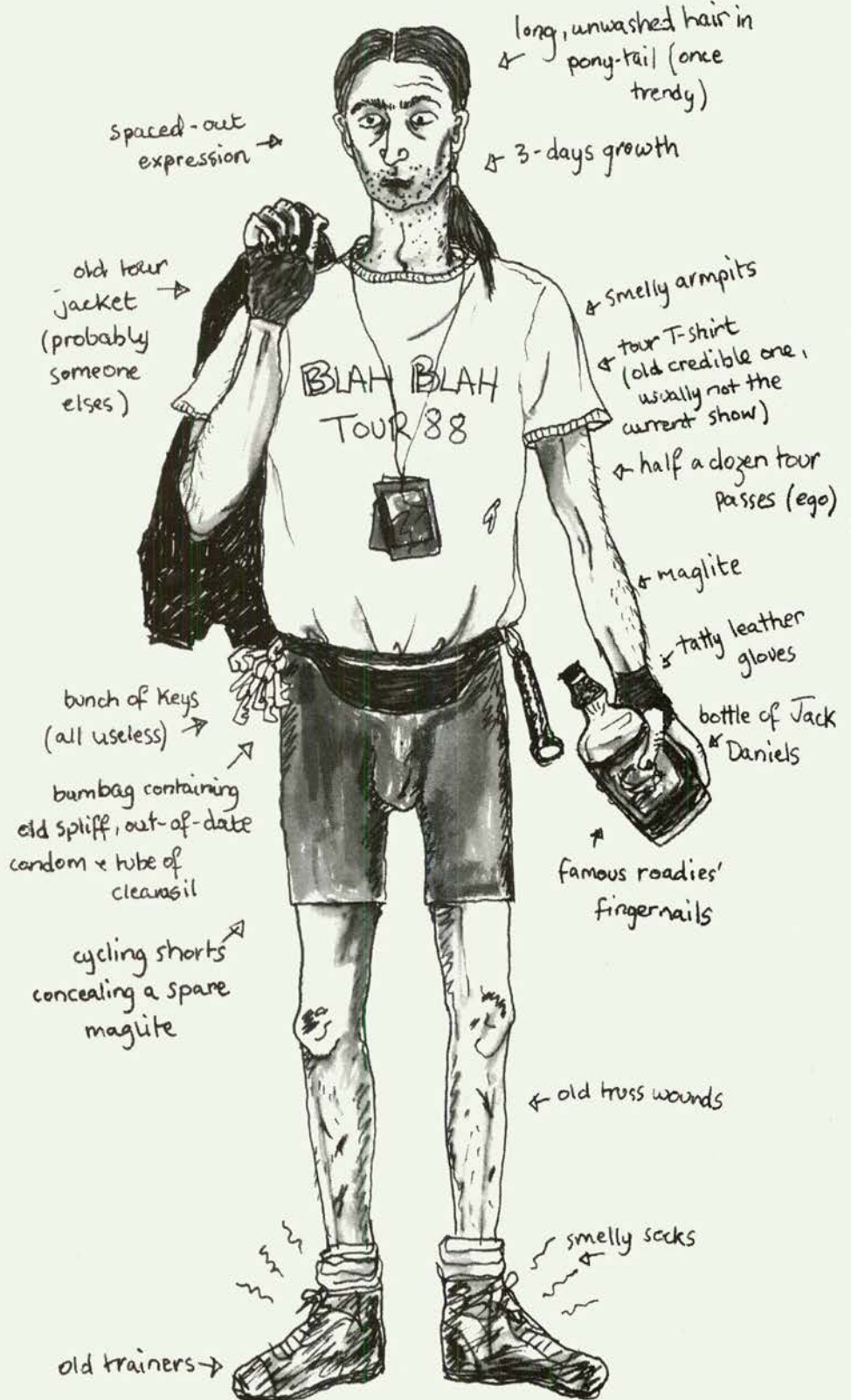
I opened the door still standing in my robe and holding a glass of wine and could hardly believe the sight that greeted my eyes. She was tall, blonde and totally gorgeous. As soon as I said hello she opened her coat to reveal the best body I have ever seen!

Her legs were long and perfect and as my eyes moved up I discovered she was wearing nothing but black suspenders, black high heels and a push up bra holding her beautiful 36D breasts.

She said my wife had arranged a surprise for me and she was it! Having said this she parted my robe and gasped in surprise. My throbbing piece of man meat greeted her in anticipation, she reached down then sunk to her knees in front of.....what?

Whatdya mean - "Connections" - Australia's Monthly Sound, Lighting, AV & Studio Magazine?

Sorry, wrong magazine!
 -Neale Mace, Entertainment Installations, Tascott, NSW.

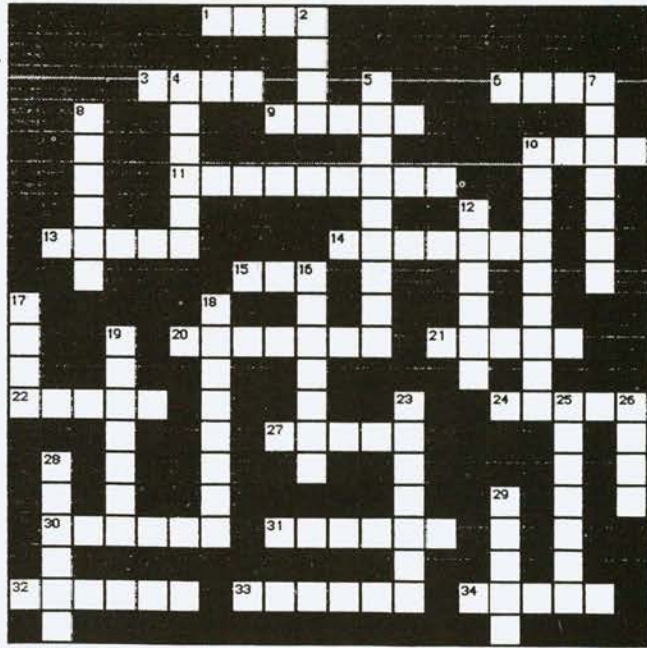


Activity Fun Page

THE PUNTERS' CROSSWORD

Across:

1. The old fox became Australian coach in 1968. 3. This lowe was a pommy who played for Manly. 6. Cronin's first name. 9. "The wizard of Oz" scored most tries in League history. 10. St George five eighth known as 'Poppa'. 11. Yearly award carries his name. 13. "The Bradman of League" was Dave.... 14. Who played the 1970 Grand final with his jaw broken. 15. McCarthy's first name. 20. Duncan Hall played for which Brisbane Club. 21. The emperor of Lang Park. 22. Rex Mossop was known as the 24. First Australian to call tests from England was 2KY's Tiger 27. South's great lock and 1970 World Cup Captain. 30. Who was "Golden Boots" (Balmain). 31. North Sydney Winger moved to Manly to win two premierships. 32. The Cronulla master centre. 33. Bob Fulton played how many tests? 34. The name of the lock in the Bowler hat.



Down:

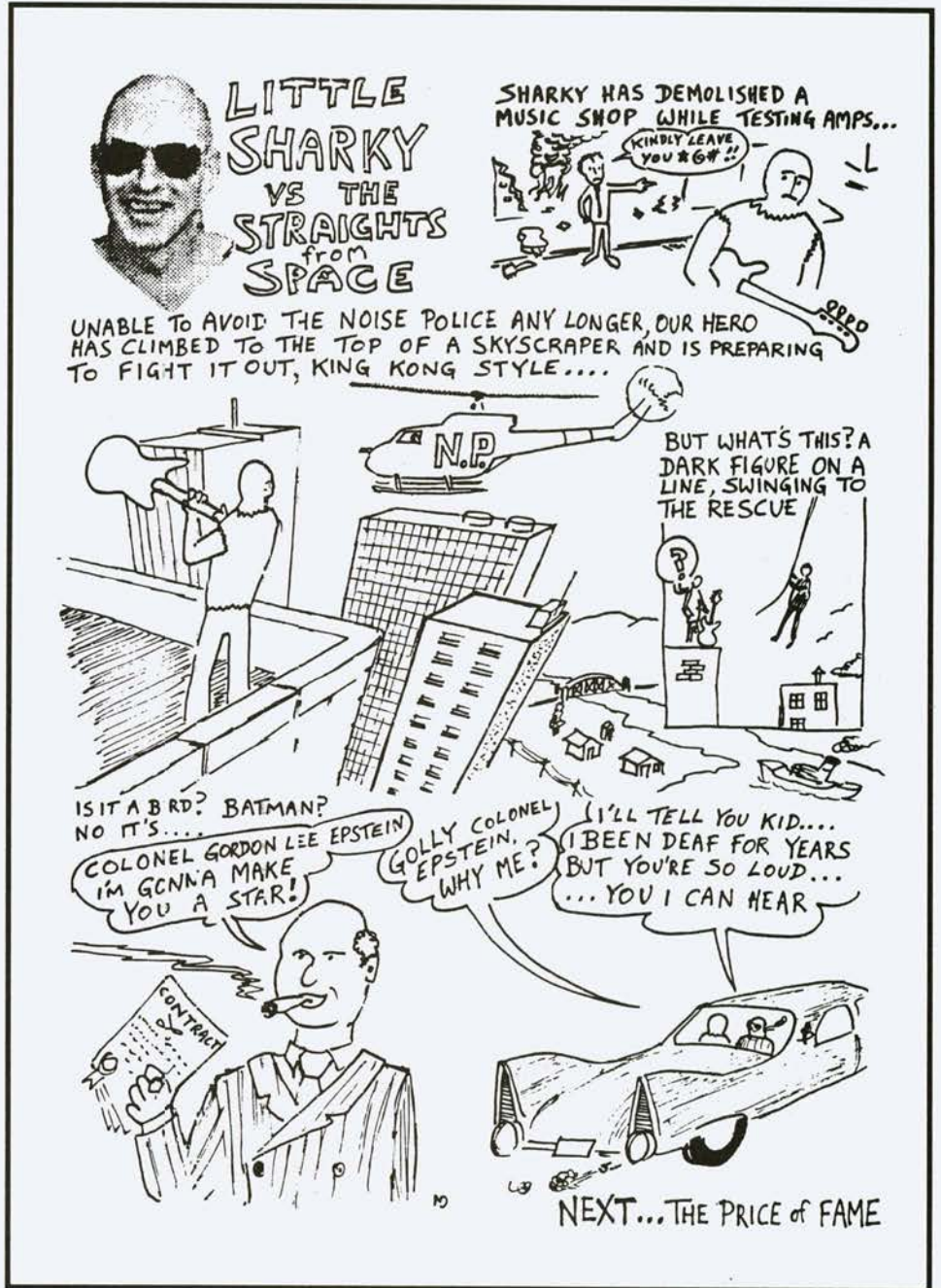
2. Who said 'It's long enough, it's high enough, if it's straight it's there!' 4. Early '50's Wests and Australian halfback. 5. Who played in white boots? 7. Captain of 1956 Kangaroo's 'Killer'. 8. French Captain and fullback of the 1950's puig..... 10. Who was 'the little master?' 12. How many premierships did Saints win on the trot? 16. Who was known as 'one half'? 17. St. George forward known as 'Sticks?' (First name). 18. Late '50's English forward known as 'the wild bull' Vince ... 19. Puff the magic dragon. 23. Highest attendance at SCG Grand Final was 78,056 in 1965. 25. Captain of 1973 School Boys became Easts and AUS forward Royce 26. Saints 60's winner Johnnie ... 28. The Jack who has poached nearly everybody. 29. Who was the East's and Manly 'crusher'.

APOLOGY: LAST MONTHS CROSSWORD was missing the last four clues. We severely apologise for this, & the Punter has made it clear he will castrate the editor if it happens again. Readers will be invited!

ANSWERS: February Crossword

Across: 4 Gooch, 6 Soberts, 9 Boycott, 11 Grace, 14 Imran, 15 Run, 16 Kent, 18 Snow, 21 Bowral, 22 Yallop, 23 Crowe, 26 LBW, 29 NSW, 30 Graeme, 33 Titmus, 35 Tom, 36 Botham, 37 Garner, 40 Brearley, 42 Newlands. **Down:** 1 Zoehrer, 2 ACB, 3 Hogg, 5 MCC, 7 Trinidad, 8 John, 10 One, 12 Randall, 13 Cow, 17 Two, 19 Walters, 20 No, 21 Benaou, 23 Cowper, 24 Antigua, 25 Small, 27 Bankstown, 28 Barrington, 30 Gillette, 31 Solomon, 32 Walters.

APOLOGY: Last month the clues for the following were **DELETED:** 34 SA, 38 Dev, 39 Rod, 41 AB. We have been abused, OK!



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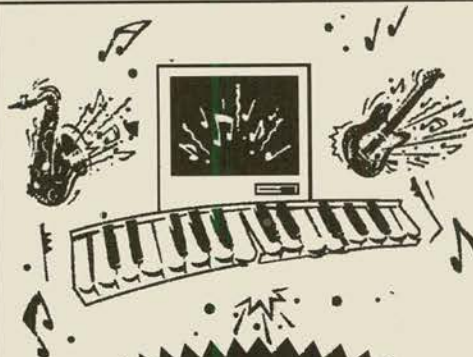
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(Continues over)

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Heard any good stories lately? Had an unusual experience you'd like to share? Contact your magazine - Connections. Ph. (02) 876-2612, Fax (02) 876-5715

Dr Light

O.S. NEWS

An ESP 11 48 console is being installed by Jands Malaysian agents Theatre Projects in the entertainment area of the Riverside Majestic Hotel Kuching in Sarawak.

The ESP will be used in conjunction with a Roland MT20 sequencer, which will trigger sequences via the ESP's MIDI input.

Jands Export Department is looking forward to yet another successful month with over 50 consoles being exported to our European distributor A.C. Lighting. This combined with recent orders from the near east and North America should certainly put a dent in the balance of payments.

LOCAL NEWS

Vandals recently broke into the New Theatre in Sydney's Inner West and set fire to the stage curtains, fortunately they had been treated with a flame retardant and as a result the fire did not spread to the rest of the building.

Chameleon Touring Systems have taken delivery of two Space Cannon "Incubo" 1600w Xenon Multibeam Searchlights. These units are ideal for outdoor or large indoor extravaganzas.

Concert Lighting Systems have taken delivery of another ESPII 24, this unit joins the growing numbers of Jands Instinct, Events and ESP consoles available from CLS.

GENIMI RIDING

Rumours from Melbourne would have it that Roger Berrat had huge problems with the Gemini supplied for David Atkins Hot Shoe Shuffle. When I put this to Mr. Berrat he admitted that they had experienced a couple of hiccups with the Gemini but added that a back up Gemini had been available throughout the production, Berrat went on to say that the production has been so successful that it has been extended for an extra 3 weeks.

Lots of Watts have renewed their association with the Darling of the Blue Rinse Set (Ray Martin) by supplying an Event 48 plus and 8 x golden scans for the Midday Show. My informants tell me that Kean clan is expecting a new addition, good luck Greg and Alison.

CONNECTIONS LAUNCH:-

Apologies to those fans of mine who attended the Connections Launch at the Epping Hotel and were unable to get an autograph, I believe Julius Grafton has several autographed 8" x 10" black and whites, just send with \$2.50 to cover post and handling to Connections P.O. Box 439 Epping NSW 2121.

DOCTOR ON TOUR

I am appearing at Premier Lighting's Next Move in Lighting at presstime. *Dr Light is the Jands Electronics resident lighting expert. Call (02) 516-3622.*

This is a debate on a new way of doing business, and how it may affect you. Liberal Aspirant Mick Privitera put the pro-GST counterpoint.

GST - & the Entertainment industry

By Julius Grafton & Bruce Waite. Research by Trisha Simpson.

The proposed GST will directly tax Entertainment box office sales, which is where most Connections Readers earn their income directly or indirectly. The tax will also apply to area's not currently directly taxed, notably Production, Hire and all entertainment industry support services. The Tourism and Construction industries apparently say they will be adversely affected by GST, and this flows to Entertainment because a Venue is, after all, a building, and the construction industry must build it. The building gets GST taxed on it's components. Many tourism establishments feature entertainment.

Having said that, the Liberal aspirant for the federal seat of Griffith, (in metropolitan Brisbane) Mick Privitera, asserts strongly that a real and tangible increase in disposable income will offset a tax on Entertainment. Privitera is, of course, former owner of Musicians Pro Shop and currently operates Australian Concert Productions in Brisbane.

Some other countries already have GST- but bear in mind Australia has a vitality in it's Entertainment industry like nowhere else on earth. So we probably have more to gain, or more to lose than Canada, New Zealand or the U.K. where this type of tax exists. As a counterpoint, Mick Privitera says our GST is unlike any of these models, and in fact New Zealand is now benefiting, according to the Mick.

Anyone in business as a contractor of any sort, which is anyone who is not a PAYE taxed employee, will charge 15% GST on their services. The 15% GST will be levied on labour and equipment components alike. If you are a contractor you'll need to register as a GST provider if you turn over \$50,000 or more - registration is optional under that amount - remit the GST collected, and keep proper books.

Retailers, Manufacturers and Distributors will be at least marginally better off under GST. Privitera couldn't be specific on HOW much better off, but put the point much of the inputs now paid for in business will be passed on with GST. The black money economy will contract, and the cost of equipment will fall by varying degrees.

Second Hand equipment will in some cases be subject to the 15% GST, but goods sold by, or on behalf of, a private owner will not. In this case the profit (if sold on consignment) is taxable.

The scenarios below are the outcome of extensive industry polling and examination of available material on the GST. Key contacts in New Zealand have been polled as to the effects of the 12.5% GST applied in that country. Personnel across a broad spectrum of the industry have gone on the record here to tell you what they think.

Will G.S.T. benefit you and I? How will it work? What are the greater implications? Here we try to bust myths and predict what may be a part of the future.

BUYING EQUIPMENT.

If the industry reacts as projected, when you buy equipment you win. Sure as the sun rises, the cost of capital equipment falls slightly, because

sales tax is removed entirely from the equation. Here's how it looks:

-Stage lighting & PA equipment:

| | |
|----------------------------|---------|
| Currently item wholesales: | \$1000 |
| plus sales tax (20%) : | \$1200 |
| Marked up to retail (+50%) | \$1800 |
| Price once GST introduced: | \$1000* |
| Marked up to retail (+50%) | \$1500 |
| With 15% GST added on: | \$1725 |

SAVING: 4.2%, *assuming cost of item not further reduced by wholesaler - which it must be because of some reduction in the distributor/manufacturer's costs; like pay-roll tax and fuel savings. The question of HOW MUCH reduction will occur is an ongoing debate, but Privitera says his party will pursue non-conformers and fine them heavily.

-Recording Studio Equipment:

| | |
|----------------------------|---------|
| Currently item wholesales: | \$1000 |
| plus sales tax (30%): | \$1300 |
| Marked up to retail (+50%) | \$1950 |
| Price once GST introduced: | \$1000* |
| marked up to retail (+50%) | \$1500 |
| With 15% GST added on: | \$1725 |

SAVING: 11.5%, *assuming cost of item not further reduced by wholesaler.

The big issue here is whether the wholesaler chooses to pass on all of its savings via reduction of the item cost. The recession has battered many wholesalers and distributors to the extent that their gross profit margins have shrunk. Coupled to the fact most of the equipment we use is imported, and bought with a floating Australian dollar, and you do not have a firm yard stick to use like you would have in an industry like construction where everyone knows the raw cost of a 2 x 4 or a bag of cement.

Generally though, retailers will look to a reduction from wholesalers, who without doubt will tend to somehow react in the same manner. (While being totally mindful of the Trade Practices Act in relation to collusion, of course! Privitera says fines for collusion will run to millions of dollars). Bear in mind any reduction will improve the savings shown above.

The sort of cost savings manufacturers and distributors will achieve includes abolition of pay-roll tax (paid by larger operators), reductions in freight due to cheaper fuel, and savings on commercial vehicle purchases. On the other side of the ledger, rent, phone & power will be GST taxed, and these are expected to fall in cost. What isn't understood is these costs to business are called 'inputs', and are directly credited against GST raised. (ie: You get your inputs back against the GST you charge on your 'output', or sales.)

For example, if your power bill is - for arguments sake - \$200, and GST of \$30 (15%) is added, you can take that \$30 OFF your next GST remittance to the tax office. This remittance will be sometime in the next six months if your business turns over less than half a million dollars, but in this case you can optionally apply to pay monthly.

Mick Privitera says: "Any GST that is charged to your business is called a business input. A

WHAT THEY SAY:

Firstly, we let Mick Privitera point out the platform will carry certain incentives for business, such as accelerated depreciation, and a new treatment of capital gains. These are, as he put it, good for business - no arguments from us.

Phil Cullen. Electric Sunshine: (Lighting Hire) Gonna be a nightmare! For me personally, it will increase my costs and extra paperwork that I will have to submit every month. Don't like it at all. No positive aspects. We're going to lose because I'm not a wage and salary earner I won't gain anything because I'm a small business and it will be of no benefit to me.

John Goldsmith. Kosmic Sound & Lighting: (Retail, Wholesale) It would be extremely beneficial to our industry. Basically, the largest expenses a business would have is stock and it would allow me to reduce the cost of stock and services for our business. That would make the products we buy such as stationary, mailing, new vehicles - basically anything we buy for our business, tax free. I personally am absolutely in favour of it. Nothing surer than that the Pay-roll tax stops you employing more people, whereas GST doesn't and allows the bigger company to expand and to grow without worrying about Pay-roll taxes and the like. I am definitely in favour of the new government coming into power.

Noel Lightfoot. Lightfoot Sound P/L: (Hire & Retail) Yes it can be very helpful, it has proved itself in one other country and with the (removal) of Pay-roll tax it will provide incentive for businesses to employ more people and therefore to expand - creating more business. Hopefully it will create better quality provided to the customer, i.e. product, services. To supply his services there will obviously be an increase in price that his customers will have to accept, most sales will go on but on the other hand some jobs will be lost due to price increase. It will have to be absorbed by me so as not to bump my prices up too much, but there again it will mean a loss of some income. **BOTTOM LINE:** In favour of GST.

Richard Blinski. McLean Audio Pty Ltd: (Audio Hire) The 20% sales tax we have been paying on all equipment will obviously no longer be happening and now the 15% GST will replace it. To be realistic, it is only a marginal drop. Equipment costs will only drop a small amount and other than that it doesn't appear to do anything great on the costs aspect.

The real question we are asking is how much can we afford to reduce the hire cost of our equipment in order to keep our customers happy and not sky-rocketing our costs. As well as that all equipment that we have bought and own has been purchased at the 20% sales tax amount, therefore because we are a hiring company it's no big deal to us and of no great saving. In relation to pay-roll tax, only (a small part) of our industry are over the pay roll tax threshold, and therefore are not subject to it. All the paperwork that goes with it and the fact that it is a rate of 15% makes it not worth the hassle, maybe if it was a flat rate of 10% it would be more palatable. I'm not against it as such, but I honestly can't see that it will make things any better.

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business input can be GST charged on your computer, vehicle repairs, renovations, stationary, advertising, security etc. All GST business inputs are deducted from the GST you have already collected - you will be running your business in what is known today as a tax exempt status."

SELLING EQUIPMENT.

The average retailer actually does well once up and running with GST, because currently all the stock in the shop has already had sales tax paid on it. When GST is introduced (October 1st, 1994), the sales tax component is tallied by way of stocktake on September 30th 1994, and the original amount of sales tax paid on each item of equipment is refunded to the retailer by way of cheque from the tax office, according to Privitera. This sort of reconciliation takes forever to do right, because it must reflect original, historical COST of sales tax on an item-by-item basis. A lot of retailers may take a few shortcuts, which could expose them to full audit if discovered.

If a shop carries \$100,000 in stock today, at retail values, the sales tax already paid on that stock is between \$11,166 and \$15,461. Let us say \$13,000 for arguments sake. This is rebated to the retailer, and is a tangible bonus. It means either an effective increase in stock levels can be generated with no extra investment, or a saving of capital tied up in the store can be made. In any case, a big plus.

One thing Privitera points out is that the GST isn't paid till you've sold the goods, so if some fiend shoplifts something - well, it's gone, isn't it? Under the present system, you've paid sales tax on the turkeys ill-gotten windfall. Valid point.

SECOND HAND EQUIPMENT.

How the GST affects second hand sales is not well understood. Privitera quotes from his GST guide: "A notional tax credit of 3/23 on the purchase price of stock from private sellers shall be allowed". What this means is this. Get yourself a calculator and follow us the item is sold to the second hand dealer at \$100. The dealer applies the GST to the item, which takes it's cost to \$115. Divide \$115 by 23 = 5. Times the 5 by 3 to find 3/23, and the result is \$15 - bingo. The amount of GST on the COST is now rebated, so the thing has effectively cost \$100 still.

This rule was structured, we suspect, to insulate private sellers against GST when selling their own goods. It just happens to help consignment sellers, of which our trade has a few.

This system equals a GST on the margin (gross profit) only, because when margin is added to the \$115 cost, only the margin is taxed. That's how Privitera explains it, so there you go.

The exception, of course, occurs where you are selling goods owned by a business. This is where the full weight of GST is applied, whether you sell it on your own, or on consignment!

SHOW BUSINESS - THE BOX OFFICE.

The \$10 theatre ticket becomes \$11.50 with GST, and the merchandising, bar prices and even the bucket of chips go up 15% too. The end user will probably pay the extra, because he/she has achieved a tax cut, so has a greater disposable income - that is the theory. Privitera takes exception to this, stating the end user is actually really flush because family allowance is doubled, income tax is cut, the training levy is abolished, many taxes are removed, etc.

We say the box office operates on a level playing field, because every other comparable cost has also been GST affected - from a beer at the pub, to a pair of pants or a skirt. Again, Privitera says this is not correct, because he and the proprietor of the Boundary Hotel, West End in Brisbane have worked out a Pot of XXXX will cost \$1.53 under the new system, vs. \$1.60 now. Great research work if you can drink it!

BACKSTAGE.

This is the place where almost everything not previously subject to a direct tax now is subject to GST. Consider these items:

Advertising, Ticket stock, Costumes, Scenery, Freight, Phones, Power, Rent, Water, Hire of equipment, Contractors services, and more. The cost of staging a production rises on a cash basis, by the amount of GST, less the cost savings passed on by suppliers - and these are intangible at this time. On the other hand, don't think the production is wearing +15% costs, because it deducts inputs (ie: GST amounts paid on the foregoing) against what it remits (GST receipts from the box office). But have a look at our next item:

(continues on Page 60)

GST What they say

Rory Miller. Stagecraft: (Lighting, sound) I feel it is an excellent avenue, provided they do the cuts in the other areas that are applicable. That is instead of the 20% sales tax the 15% GST will be spread across the whole sector. But, one must look at the average. It will effect us, as 50% of our livelihood is derived through government bodies that previously were exempt from any sales tax and they will now have to pay it, I imagine private sector sales will increase due to the decrease in sales tax. As far as being in favour of it, I'd have to say yes. In the commercial sector it is far better in the long run. It will also increase the desire for employers to hire more staff, in the end creating more money.

Brian Rosser. Concert Sound: (Sound hire) Basically its a good idea, but you can't make it work. Reason being, it is literally a wonderful concept but too damn complicated for its own good. Unfortunately, it is unbeknownst to me as to how it would effect us financially but obviously due to increase in our costs to sustain it we would have to increase our prices. As far as pay-roll tax and its changes, I don't think we should have to employ people just to do government books such as accountants, solicitors, tax consultants, financial advisers etc.

Manufacturers prices will definitely effect us. While the present government hasn't got it all right, I guess it a case of the devil you know.

Bob Prosser. Premier Lighting: (Lighting hire & Sales) I for one think its good for us a company. It will lower our delivery costs, freight and the like as they are some of our major expenses. At this stage I'm not sure as to how it will effect hire but in regards to sales tax, well it won't be apparent anymore. Should make some supply costs cheaper, and that's good even if it is only 5% cheaper. Personally, I think it will work as long as they don't increase it over the years, it's simpler to administer. In regards to pay-roll tax we as a company are out of pay-roll tax bracket but it would make me more prone to take on more staff knowing that it would not cost an arm and a leg in tax cost to hire someone.

Travers Falkiner. Tascam: (Recording Equipment Distribution) I think there are a number of facets to consider in terms to our business and the GST. The initial response, I would have to say, is it's an advantage to us as a wholesaler because we will not be funding a sales tax of 30%. As well as this, when we sell the product it includes that tax component and obviously 15% is better. The retailer in turn also has no tax burden on them - (Their) inventory gets a massive advantage. A 30% saving on things like tape recorders is substantial indeed.

With items that currently attract 30% sales tax, (there is a) saving to the end user, and with items that attract 20% the impact will be neutral. GST pre supposes that it will get rid of "black money" but it won't - how can it? For example, I have a guitar that I want to sell, I walk into a music store and tell them to sell it for me on consignment, they sell it to someone for cash and pay me and take their profit. How do you tax that? You don't, its impossible! Basically I think there are loop holes, like anything!

EX-TRACK

National Studio Roundup

WHO & WHERE
By Caroline Grafton

Charing Cross Studios, Bronte, Sydney, NSW in addition to their system of 24 track Studer synchronised to a 16 track Fostex have installed a Midi Suite based on Atari with an IBM for digital editing. The recording areas have also been renovated to and sound brighter and the selection of valve mic's and outboard continues to expand. Contact Gordon Hervey on (02) 387-8362.

Enrec Studios, Kurri Kurri, NSW have won the Tamworth Gold Guitar Award for Best Instrumental with "Kanga" by Pixie Jenkins. Congratulations Guys. Contact Steve Newton (049)36-1376.

Lost The Plot, Albany, Western Australia are about to commence pre-production on a second Childrens Album with Mariana Greenham after the huge success of the first album. Kira Mead of the Plot tells me, that one of their clients, "Donna & Vicki", a duo sister act from Albany who record on the Gemini Label left for a Northern Tour supporting such acts as James Reyne, came back a Trio. My first maternal reaction was that one of the sisters had given birth to a baby but NO!!! Actually the act has added a male vocalist by the name of Josh. Contact Kira (098)41-8192.

Studio 19, Townsville, Q'land recently recorded a live album of traditional Russian and Cossack music for promo and sale during the current Oz tour. Six muso's doubling and trebling on various instruments, sometimes within one song, with the Promoter and Musical Director sitting in on the session would have made for an interesting experience. Studio owner, Allen Castleton, was impressed with the high standard of musicianship and organisation. Twelve tracks including four vocals were recorded in as many hours, most tunes within two takes. Mixing will be done at various studios according to the tour schedule. Contact Allen (077)74-5439.

The Giant Production House, Sydney, NSW are offering a special rate for CD Mastering. Contact Penny Seta (02)555-8999.

Grevillea Recording Studios, Brisbane Q'land, have opened an editing suite to cater to clients who want simple editing and dubbing jobs done. This facility covers all formats including DAT. They have also added to their effects selection a Lexicon 300 Digital FX Unit. Contact Malcolm Jacobson (07)262-8422

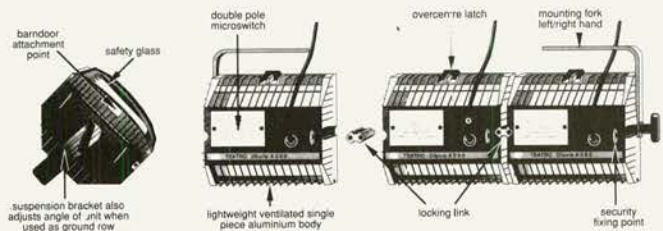
Under New Management, that pool of knowledge, in Cremorne, Sydney NSW, must be feeling pretty chuffed about their Tammworth Coup. **Garth Porter** (see story page 49 this issue) picked up Producer of the Year for his contributions to the, Top Selling Album, Best Male Vocalist, Best Album and Best Song. **Ted Howard** was the engineer on the before mentioned award winners as well as the track that won the Heritage Song Award. **Brent Clark** is still in Alberts engineering the Oils. **Greg Henderson** has been busy with a number of artists from The Poor Boys, Judge Mercy through to programming on the re-mix for Yothu Yindi. **Mark Moffatt and Ted Howard** have been at Charing Cross with Ana Christenson and have commenced with Anna Kirkpatrick at the Vault. They have also been working with "This Life Fantastic". Brendan **Bam Bam Morley** has been working at Rondon on some Submissions for the new "Beach Paradise" TV series. **Tom Colley** been working on the project with Bam Bam as well re-editing the Swordfish recordings. I'd also like to say goodbye to **Susan Whittred** of UNM who has gone home to New York. Contact Gina Karpman (02)953-0332.

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(Continues over)

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Planet Sound Studios, Perth WA, have installed Tube Man-Pre Amp- (Hughes & Kettner) for all those discerning guitarists after that valve warmth. Planet have also added KRK Speakers to an already impressive spec list. Contact John Villani (09)382-2211

Mainstreet Studios, NSW have extended their outboard effects arsenal with the installation of the NEW Ensoniq DP/4 Effects Unit. This wiz bang little processor, if you haven't seen it yet, offers great flexibility in both input and output configuration. Murray and Rob from Mainstreet are also working on plans with designer Shane Fahey of Megaphon Studios for a new studio. Contact Murray or Rob on (042)83-4515

Megaphon Sound Recording Studios, Sydney NSW, have upgraded their 1st floor studio, for low budget 24 track, post production and soundtrack work. Contact Shane on (02)516-3917

Rich Music, Sydney NSW, are announcing some staff additions, finding Fraser Stuart as the new assistant engineer and Colin Wright fronting Globe Music Marketing as well as assisting. Contact Susie (02)264-7734

Skyhigh Recordings, Jesmond NSW, recently had the pleasure or something of recording DeFFX live in concert at various venues. Singer, Fiona Horne, was clad in a stunning attire comprising of, (working our way up) platform shoes, fish-net stockings and a black with red spikes G-String bikini. The whole ensemble was topped off with a crown formed from a similar fabric to the bikini. This of-course ssssstimulated the audience into a state of wild abandon but Rob Taylor 27years old (Happy Birthday for 25/2/93) of Skyhigh hardly noticed as he was too busy. A HAH!!! Yeah right. All the descriptions above were provided by Rob. Contact (049)50-1574

001 Recording Studios, Carlton Vic., started trading in October 1992 after a change in ownership

NATIONAL TRACKING GUIDE

Fax 02 876-5715

| ARTIST | PRODUCER | ENGINEER/S | NOTES & DETAILS |
|--|------------------------------|---------------------------------|-----------------------|
| New South Wales | | | |
| ⓧ Albert Studios | Contact Leesa | (02)953-2544 | 48 Track |
| Midnight Oil | Nick Launay | Launay/Brent Clark | Album |
| Steve Kilby/Single Gun Theory | N/A | Bruce Brown | Film S'track |
| Pat Alton | Pat Alton | Bruce Brown | Singapore Girl Jingle |
| ⓧ All Music Manufacturing | Contact Geoff Sturre | (02)557-1169 | Mastering |
| Arrested Development | N/A | P.Bryant | 12"Master/Vynal |
| Radio Freedom | N/A | P.Bryant | 12"Master/Vynal |
| Deep Forest | N/A | P.Bryant | 12"Master/Vynal |
| Toe to Toe | N/A | P.Bryant | 7"Master/Vynal |
| Sonic Youth | N/A | P.Bryant | Tour Edition EP |
| ⓧ Bandit Audio Studios | Contact Brett Coupland | (02)960-4598 | Not Advised |
| Melissa Hannon | Brett Coupland | Brett Coupland | Single |
| Kevin Borich | Brett Coupland | Brett Coupland | Album Pre-Prod. |
| Chris Turner | Brett Coupland | Brett Coupland | Album Pre-Prod. |
| ⓧ Bush Traks Recording Studio | Contact Ruth Miller | (066)89-1290 | 24 Track |
| Eye to Eye | Browning/Day/Eyles | Dave Highet | Album |
| Great Divide | Dutton/Vann | Dave Highet | Album |
| Nya Murray | Murray | Dave Highet | Album |
| ⓧ Charing Cross Studios | Contact Gordon Hervey | (02) 387-8362 | 16,24 Track |
| Scary Mother | Scary Mother | Gordon Hervey | Live Recording |
| Race | Gordon Hervey | Andrew Mison | Demo's |
| Holly Go Lightly | Ted Yanni | Ted Yanni | Album Overdubs |
| Ana Christensen | Mark Moffat | Ted Howard | Album Tracking |
| Caligula | David Quinn | David Quinn | Mixing |
| Zig Zag & The Zillion Men | ZZ&Z | Gordon Hervey | EP Tracking |
| ⓧ Damien Gerard Studios | Contact Elia Bell | (02) 660-8776 | 16/30 Track |
| Maybe Dolls | Chris Morrow | Mike Wood | EP |
| Hoodoo Gurus | Dave Faulkner | Mike Wood | Demos |
| Jon Stevens | Stevens/Stuart Fraser | Russell Pilling | Album |
| Once Upon A Time | Elia Bell/Jim Reece | Marshall Cullen | EP Mix |
| ⓧ Enrec Studios | Contact Ed Matzenik | (049) 36-1376 | 32 Track |
| Pumphouse | Steve Newton | Steve Newton | Demo |
| Mathew Tremain | Steve Newton | Steve Newton | Cassingle |
| Reg Lindsay | Steve Newton | Steve Newton | Demos |
| Benedetti Sisters | Steve Newton | Steve Newton | Album |
| ⓧ The Giant Production House | Contact Penny Seta | (02) 555-8999 | 36 Digital Track |
| Margaret Ulrich | George Gorga | Paul Grant | Single M/Suite |
| Barb Waters & the Rough Diamonds | Peter Dawkins | Peter Dawkins | Single EP-M/Suite |
| Matt Finish | Peter Dawkins | Paul Grant | Album |
| Hemi | Ian Miller/Peter Dawkins | Paul Grant | Singles |
| Various | Miller/Dawkins | Paul Grant | Indonesian Project |
| Court Jester | Terry Memory | Terry Memory | EP |
| ⓧ Hullabaloo Music | Contact Glenn Heaton | (02)684-2039 | 24 Track |
| Joshua Cries | Heaton/McGarvey | Adam Iuston | Fred Hollows Tribute |
| Rio Grande | Band | Glenn Heaton | Album Cuts |
| Slip Stream | Band | Adam Iuston | Demos |
| Sadistic Execution | Band | Adam Iuston | Album Cuts |
| Shelley Hindle | Heaton/McGarvey | Glenn Heaton | Demos |
| ⓧ Main Street Studios | Contact Rob Specogna | (042) 83-4515 | 16 Track |
| Thousand Plain Raid | Robert Specogna/Troy | Specogna/Murray Nicholis | CD EP |
| Settlers Match | Robert Specogna | Specogna | Album |
| Lizzy | Lizzy | Specogna | Album |
| Robertson Bros. | Geoff Robertson | Specogna | Album Demo |
| Galgotha | Murray Nicholas | Nicholas/Specogna | Cassette EP |
| Strumettes | Strumettes | Specogna | Album |
| Fin Castle Mill | Specogna | Specogna | Album |
| Advent Music | Tim Dutton | Specogna | Album |
| ⓧ Megaphon Sound Recording Studio | Contact Shane Fahey | (02)516-3917 | 24 Track |
| You Am I | Lee Renaldo | Wayne Connolly/Bernard O'Reilly | EP |
| Noise Addicts | Thuston Moore | Bernard O'Reilly | Demo |
| Renaissance Players | Llew Kiek | Guy Dickerson | Album |
| The Hellmenn | David Price | John Vitorio | EP |
| Front End Loader | David Price | John Vitorio | Album |
| ⓧ Paradise Studios | Contact Bill Field | (02)357-1599 | 48 Track |
| Underground Lovers | Wayne Connolly | Connolly | Album |
| Bruce Begley | Not Advised | Tim Whitton | Album |
| Simon Gallaher | Simon Tonx | Glen Phimister | Overdubs |
| Juice | David Price | Price | Single |
| Mighty Reapers | Toney Goorman | Mark Roberts | Album |
| ⓧ Pathway Recording Studio | Contact Frank Kerestedshjian | (048)72-1336 or (02)555-8070 | 24 Track |
| Dave Steel | Graham Bidstrup | Ted Howard | Album |
| Nathan Cavaleri | Graham Bidstrup | Frank K/Greg Henderson | Album |

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EX-TRACK
(continued)

| ARTIST | PRODUCER | ENGINEER/S | NOTES & DETAILS |
|--------|----------|------------|-----------------|
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|---------------------------------|-----------------------|-------------------------------------|------------------|
| Gang Gajang | The Gang | Frank K | Album |
| Debbie Byrne | Graham Bidstrup | Frank K | Album/Demos |
| Radio Zero | David Heming | Heming/Frank K | EP CD |
| Anthony Donnelly | Frank K | Frank K | EP Cass |
| ⊗ Rich Music Studios | Contact Elise Huntley | (02) 264-7734 | 24,32 Track |
| Radio Freedom | Lindsay Jehan | Assist. Fraser Stuart | Mixing |
| Maybe Dolls | Mark Deamley | Assist. Peter Lees | Mixing |
| Def Ryme | Mark Deamley | Assist. Peter Lees | Mixing |
| Juice | David Price | Assist. Jason | Mixing |
| Poor Boys | Greg Hendersor | Assist. Peter Lees | Mixing |
| ⊗ SAE Studios | Contact Tom M sner | (02)211-3711 | 24 Track |
| Chilli Vandals | Jason de Wilde | Suzie & Anthony Novak | EP |
| Nowhere Men | Jason de Wilde | Suzie Novak | EP |
| Winterhouse | Tom Misner | Tom Misner | Album |
| Road & Traffic Authority | Jason de Wilde | Not Advised | Cassette |
| Felix & Orlando | Oscar Gaona | Gaona/Angela Marino | EP |
| ⊗ Skyhigh Recording Studios | Contact Rob Taylor | (049) 50-1574 | 8,16,24 Track |
| Brad Heany/Bob Spensor Project | Mark Tinson | Tinson/David Henderson | Project Tracks |
| The Strange | The Strange | Rob Taylor/Craig Beck | 6TRK.EP |
| The Whitlams | Rob Taylor | Taylor/Beck | Album |
| The Olive Branch | Mark Roberts | Roberts/Beck | Mix EP |
| Floyd Vincent & The Childbrides | Neil Farmer | Henderson/Beck | Mix/Demos |
| Joshua Brave | Robbie Partrey | Partrey on Midi/Taylor/Beck | Midi Programming |
| Def FX | Sean Lowry | Rob Taylor | Rec 3 Live Trks. |
| ⊗ The Vault Cremorne | Contact Gina | (02)953-0332 | |
| Yothu Yindi | Moffatt/Mark Ovenden | Greg Henderson/Brendan Morley Remix | Album |
| Anne kirkpatrick | Mark Moffatt | Ted Howard | Album |
| Mark Moffatt | Moffatt | Moffatt | Own Project |
| ⊗ Tracking Station Studios | (02)281-8899 | Steve Pomfrett | 24 Track |
| Swingmaster | Martin Cass | Steve Pomfrett | Demos |
| ABC for Kids | John Spence | Steve Pomfrett | Album Live |
| Pat Drummond | Martin Cass | Steve Pomfrett | Album |
| Elton Jack Show | Not Advised | Steve Pomfrett | Album |
| The Ramblers | Not Advised | Anthony McKenzie | Demos |

Northern Territory

| | | | |
|---------------|------------------------|----------------|----------|
| ⊗ Caama Music | Contact Stanley Satour | (089) 523744 | 24 Track |
| Booze Bros. | Herman Marcic | Mark Manows | Album |
| Amunda | Amunda | Stanley Satour | Demos |
| Ulpnyali | Stanley Satour | Mark Mannows | Album |

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BASF

of what used to be known as Powerplant Studios. The 24 Track facility has had a complete technical overhaul and refurbishment. The studio caters to any project from a demo to a commercial album. Contact Phil Pomeroy (03)348-1300

Damien Gerard Studios, Sydney NSW, have Died Pretty doing pre-production for a new album with Hugh Jones producing. In the rehearsal rooms they have Honeyscammer and Lost Angels and Krunch writing and rehearsing for new live sets. DC's was the venue for the launch of Sydney's newest Indy Label in December 1992. Tarot readers, jugglers, oil readers and even Santa joined in the party where three artists, signed to Foghorn, gave live acoustic performances. I wish Foghorn/DG directors Marshall and Elia all the best with the new venture. Contact Elia (02)660-8776

Studio 52 & Innovative Music Aust, Melbourne Vic, are currently having their annual equipment clearance. Call for further info. (03)417-7707

Pathways Recording Studio, Mittagong/Bowral NSW, have installed D-Drums due to isolation problems. The D-drums according to the engineer are the best money can buy, add your own

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Garth Porter - Producer on a roll

He doesn't make different people sound the same, he says, and underlines the time and money saving tricks learn't from 20 years in and out of the studio. Caroline Grafton tracked down this shy but accomplished guy and talked shop:

What pre-empted the transition from musician/writer to producer?

An accident really, I never deliberately set out to become a record producer. I'd spent a number of years doing demos from our home studio downstairs and people took an interest in my songs but even more so they took an interest in the way they sounded and the way I produced them. Someone said "I really like your demos, I'd like to record some of your songs, oh, listen by the way would you be interested in producing something for me?" and I said "Yeah". And that's really how I stumbled into it - I found out that I really seriously enjoyed it. It kept going on from there, a word of mouth thing, I think, is what happened and I started doing a whole lot more. By that stage there were absolutely no kudos at all in having been made rich even with all of our fairly substantial track record, it just meant nothing to anybody.

Did you do any producing with Sherbet and Sherbs?

I suppose more than anybody else in the band, I was the one who kept it together, or tried to keep it together in terms of the direction of the albums and making sure the songs were organised and that sort of thing, so I suppose I was kind of in charge of production, but it was more an honorary position. Like all bands everyone had their say, but I had the main responsibility for the production.

Who was the producer in that era?

Richard Lush for awhile in the Sherbet phase, we did the "Howzat" album and the one following. Prior to that we really didn't bother with producers we did it ourselves, but Richard was a very talented engineer.

How do you compare yourself to other producers?

There's been producers who produce albums and really the albums are their's - except they don't sing on them. I don't see my role as anything like that. All of my cues come from the artist, well - as many as possible. The first thing that I need to learn about, after I've had a listen to some demos and have a rough idea, is what an artist is about. I'm not even really,



interested in songs for awhile, I'm not interested in musicians or anything musical really, I'm just interested in their personality/ character. A lot of artists actually are not that sure exactly how they want to be presented, especially solo artists. They think 'Oh I like this sort of style, oh I like a bit of that and it would be good to do one of these' You end up getting an album which is just a little bit too diverse, and diversity on an album should not reflect anything more than a mood swing, so what I try and discover, and I like to and put it to them is: "Look this is the last, if this was the only record you were ever gonna make, what is the most important thing you would like this record to reveal about yourself?" I sort

of generally just work on their character. So, as I said, the songs and the music don't come into it for awhile, until I can get a real handle on the artist. It's no mystical thing at all, it's just the way I do it, simple. And then you can help develop that idea, work with the artist to develop that persona, help guide and direct in working their songs up and spend a lot of time with artists. Once you get a handle on the artist, every decision down the track, touch wood and it's never been a problem, it's just become so simple because for the period of preparation and recording the album, you become very, well, you just start to think through the mind of the artist. You automatically know what's

right and what's wrong. I mean, you get into the studio and you can do a million different things with songs, feels, and lyrics - if they're originals - and so if you can really seek what the artist is about, the decisions that you have to make in the studio about style, energy, dynamics, lyric - just the whole performance of music - it becomes fairly straightforward.

But a lot of producers don't do that!

I think, well, from what I fear, no, a lot of producers think, 'well this is a great song - this is the way to do this song, to make the best possible version of this song we must do it this way'. But if that means that it's not central to the character of that artist and their style then I'd probably end up not doing that particular song if it demanded a particular treatment, and that wasn't what the

artist was about. I start thinking the way of the artist, then the engineer very soon does and then the musicians - and they start thinking "No, that wouldn't be right for sound." They pick up very fast and it automatically becomes everybody working towards this, well you can't really describe

character and so on when it relates to music, but they get a feel for it and they get to think this is definitely what this artist is about and they work with it in the parameters of that person's character and what's best for them.

So that's one of the things you look for in an engineer, somebody capable of that feel?

Oh yes. I always, wherever possible, work with Ted Howard and I love him to pieces, he's just a

On Studios: "As long as it's not a real trough, if the people are nice it feels nice to work there. If they're officious or obtrusive, then it can be difficult"

neat guy. I love him. His temperament in the studios and his talent is awesome. He's just fantastic. I use a lot of the same musicians over and over again, too. Although, they ebb and flow with what the particular artist requires. Every musician plays differently, because each musician of course has their own character as well. Some are that experienced and developed as people and musicians that they can virtually play anything and fit into it and play it with conviction and believability. The attitude of an engineer is crucial because they've got to realise too, that its not their record, its not mine and I don't even want it to be, its got to be the artists record. At the end of the record the artist really has got to walk away thinking "I'm really proud of this, it's really me - it's almost like a diary entry". So in ten years they can look back and say "oh yeah that does sound ten years old but yeah that was me. It wasn't what somebody was trying to make me into, it wasn't with the ultimate goal of deliberately trying to get airplay or trying to have a hit single this really was me this is what I was about. I wasn't being pushed or coerced against my will into this".

How hands on are you alongside the engineer?

With Ted, there's no need. Occasionally when I've had to work with other engineers then it gets a bit more hands on and I guess I get a little bit frustrated at trying to explain how I like things to be and it just gets a easier for me to do it. Making a record is a huge team effort. It involves everybody that does it, I suppose, under the guidance of the producer who is directing all of the energies in a way that was most beneficial to the artist. At the same time because you've got to make records that sell because if the artists records don't sell then they'll get dropped or they won't get their deal if its a spec record - and the producer wont be getting anymore jobs from that record company. I mean it's not that cut and dried but to move onto the next stage as an artist, or a producer or whoever, what you've done must show potential or have some kind of success. So all of these things have got to come back with some kind of marketable, ugh, product. I'm loath to call it a product really because there's a lot of heart and soul goes into it, and a lot of human emotion and bearing of souls and so on happen when your making a record, so its not I suppose in the terms of a record company it is a product but in the terms of the people that actually make the record I don't think you could call it a product, that's just that little bit too , well it's halfway between being a commercial artist and an artist, somewhere between.

Where do you do your final mixes?

Well, really that depends on budget, because the whole thing must work within the confines of the available money to make the record. What I do is chose the studios that are most suited to getting the best result and usually that means a compromise between the quality of the studio and its cost vs. the

amount of time you can spend. There's very few things that can happen in the studio which are utterly instant - you can't go and finish and make a record in two weeks. Maybe if its a band you could where there's not session players involved, if it was rehearsed reasonably well beforehand but when your dealing with solo artists and session players it just takes time, and that's even working quickly. You know, when your doing a twelve track album and there's a lot of components that go into it I would rather go for a slightly down market studio and have the time to put into it , and give the singer plenty of time to get comfortable in the studio, especially if it's their first album which I seem to do a lot of.

Studios have a feel of their own don't they?

They do, but I think so long as it's not a real trough, it's more the people that run the studio they can make you feel really good about being around. If the people are nice it usually feels nice to work there, but if people are officious or intrusive then it can make it difficult - no matter where you are.

Depending on the application of the artist, what are your favourite studios to work in?

Well I really find it hard to go past 301 for anything. M is just the most amazing studio to mix at given the right budget. It's very hard to beat 301 in any application. 'A' Studio is great for band tracks, it's still the best drum sounds that I've recorded. The last budget album I did we took two days in 301 to do the band tracks and piano overdubs, then I did all the other overdubs in Glebe Studios in the small B Studio which really is so basic and fundamental it's not funny - but, it's practical, it's not too dear and it does the job well and I mixed it there. That room is just one of those accidents that happens, it's an un-designed room and its incredibly accurate, but it's nowhere in the league of a 301. Then there is the Tracking Station, it's a good studio for bands on a tight budget. I've got a lot of my own equipment, a lot of valve gear and I take that wherever possible. I don't use the desk - I only use the desk for monitoring. Even in the cheap studios I've got my own custom built valve mic pre-amp and stuff like that which makes a huge difference to the sound of things, so all I really am using in some studios is just the space, and the tape machine and the rest is stuff that I take in.

Do you think there is a Garth Porter characteristic in you productions or do you like to think there is?

I don't like to think there is, not that you can identify in anything stylistic. I like to think that the artist is what is all over the record. I think the way that I do it is very much my way, but its nothing that you actually end up hearing. I mean there are certain records that I like to do and certain records that I don't like to do, I mean what you hear, the "Garth

Porter" you hear is between the lines, in everything that I do, but it's not up front. I mean, you wouldn't listen to one record and think 'Oh that sounds like a Garth Porter production' because I think that what I strive to do is try NOT to make records that sound like I'd substituted the singer between different albums. The character thing is the most fundamentally important thing for me. It would be horrible for an artist, take James Blundell for example, and then I did a Lee Kernaghan album and they sound the same, with just different singers, I mean that would be an insult to both of them cause they are very different artists.

But the fact that you have just won the Tamworth Award, means there must be something special about what you do, that is appreciated, as well as the artist?

Well the Producer of the Year Award is given to the guy who produces the album of the year, I loved getting the award, my kids were really proud, but you know I could have waited maybe another 8 years to win an award. I mean, I haven't even started yet. It's just like all of my challenges and ambitions are in front of me, you know, there's no looking back and saying I've done it. I haven't come anywhere near achieving what I want to do as a producer, I've hardly scratched the surface. When there's that much to know, that much to improve on, that many exciting artists that I'd love to work with, that I've yet to work with, just to even consider the notion that the Tamworth Award was some kind of pinnacle would be really wrong. I would hope that my career, my talent and the quality of the records I make both artistically and success-wise - because success of the artists album is really important to me too. But hopefully it represents a nice curve upwards, and if the award does represent the pinnacle and that's as far as I'm going to get, I don't mean to be rude about Tamworth I'd say

the same about any award, but my best work has got to be in front of me most definitely. I know nothing really, there are all these books yet to be written and albums yet to be made that it this moment are just a figment in somebody's mind, there is greatness -and I mean that, in my modest way how I evaluate greatness

**The Sherbet Days:
"There were absolutely no kudos at all in having been made rich, even with our fairly substantial track reord - it just meant nothing to anybody!"**

there is greatness- there are great moments on the albums I produce. I was just lucky to be involved and be a part of pulling the team together that made it work, but the greatness is the artist , the engineer and the session players, the talent to write the song all of those things come together to make a great record. **There's a lot of producers that like to take full credit for a record, you know**

That's crap, and they would be the first people to say that it's not their responsibility if it flops too. That's just an insult to the musicians, the

engineers, all the people who put their talent on the line to make the record.

Apart from Ted Howard who are some of your favourite engineers?

Well, Chris Corr out of Platinum is an amazing little dude, I like working at Platinum too, but I'm not too sure about SSL, I use it more as a monitor and automation system as opposed to something I use to deliberately shape the sound of the record or the instrument or whatever. But it's a good studio to work at.

What's so special about your own valve gear?

I've been bent on valve for a long time and I have a fairly tasty little collection of stuff that I'd find it very strange going to do a project without it now, I rely on it now. It's not so much gear that colours or discolours or distorts the sound, or changes it, but is the most capable of maintaining a sound, without it being corrupted and whatever. The goal, my job and the engineers job is to say "that sounds great, lets not loose that and fuck it up, lets do what we can to get that accurately onto a piece of tape. The gear that I've got most enables me to do that.

You do have a home studio of sorts, do you use it much?

The most work that I do at home is the office work of pulling a project together, the bookings of studios, musicians, engineers and discussions and getting the songs into shape. I

probably spend more time before the project starts on the material than I do making the record. I believe it has to be as good as it can be before you go into the studio. I don't believe in doing demos of everything your going to record, because part of the excitement and the nice adrenaline things that happen are the moments of discovery in the studio when you work with a guitarist or whoever to work out a great lick or a great groove for the song or when you're doing the band track. That creates so much energy when your recording, so if you've already gone through that stage with a demo its almost like your trying to do a cover of the song, even if its your own. You could get a better technical result when you re-record something but there's no great excitement about redoing something.

In those early pre-production days of original material do you aid the artist in re-writing?

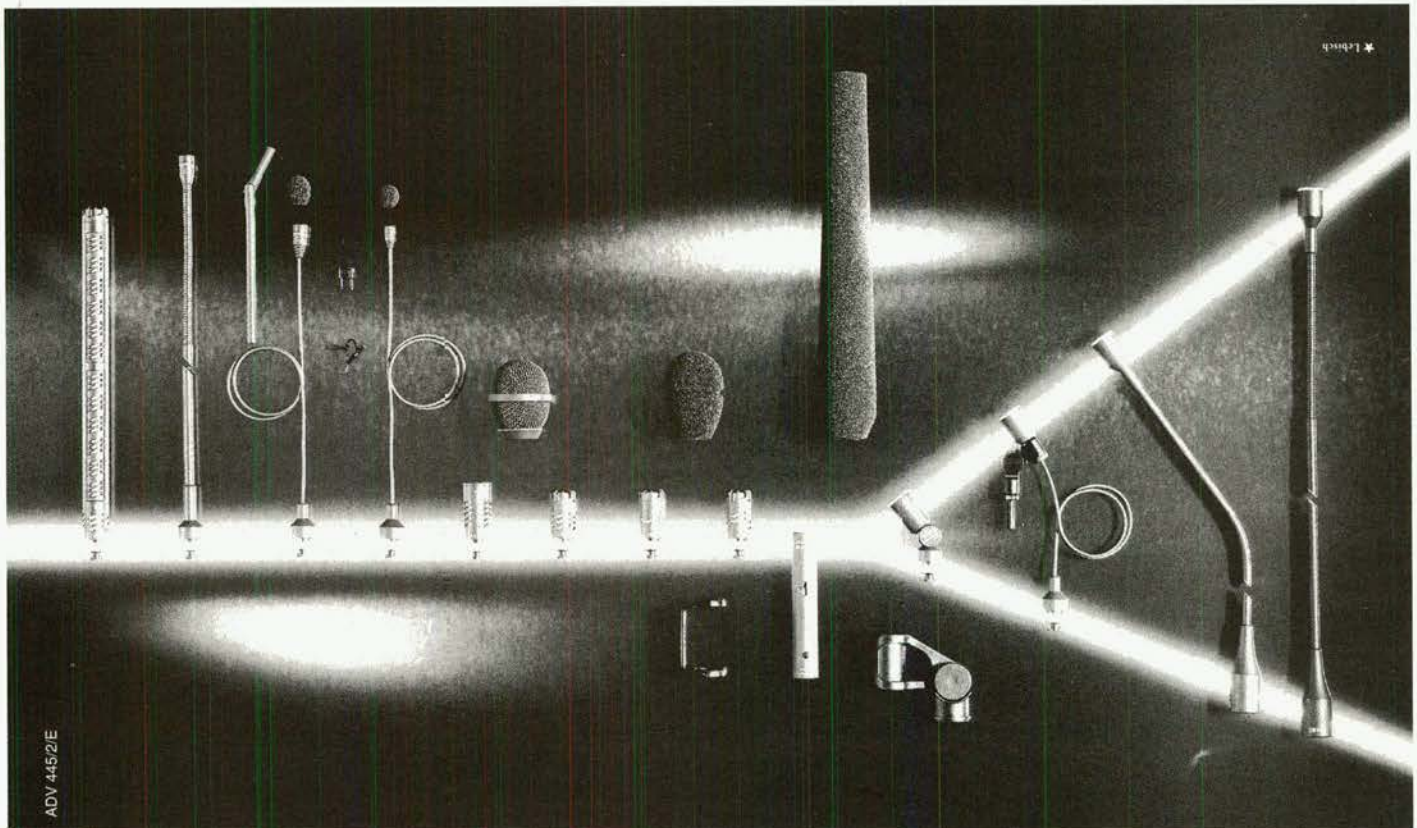
My first thing I do if I see problems in songs I point them out to the writer and say "I think, this here, you're really letting yourself down in terms of the potential of the song in some way. What do you think? But because I've been specific, it enables the artist or writer, to have a second think about the way they've put a song together, because, as much of it that can remain theirs the better, their ideas and creations as opposed to something I've fixed. Yes I do get involved in song writing but only

when its necessary for me to fill the gaps. If I can pass it back to the artist so much the better.

Do you have any advice for any budding producers or engineers?

I don't know. Its so hard to define what a producer does. Some projects, you can do nothing, with others you can do everything. To know when to butt in and when not to butt in. Sometimes a record company hires a producer because they make records that sound like this- and they want the artist to sound like that. But I think the most important thing for me is that I have to feel like I've made a good record and the artist has to feel that this is the record they wanted. I don't know that is advise, but if the artist doesn't like than its no value to anybody. The fundamental thing is, it has to be the record the artist wants, and if you keep that in mind and work towards that, then, you have to have an ear to the commerciality of what you're doing I guess, but then again you must know what the artist wants, do they want to be a cult band, they may not want huge commercial success and so that comes into the parameters of knowing what an artist wants.

Spend time with the artist - especially on a first album - so you can plant them right in the middle of exactly where they want to be. ●



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Rick Doolan prepares for death

People don't like talking about Death. Sometimes they have to.

'Fred Hollows said a woman has her moment when she gives birth, and a man when he dies', said Rick Doolan, reflecting. Fred Hollows had died just hours earlier, drawing Rick to again face his imminent departure from our earth. Because Rick Doolan was preparing to die.

Rick Doolan had almost finished his life's work, building up the production company Bandanna Entertainment as I spoke with him. He is confined to his semi-rural home near Sydney, with 24 hour care in the form of the Doolan women - his mother, and Tracey his wife. The wasting form I spent several last hours with hardly suggested the guy I first met years earlier, but his resolve, pride, and mind were every bit as intact near the end.

Originally a drummer, Rick formed a band called 'Bandanna', who were capable of greater things than eventuated. "We were tagged a bikers band", Rick says, "probably because I rode then". Despite the perception, the band did well, with no more Biker hassles at gigs than any other blues/boogie band attract. Several years relentless promotion saw Rick call any venue or promoter with any kind of work potential - the sort of hard slog that so characterises some people in the rock industry.

I recall him dialling me a few years back when I left Sydney for the bush, to ask which gig in which nearby town was run by whom, and how each was going. The approach was low key, but I remember spending time on the long distance line trying to help the guy - he had the right attitude.

This isn't entirely a story about the end of Rick Doolan, rather it's also about the firm that carries on working as you read this. Bandanna Entertainment is now a touring production firm that evolved from a band PA into a first class touring system today. First class it certainly is, as a consequence of the profits being poured into new equipment constantly.

James Blundell is Bandanna's number one customer, his tour "The End of This Road" tour was out doing 40 dates in 42 days with Bandanna's production during February.

"He just spends, and buys more", sighs Tracey without rancour. The family have always gotten by, but luxuries are scarce. Rick has put a great percentage of earnings back into the business, then there are the cash flow glitches that affect touring production operators, most dramatic of which are truck repairs.

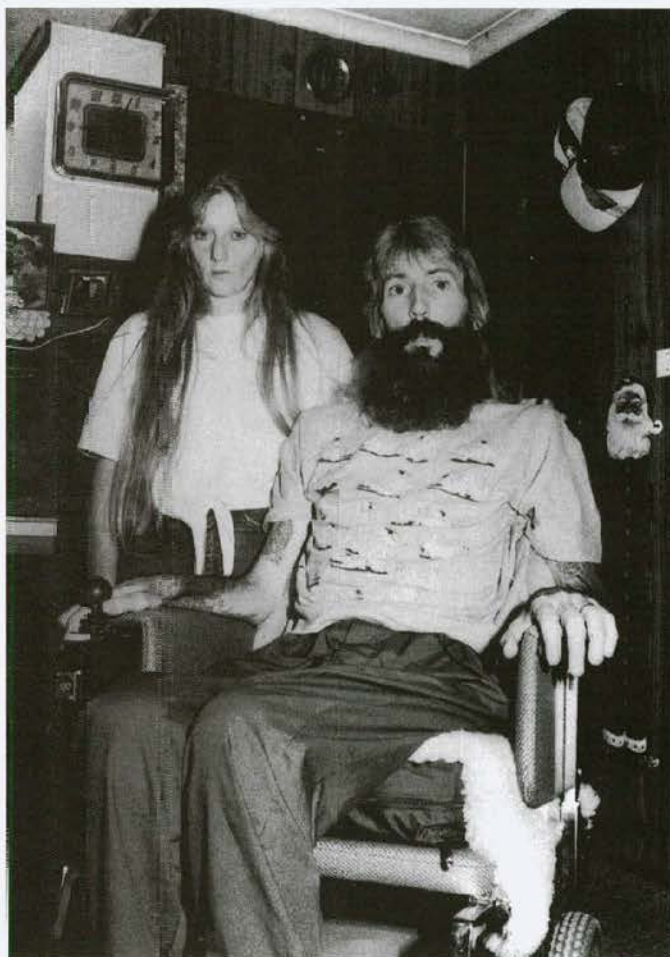
To make recent times more trying, work has been less plentiful than before - with as much as a month passing by between tours. This

reflects the nature of the business, where acts that Bandanna cater for, like Rick Price, Albert Collins and Blundell, are keenly sought customers. Time is at a premium at Bandanna HQ, where things are understandably difficult.

Then there is perhaps a perception problem of not being seen around the traps, (or more aptly, not being thought to be seen around the traps!) or being perceived as not fashionable, or confusion about where Bandanna actually operates because of the rural STD phone number. The reality is somewhat straightforward, as the business is run on a strictly professional basis.

"I don't get as involved as I could in the business, because I'm busy caring for Rick", said Tracey, "but the business will eventually run itself". The strength of the business, says the Doolans, is the crew they currently have on the road - headed up by Mark Gibson, with brother Brett, and Mark Denton on lights. "The production only goes out with the three crew", said Rick, "because it is a package". This can limit work because some acts already boast a full crew, but it is the only practical way Bandanna can operate. "Our customers love our crew, they'll do anything to help out, and are highly regarded", says Rick, and this is certainly the impression gained around the traps.

The Doolan family live on a few acres in a comfortable & homely sort of place with goats and dogs on hand to entertain 6 year old daughter and only child, Crystal. The house is built above the garage, so a wheel chair lift was installed when the disease Rick has been fighting grounded him. Motor Neurone Disease breaks down the junction between nerve and muscle, slowly and cruelly rendering it's victims helpless. Rick was diagnosed over 3 years ago, after at least a year of being told he



had arthritis.

With the increase in stature of some of Bandanna's customers, came the decision to consolidate two complete touring systems into one last year. The second system was taken off the road, truck sold and one larger system emerged.

Rick is frustrated at his inability to get more work for this system, which is part of the reason the family chose to talk with Connections at this time. He is sure much of the lower level work handled by the larger production companies is within his grasp, and that his firm can do this sort of work for much less than is often charged.

The Bandanna rig of today is packaged in an 8 tonne truck, and complete with everything a tour needs - including crew. Rick has fine tuned the business so Tracey can run it, written down everything and settled on a firm price structure.

Think about how you would focus on your affairs if you knew you were on borrowed time. Rick has decided his family will live from the proceeds of the business, which they can do if the work is there and if all goes well. We hope it does. ●

Footnote.

After I wrote this I sent the story back for Rick to read. He hadn't asked to read it, but I thought since he'd been the one to first make that laboured phone call asking me to come out, he might feel the matter was completed. I called back, and his mum said Tracey had collapsed that morning with exhaustion.

'Things are a bit hard at the moment', she said. Rick got on the speaker phone and haltingly gasped out that he'd been to hospital the previous day, and didn't think he was coming back. He made a few minor changes to the story, and thanked me. Then there was that awkward moment when the conversation was over, and the goodbye was due. "Godspeed, Rick", I said, wondering what it means.

I think if there was more work out there, Rick wouldn't have called me in the first place, rather it was the fact his production was due back from James Blundell's tour at presstime, without forward bookings. It was clearly worrying him badly, and he knew he couldn't do more than contemplate.

"Do a story", he said, "for the boys." His crew needed work, he was doing what he could. And that meant going public in his last moments. We are all dying, but Rick went slowly over the years, building his business on the way.

I think the guy has uncommon guts.

Julius Grafton.

•Rick passed away Saturday 20th February.

BANDANNA TOURING PRODUCTION SPECIFICATIONS

FOH SPEAKERS: ARX 118 sub woofers and ARX 212 mid/high boxes, which understandably Rick feels are the best around. These are horn loaded and processed, so pack a punch. Jands SR-3000 amplifiers drive these, "a real improvement over the original ARX amps", Rick says. There are enough of these boxes and amps to cater to any club venue, up to an Enmore or State Theatre sized gig.

FOH DESK: a Yamaha 1532 is the console, basically a 4 subgroup version of the PM-2000 at the time, with 32 channels in and very mellow sounding output. It is at once a trusty favourite of many engineers, but also regarded as a trifle heavy. Rick had a Soundcraft Venue 32 on order, but deferred this when the work situation became a little tenuous recently.

FOH FX: A Yamaha DMP-11 Digital auto mixer is used to mix down effects, this has two inbuilt SPX type effects too. SPX-900, Quadraverb, Quad-comp, Six-gates, and

Multi-Q Parametrics make up the FX> System drive is from an ARX EQ-60 dual third octave equaliser, through a Urei LA-22 stereo compressor limiter. ARX system processing looks after crossover and specific speaker EQ functions.

FOLDBACK: is driven by a Spirit Monitor 24 channel desk with 8 sends, made up of 8 JBL bi-amped wedges, with sidefill, drumfill and extra wedges if required. ARX EQ60 graphics are used.

LIGHTING: is of a high standard, with a Jands Event 48 console, 4 digital racks, and upwards of 60 lanterns including polished alloy cans.

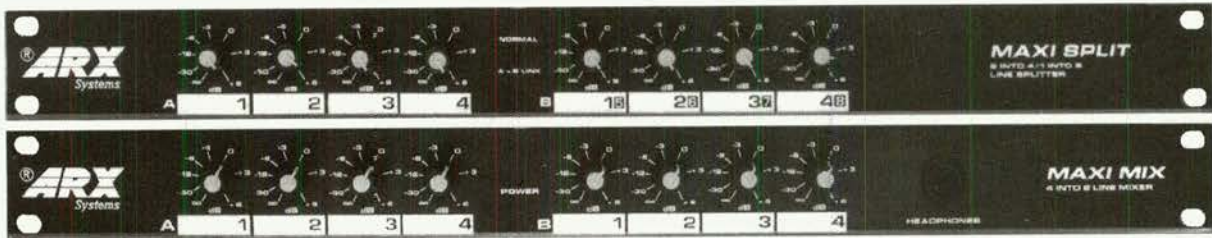
MISCELLANEOUS: Drum risers, concert-comm talkback, followspots and drapes are available.

TRUCKING: 26' 8 ton, tail loader.

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Great Moments

The Car, The Truck, and The Amp Rack

I had just finished a gig and loaded my car with extra gear I had used that night, an amp rack containing two AMCRON amplifiers, spare leads and a drum riser, and was driving home, when my van lost power and stalled. I coasted along until I could stop safely. I parked my van as hard against the left-hand lane as I could. I could not get off the road because the kerb was too high. I put my lights on so that people could see that my car was stopped. I got out of the van, opened the hood and looked for the problem. The wire from the distributor had fallen off or broken. I phoned the RACV (auto club) on my mobile phone and was told they would be approximately forty minutes. As the night was hot, I opened the tailgate of my car and sat on it, watching traffic go by. Every car that came by, obviously could see my car clearly and changed lanes well in advance. Approximately half an hour later a police car (sedan) stopped behind me and one of the police asked me what I was doing there. I told him I had broken down and was waiting for the RACV (auto club). I was told okay. Then they left. Approximately five minutes later, I saw a truck come over the hill with all his lights on high beam in the left-hand

lane. I watched him for a few seconds and then saw that he was not changing lanes like everyone else. I got up and walked away from my car (my first instinct) just in case he did not move across into another lane. I had walked ten to fifteen feet away when the semi-trailer hit my car square on and did not attempt to swerve to avoid it. It shunted my car into the air and the car landed nose first before rolling several times sideways, ending on its wheels facing the wrong way, one hundred feet further on, down an embankment. The semi-trailer did not slow, nor did it stop at all. I could not see a number plate or markings because he was too far away before the dust and glass had settled. All I can tell about the semi-trailer is that it was a prime mover with a flatbed trailer with a load, covered by a tarp. Approximately two minutes after the accident, the RACV arrived. I asked the driver if he had seen a truck. He had not. At about the same time, a man came running over from his house on the other side of the road. The impact had



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woken Jim and he had phoned the police. I went back to this man's house to call a crew mate to pick me up. Shortly after I got back to the accident site, the police arrived. I gave the police as much detail as I could, and they searched the wreckage for parts off the semi-trailer. From the parts they picked up, the tow truck driver and I agreed that these parts most likely came off an INTERNATIONAL, probably an ACCO series semi-trailer. The police took the bits and pieces to see if they could trace the truck.

When my crew mate arrived, we salvaged all the gear we could and went back to the factory. As the amp rack in my van was needed for a show

that night we were worried it might not work, so we plugged it in to test it. Although the road case was partly damaged, the amps tested perfect and were used that night.

-Warren Eales Nessel Hire Mocrabbin, Vic.

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If the longest load in is counted in time, then the opening of Daydream Island in '91 wins! Our band's Twin Cab with PA and trailer dragging four W's took 6 hours drive from Townsville to Shute Harbour. On the jetty we loaded onto the top deck of the mono hull 1930's boat. Lucky the tide was coming in, the band helped, which was sad. A leisurely cruise to the island took an hour, Security met us at the old pier and told us we couldn't tie up. 10 minutes later we did, the jetty was 80m long and very bumpy. The 3' x 2' trolley they gave us rattled and bounced across cables and around carpenters, we got the gear to the end. Then we wheeled everything down a path, around the pool, under the palms, across the bridge, around the room and in the door. In the tropical sun. The door had to be held open, and it only opened 45°, then there was a 4" step up into the room, across 15' and down 3 steps, then across the dance floor! We weren't allowed to put our PA on the floor - but we COULD drive some 6" nails into the back wall for the backdrop!

-See you Round the traps! Roger Parks, Townsville.



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Are all Processor Based Loudspeaker Systems alike?

OK, John Monty might be a little biased because he represents Apogee - but this is useful info!

Processor-based systems produced by various manufacturers, while perhaps similar in concept, differ widely in form and function. Some systems have simply been re-packaged while others have been designed from the ground up. Likewise, processors span the gap from high-tech multi-stage devices to simple crossover networks.

Processor based loudspeaker systems are sometimes referred to as "electronically coupled" because the electronic processing is truly integrated with the drivers and enclosure forming a compatible network. This results in improved linearity, lower distortion and wider response than is possible with typical loudspeaker designs.

By the time a conventional loudspeaker system is fully operational, the loudspeakers have often been augmented with a rack full of electronic equipment. This typically includes equalisers to provide high frequency compensation and correct system response, Limiters to provide a degree of protection to the drivers, a crossover, time or phase alignment circuitry, etc.. - all essential components in high calibre systems.

In a processor based loudspeaker system, many or all of these components are integrated into a simple dedicated device called a processor. Hence these systems are much less complex to assemble and operate, yet offering a level of performance that exceeds the most sophisticated conventional systems.

The processors are designed to be used with their companion speakers only, as is the case with Apogee, or with a range of speakers such as JBL's Digital Controller.

LOUDSPEAKERS

Generally the most visible difference from conventional loudspeakers is the small size of enclosures and the surprising amount of sound they produce relative to their size.

As with conventional loudspeakers, they differ in construction and materials.

The more rigid the enclosure, the less it resonates and therefore the more effectively it projects its acoustic energy to the front, rather than absorbing it or radiating it to the sides and back of the cabinet. Finland Birch is about the best you can get because of its strength and lightweight.

Rigging points are standard on some brands with a variety of differing rigging systems.

You may want proprietary weatherproofing treatment if you need to protect your speakers from harsh conditions.

Consider whether you need protective trims and skid-plates and whether the metal hardware used is either stainless steel or is treated for corrosion resistance, even those pieces hidden inside the cabinets.

Drivers used can be "off the shelf" or especially refined. Many of the Apogee drivers for example are treated with Ferrofluid to increase power handling and reduce distortion, and most of their cone drivers are treated with a waterproof compound to insure long-term cone mass stability. This compound blocks the absorption of humidity which would alter the mass of the cone, thereby altering its response.

PROCESSORS

RMS and Peak Limiters differ widely. The operation of these Limiters is really quite simple - the processor feeds the signal to the

amplifier and the output of the amp is feed back into the processor. The processor senses the amplifier's output voltage and responds to the presence of potentially damaging signals by turning down the input to the amp.

Conventional Limiters likewise alter the input to the amplifier, but are adjusted based on a *prediction* of what the resultant amplifier output will be. Sensing the actual output is far more accurate and inherently adjusts for component variance.

Some manufacturers focus on creating systems which are "bullet proof" or impervious to damage, an approach which virtually by definition sacrifices dynamic range, bandwidth and fidelity at operating extremes to achieve a few extra dB of sustainable output.

Certain manufacturers' processors incorporate protective circuits which manipulate the signal almost constantly, causing justifiable concerns about audible "artefacts" throughout the systems operating range.

Other manufacturers prefer not to employ these sliding crossovers or dynamic equalisation (which alters the high and low roll-off points) for system protection.

Apogee processors utilise full bandwidth limiting and are intentionally conservative, keeping signal manipulation to a minimum. The processor's protective circuits simply prevent the clearly audible distortion which leads to driver damage and failure. Prior to the point where the distortion and damage would occur, the protective circuits are essentially "off-line", leaving the source signal unchanged.

The ability to match limiting thresholds to the particular power output of the amplifiers



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used is useful. When offered, this feature can alternatively be used to provide an increased level of speaker protection which can be invaluable in situations where the skill of the operator is questionable or the potential for system abuse exists, as is often the case with rental systems.

Active crossovers used differ in level of precision. Steep crossover slopes such as 48 dB/octave or greater result in very narrow crossover regions which minimises crossover phase distortion and allows the dispersion characteristics of individual loudspeakers for be tightly controlled. This degree of control is essential to the performance for large loud-speaker arrays, as the effect of what may normally be considered minor dispersion or phase anomalies is compounded when multiple speakers are arrayed.

Crossover phase distortion can be further minimised if the processor includes electronic delay circuits which compensate for the physical offset between the drivers. When drivers are physically offset (due to differences in the physical depth for woofers and horn loaded HF drivers), sound from the forward most driver will reach the listener a fraction of a second before the sound from the lagging driver. If not remedied this may cause audible phase distortion throughout the crossover region as well clearly audible frequency anomalies, the severity of which varies depending on the listener's position relative to the loudspeaker. Electronically delaying the

signal feed to the forward most driver by an amount which corresponds to the time it takes for the sound to travel the distance between the two drivers drastically reduces phase distortion in the crossover region and substantially improves both intelligibility and array-ability.

Some manufacturers offer additional processing. Apogee Sound uses *System equalisation and high frequency compensation* which is accomplished by specially designed filter circuits which actually correct frequency response anomalies and broad band-driver response trends. The precision control made with these dedicated circuits far exceeds that which is possible with stand-alone graphic or parametric equalisers.

Some brands have *Power up/down muting* which prevent the potentially damaging "thumps" and power surges from reaching the amps and speakers.

SUMMARY

Bowing to the demands of audio professionals who recognise the benefits of processor-based systems, virtually every major loud-speaker manufacturer now has some type of processor-based system in their line-up. This "systems" approach was the next logical step in the development of professional quality loudspeakers, allowing the refinement of the electronics as well as the loudspeakers themselves. Since designing and building loudspeakers remains an art as much as a science, differences between the manufacturers are very much apparent.

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One day a fellow PA operator brought a monitor wedge down to the factory to be repaired. Somehow the steel mesh grille had been ripped open, and whatever had caused it had ripped a great hole in the speaker cone.


"Shit John, what happened?" we asked. He looked at us with a glum face.

"Well, it was Maori New Year at the Duke of Edinburgh (a well known Maori hangout!). As soon as the clock struck 12 o'clock they all started yelling and jumping up and down, and one of them put a spear through the wedge!"

He looked so forlorn, but we were all desperately trying to keep straight faces! How unlucky can you be?

"I suppose it's not covered by the warranty, is it?" he asked hopefully, although I think he knew that destruction by Maori ceremonial spear didn't appear on any speaker warranty that I knew of!

-From Duncan Fry's memoirs.

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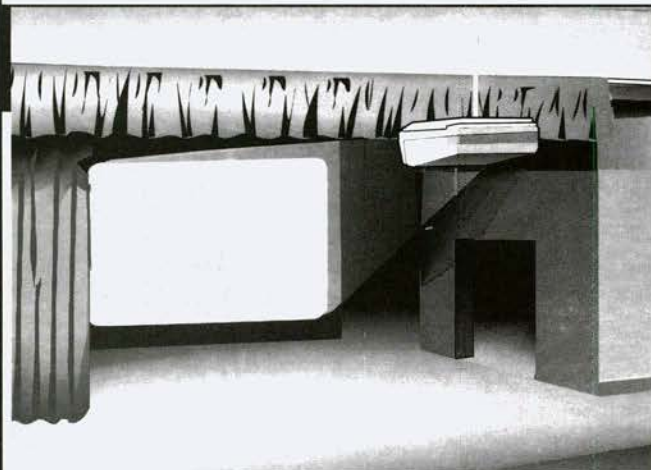


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Duncan Fry

Duncans Book, 'Live Sound Mixing' is available by calling (03) 555-7859.

DON'T DIDDLE WITH BO

I was working quite regularly with a band - let's call them the Defects. One Friday their gig was cancelled about half an hour before I was due to get in the truck and head off to the load in. While I sat there wondering whether I would go home and watch TV that night, the phone rang again.

Did I have my PA available that night, to do a gig with Bo Diddley? He was currently touring, and the management had slipped a small club gig in between bigger shows, and were stuck for a system. It was already 4 o'clock!

I leaped at the chance. I had been a Diddley fan since hearing Buddy Holly's posthumous version of "Bo Diddley" when I was a little tacker, and later "Mona (I need you baby)" on the Rolling Stones first album when I was sixteen. I would probably have done the gig for nothing just to meet the man himself, but I didn't say so! We agreed on a price, I organised Andy to help me and we headed straight off to the gig.

It was an easy load; the club had its own multicore snake running under the dance floor, plus its own amps and speakers ('stacks and racks'). All I had to supply were the ancillaries; microphones, cables, console, effects and monitor system.

The previous night I had been working with the Defects, so everything was still set up for them. It was no hassle to rearrange things, but we were running late (as usual) when I got there, and in the rush to set up I failed to notice a message scribbled in chalk on the front of one of the monitor wedges.

We laid out the microphones and cables, plugged into the house system, quickly checked that everything worked, (surprisingly it did!) did a rough EQ, and then it was time for the soundcheck.

Bang on time, just as we finished, the great man arrived. Strapping on his trademark square Gretsch guitar, he climbed onto the stage and stepped up to the microphone.

However, instead of the traditional "Check one two," that I was expecting, he said "Hey, what the fuck is this?" and pointed to the front of his monitor wedge. He looked none too happy.

I scrambled out of the Front of House bunker, dashed across the dance floor and jumped up on the stage to see what he was pointing at. When I saw what was written there, my guts sank and I had a sudden flash of memory from the night before.

The rhythm guitarist and sometime singer from the Defects spent most of his time on stage either frowning in concentration trying to memorise his three chords, or else looking bored to tears, so to liven him up a little the drummer had put a little note on the wedge.

And this was what Bo was looking at now. A childish chalk scrawl that said: "Smile, c—t!" He turned to me for an explanation, looking fit to



burst.

I hastily stammered out the above story, although not quite as coherently, and I must have looked really embarrassed, because all of a sudden he started to laugh, a big deep chuckle that came booming out over the PA system.

"I'll wipe it off right now," I said, and bent down to rub it away. He put a hand on my shoulder. "No," he rumbled, "I like it. Leave it on there to remind me." So I did.

The gig went well. A big crowd, all fans of Bo, who seemed to be really enjoying himself and happy to be playing before such an appreciative audience. And every now and then, he'd look down at his monitor, then over to where Andy and I were at the monitor console, and give a big cheesy grin!

After the show, he came over, thanked us, and then was gone. Andy and I started to pack everything up. I had a problem with the console, so I called Andy over.

"The connector for line 11 is stuck in the console, and I can't get it out. Can you have a look at it while I bring the truck around to the front?" He nodded, and I went out to get the truck. When I got around to the front, the console was waiting there for me, all packed up in the road case.

The next day, I unloaded everything at the Defects regular Saturday night gig. As I lifted the lid off the mixing console road case, I suddenly realised how Andy had fixed the rogue connector so fast.

It was still jammed into Channel 11 on the console! He had just snipped the cable off it with some wirecutters, and then put the lid back on! What a slack bastard. I was glad it wasn't my multicore!

Eighteen months later, I got to do another gig at the same club. I went to plug the house multicore into the console, and you wouldn't believe it - the plug was still missing off line 11, after a year and a half of solid use!

Peter Kemp

LX

Consoles in the 90's

Current trends in the lighting console market show a marked change in philosophy, mainly influenced by recent advances in scrollers, intelligent lights etc.

Ease of programming these complex fixtures/accessories has required some radical concepts (compared to the old technology) such as that behind Celco's Navigator and new Aviator consoles. The recent advances in consoles has meant that a number of the 'new age' consoles have dedicated sections for moving lights combined with special sections for scroller plus normal dimmer control. Then there are the consoles specially designed for intelligent lighting such as the Flying Pig system which provides a display of the selected function's component through 23 high contrast LCD screens, which tell you what colour and gobo is selected and what intensity, pan and tilt are being used.

The other step taken, has been the utilization of standard PC's for control with such products as ShowCAD, Command Cue, Aladin etc. This move has sparked an on going debate regarding the suitability of VDU screen, keyboard and mouse for lighting control.

The old school certainly prefers the old style slider/memory board and I am sure for these people, they are better suited than a PC based system. However the newer generation who have been bombarded with computers over recent years and who are "Computer Literate", may prefer the PC based control. (I can remember working Strand SP60/3 desks some 20 years ago and yet I am quite at ease with a PC based system).

An obvious compromise to this is the combining of both systems and this has been considered with products such as ShowCAD, as shown by the ability to combine a standard control desk into the system, in particular for live play back.

One must also consider the advantages of the PC based systems, in that, in case of a failure, standard PC's are easily repaired, readily available for back up and software updating and enhancements can be easily carried out. The other major influence is in pricing, due to the fact that the computer industry is so large.

Standard 60 channel desk approx \$8,000.00 = \$133.33 per channel. PC and ShowCAD 1024 channel \$7,500.00 = \$7.32 per channel

Naturally it will be a long time before (or may never happen) that a PC system will totally replace the standard console as we have known it.

A recent letter to 'Light and Sound International' from Denis Irving (Entertech P/L Australia) may have touched on the ideal solution when he stated "... work towards a pictorial touch screen, which directly controls colour intensity and direction".

Peter heads ShowCAD importers, Coemar DeSisti Australia. Call! (03) 467-8666

PRODUCTION & HIRE.

Imagine you hire a bunch of spotlights, or a PA system. You will pay 15% GST on the hire charge, and if it is a complete production, you'll pay 15% on the package which includes labour. Again, this is an input, so it can be taken off your remittance of the GST you collect. If your production hire company isn't registered as a GST provider, it can't charge you GST, nor can it claim back its 'inputs', or GST it has been charged on goods and services.

How much reduction in raw cost can a Production Company achieve to pass on to its customers? Let's have a look

Freight is of course cheaper, Privitera owns Australian Concert Productions, so he has a valuable insight here. "Look, if Duncan Paton buys a new truck today it'll cost him \$250,000. Under us, it'll be \$200,000 and he'll save 26c a litre. To Townsville that's a lot of litres. Today it costs me \$3000 freight from a \$9000 production to do Townsville". Then again, this is Queensland, folks!

The cost of capital equipment (hire stock) is reduced on new equipment added post GST, (see 'Buying Equipment', above) and then there is the abolition of Payroll tax - which affects larger operators.

On the negative, Rent is taxed, Power, Phone, Advertising and sub-contractor services all carry 15% extra - after being reduced to some extent by

cost savings. These are still inputs, or 'costs' of doing business - and as such are credited.

Again, the angle about remittance is worth thinking about. As Privitera puts it, if you turn over less than \$500,000, then you remit every six months - but you have the option of doing it monthly. You will need to think this one through!

TOURING & ROCK & ROLL

This is where a 15% tax on Production bites hard, because the act is also forced to levy a 15% tax on its performance take. (It's sale) If the production bill is \$5,000 per week today, it'll be \$5000 less some (cost savings) PLUS 15% with GST. To get it back to a straight \$5,000 again, the cost savings passed on by the production company need to amount to 13%, which means the \$5,000 becomes \$4350 plus 15% GST - which brings us back to \$5000. Understand? Privitera can't say what the average reduction will be - but he must have a rough idea, because he derives his pre-election income from our industry, and to be specific, from Production, via A.C.P. (To this Mick says: "Where did this idea come from?")

So the act pays its GST on Production, and our feeling is that there is an actual end increase in cost to the act here, but offset against this fuel savings on the road.

At the payment end of the chain, the venue will pay the nightly fee to the band who will take 15% GST out and remit this to the tax office at the end of the month. They will, of course, deduct any GST paid along the way- inputs - specifically the

GST part of the production bill - but the effect is still the same - the 15% GST is there on the act's gross, as a cost to the promoter - and can the act hope to retain its current level of income?

Air tickets, car hire, costumes, promotion and advertising all get GST, and are of course inputs, so they are passed on, and will all reduce in cost to offset this to some extent.

IN THE STUDIO

The rehearsal studio pays GST on its rent, phone and power too, (inputs) and also charges it on its sales (rehearsal time sold). Naturally, the amounts PAID are taken of the amounts CHARGED, but the nett effect is 15% on rehearsal time.

RECORDINGS

The recording industry will charge 15% on studio time, with much the same scenario as the Rehearsal Studio. Record companies will face an extra outlay well before they recoup any potential earnings on album sales. They will, like all other businesses, be able to offset what they pay against what they sell - but the specific charge against studio time is increased on the books.

Fixed costs remain fixed, will fall, but will still carry GST at 15%. What happens to artist royalties is anyone's guess, and probably the subject of a long article another time.

**The reactions solicited for the 'What They Say' column have not been edited, or selected according to bias. They are in order of collection.*

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Michael Levis. Troy Horse Studios: (Recording, Rehearsal) I feel that most people will see the results as a larger amount to be paid out of their own pocket. My business also prints posters and therefore already deals with having to invoice sales tax on these items separately, this tax must be ratified every three months requiring at least one solid day of work. I can see this workload being increased heavily if GST is in place because a similar task will be necessary on all business transactions. Troy Horse Studio is an inner-city rehearsal/recording and a large % of our clients are unemployed or students, therefore I feel they won't really have the extra cash to keep up with end user price hike. My final comment is that the existing system requires extra paperwork only when claiming sales tax exemption on capital purchases whereas the proposed system will require extra paperwork on both exempt and non-exempt purchases.

Rob Stevens. Turramurra Music Centre: My business has a large retail outlet, a musical equipment hire department and a teaching academy. My first concern is that, without even paying my teachers any more money, I will have to add about 20% to my teaching fees to encompass the immediate 15% GST charge on the lessons as well as covering the 15% added to the phone bills, rent etc on the services needed to operate the academy.

I am concerned that some patrons won't like paying the extra 20% for the same service that we currently provide and that this will inevitably lead to job cuts in this sector.

When it comes to my hire dept., I feel that the extra 15% demanded under GST will simply make things just that much harder for bands than it already is. Public perception seems to be that the current 20% (average) sales tax is being reduced by 5%, yet I will point out that a 20% tax on a pre-profit wholesale amount is only about two thirds the dollar value of a 15% tax placed on the "post mark-up" retail price.

This is only relevant to the profit margins found in the music industry and this will be even worse in other sectors of the market, such as the clothing industry, where wholesale to retail markups are generally twice that of music retail. As with Turramurra Music's teaching academy, repair services offered through the store will also need to be inflated by over 15% to cover increased admin. costs.

Two key products in the store, namely software and printed matter (both of which are large turnover items) currently have no tax applied at the wholesale point therefore sales tax redundancy will in no way offset the application of GST on these goods causing a real increase of 15% in prices of these items. This will further compound the strain placed on music education services.

My other point of concern, and this is a big thing, is the initial task of being credited for sales tax on existing stock if GST comes in to fruition. The store carries large stocks and there will be a need to prove these claims and I am concerned that the inability of government to police these claims throughout a whole economy will leave the door open for large scale "rip-offs".

As a final comment, "I won't vote Liberal and I prefer the idea of the existing labour system, at least they've only stuffed up a bit".

Luke Trojkovic. Troy House of Music: (Retail) I am totally 100% against it, and so is my wife. Nowhere in the world where the GST is being imposed has it helped. No economy has been helped by it. It will create more work. Unscrupulous dealers and retailers will be prone to sell things and not charge GST - they won't worry about getting caught, even though penalties apply because most stock that comes in won't be on their inventory. I know for fact that it is happening in NZ at the moment

The current system in that respect is good because you can't evade tax. In relation to extra work load it will create more paperwork but not anything more that we wouldn't be able to cope with. Finally, I'd like to say that people should not be interested in what's good for themselves but essentially what's good for the country.

John Egan. Roland Australia. (Distribution) It's probably a good thing to have, provided there are some offsets in the level of tax and the complexity of the law. In terms of operation of the business, the changes will be minimal, possibly it will have a positive effect. Reduction in payroll tax wouldn't make us hire additional staff, but if the need to hire came up, then we would be less reluctant!

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A Midsummer Night's Dream under the stars

Catriona Forcer visits fairy land as audiences swoon over Shakespeare with a difference.

For over four years, the big hit on the Melbourne theatrical calendar has been Glenn Elston's outdoor production of Shakespeare's 'A Midsummer Night's Dream'. Utilising Melbourne's beautiful Royal Botanic Gardens, Elston has entranced the locals with this most magical of plays in this most magical of locations. Now Sydney has had the chance to share this experience as Elston produced the 'Dream' at Sydney's stunning Royal Botanic Gardens - and more than 60,000 Sydneysiders were expected to flock to see the show.

Director Elston believes the Sydney Botanical Gardens are perfectly suited to Shakespeare's tale of star-crossed lovers, amateur theatricals and mysterious fairies.

"This is Shakespeare's funniest play," he said. "It lends itself to the outdoors and Sydney's hot summer night like...like a dream! There are fairies running in and out of clearings and lovers meeting in Athenian courtyards."

As everyone in lighting knows, artistic visions are one thing, the practice is another. Lighting designer Jamie Henson has worked with Elston, Hocking & Woods on other projects such as Hair. His initial training was with The Queensland Theatre Company in Brisbane before moving to Sydney in 1986. After doing a few shows at The Belvoir St Theatre he began touring with different theatrical companies.

The touring 'A Midsummer Night's Dream' opened in Adelaide on the 7th of January at their Botanic Gardens. Jamie admits it was a bit of an out of town try out especially as they were using Goldenscans for the first time in the show as well as outdoors. They played Adelaide for five weeks making sure they missed the Sydney Festival. The show in Sydney is basically the same concept but with just different performing areas utilising the available environment.

"I think it is easier here mainly because of the big jacaranda tree that we have in area 2 which is beautiful to light and serves as a great backdrop," said Jamie. "It's great to project gobos on, stars and also the foliage is nice and thick to pick up the colour. In Adelaide we actually had to throw down sawdust on the ground to give it a bit of colour. Area 1 here is also nice against the lake although we did have a lake in Adelaide it didn't have the three islands. We had the back of a greenhouse which was camouflaged with bamboos!"

The show starts in area 1 which is based on the lake with three islands. Initially the islands are not lit, this is saved until near the end of the production. It begins with very simple lighting using 'hot and cold' colours - blue 152 and 201 with a splash of 202. The actors enter on a boat, which appears from between two of the islands, with a distress flare burning on the front of it. The



whole audience then moves about 500 metres to area 2, which is called Fairy Land, and there there are the full scrollers (Showcraft), the jacaranda, performing areas 20ft in the air, flying foxes and the Goldenscans. Also used are a few Le Maitre flashpods and silverstars. The theme is a mix of reality and fairies so there's lots of lighting changes - with the normal people it's very straight and when the fairies appear trees light up, Goldenscans project gobos of spots, stars or flowers. Act three is back in area 1 where the show starts very simple again with a simply lit dray on which the acting takes place. Fairies finish the show with Puck appearing 20ft up a pole on one of the islands where he 'lights' the islands. There is another scene lit by a flare and then at the end pyros let off.

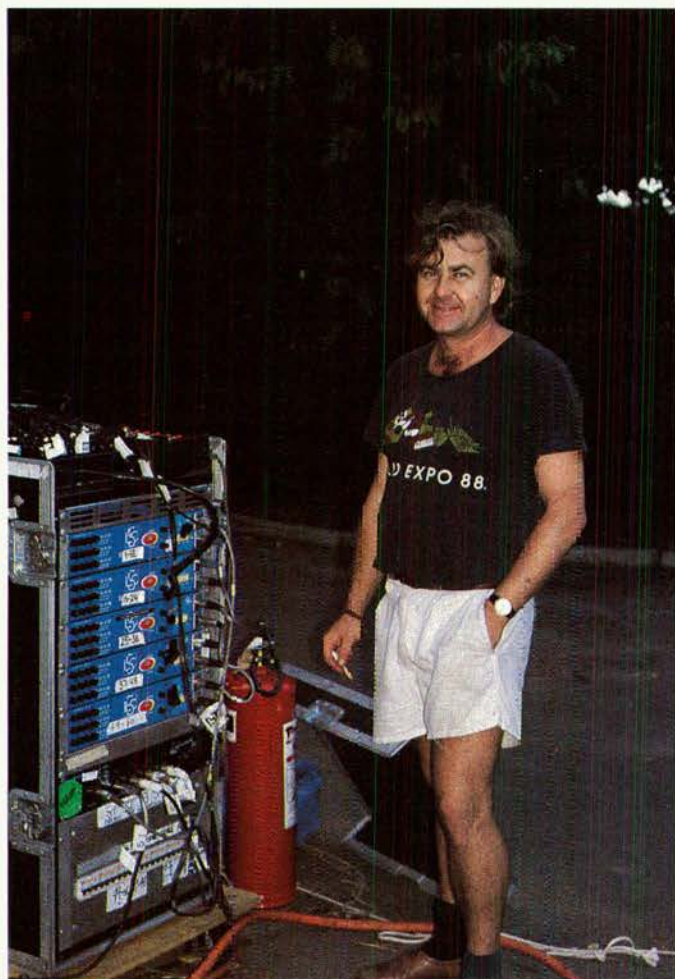
"The main problem has been the power runs, the three phase," Jamie told me. "We had to shift one of the areas away from the kiosk because of the noise and so we have a very long run of 125m from a toilet block on the hill to area 2. We thought we would have a voltage drop but one phase it was actually higher, the other phase it was 248 and the other 233 so it's pretty good voltage. Aisle lighting has also been a problem with getting people from one area to the other. Going from area 1 to area 2 when you want to do a scene change no longer than five minutes is difficult with 600 people along one 10ft wide path."

If it rains in the afternoon the crew still put the equipment up. The high technology instruments like the Goldenscans are covered with garbage bins whilst the scrollers, front and back, are covered with clear gel. Where the fans are is covered with mosquito mesh to stop all the bugs getting in the fan. Once the lights are on all conceivable airborne bugs swarm in and at the end of the season the cans have to be well cleaned out. The show is due to start at 8.30pm and, if it is raining, they wait up until 9pm before canceling the show.

"The lighting of the show is easy," said Jamie. "We have two lighting desks, all sort of computerised, press the button and away you go. The first area has a Jands ESP 11 and the second has an Avab mini expert. They're a great little desk and this one has 340 channels which we don't need but it has 24 masters and can do lots of chase patterns. It has some good combinations, you can select channels and group them and you can take a certain group from one preset and put it in another which is great for presetting the scrollers. There are not a lot of cues - 145 in area 2 and only 31 in area 1. Shakespeare doesn't require much, you've just got to be able to see the actors."

The Goldenscans haven't been bad although one is a bit temperamental and had its bottom smacked. We've changed the lamps over from 575s to 1200s, we did two in Adelaide and were very impressed by the light output. Unfortunately the bulbs cost \$150 each and you have to save your pennies a bit. They are becoming used more and more in theatre but I think the cost of hiring them puts people off. They also take six channels each and if you don't have a desk that has multiple channels you have to get another controller. That's why we're using the Avab to give us more channels because if we were fixed to just 96 or 120 channels we would be very limited. As it is with this system we're using 60 dimmer channels, 24 Goldenscan channels and 16 for the scrollers as well as one for the speed of the scrollers. We own all the lights and we own the scanners, scrollers, pinspots, half mirror balls, all the 240 volt cables and the scroller cable. It's only the dimmers and three phase that we don't own and we hire that from CLS in Melbourne. If you have to keep hiring lights it blows your budget although it's great to get the new high tech stuff."

There is a safety inspection every day at 5.30pm which Jamie describes as a very boring thing but you've got to do it. They are very strict in the Gardens checking cables, making sure the pyros are at least 3ft away from the audience etc and if



Lighting Director Jamie Henson. Rig is setup & pulled down everyday.

something is wrong it has to be fixed there and then. Every day the areas have to be set up completely except for the equipment in the trees. The low floor electrics, odd par cans on the side and the Golden cans which are on winch ups. The winch ups can stay but if they are left for over a week the grass tends to die. It takes about two and a half hours to set up every day. Working with Jamie is the board operator, Lauchie Aard, and he is very familiar with the Avab cases so he gets that to play with it.

"Glen Elston who is the producer and director of the show, in fact Mr. Everything, spent two years trying to obtain permission for the show from The Botanical Gardens," Jamie said "It's so rules and regulations. Fortunately the power has just been upgraded and next week we're sharing the power with Chameleon Lighting so we'll have to bring in a generator to operate area 2."

"At the end of the show Puck does a little epilogue and then turns upstage to the islands, flicks his hands and Sound of Music pyros are let off as well as three gold/silver showers. It's then that the ducks really shit themselves and squawk for hours. They also manage to squawk right at the end of the appropriate lines. We also manage to incite quite a bit of possum poo particularly on one night where one did a large shit all over the tickets at the entrance gate."

There is no sound system in the show as they try to keep the play as natural as possible. The lighting is used to improve the environment and if speakers etc. were put up it wouldn't look attractive and the sound would be tinny. The audiences are limited to around 650 as the actors use no microphones causing problems when the wind is strong. There is, however, a live musician called Tim Hook who is a percussionist playing the cymbals, drums and glockenspiel as well as a horn for a required faring noise. It's nice and natural and he positions himself wherever necessary during the show to get the right volume.

At the moment the tour is planned until the end of April with Brisbane being the next port of call. There is talk of the tour going to places like Singapore and Hong Kong but Jamie will believe it when he has his air ticket in his hands!

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Teatro Tratto 1000 Fresnel & PC Spots **\$395** - Teatro Tratto 15/28 & 22/40 Profile Spots
\$695 - Teatro Tipo 1000 PC Spots **\$295** - 500w Cyc Flood **\$195** - 3 way 500w Cyc Flood
\$395 - **SMOKE MACHINES** - *LeMaitre* Showmist Smoke Machines **\$1195** -
LeMaitre Smoke Processor III Smoke Machines **\$1995** - JEM Le Fog Smoke Machine
\$395 - **AUDIO** - Inkel PC1200 250w Powered Mixer **\$1695** - All prices are unit prices,
luminaires include a new lamp and are exclusive of sales tax & GST. All offers considered.

DEMO STOCKS

AUDIO - Dennon Dual CD Player DN2000F **\$1450** - 2 x LEM CX 800 Speakers **\$1995** -
2 x LEM CX 300 Speakers **\$900** - LEM PPA 4202 Amplifier **\$1200** - LEM MX 6 Mixer **\$350** -
VIDEO - Boffi TGS 100 Video Projector **\$5000** - **LUMINAIRES** - Teatro Tratto
1000/1200w 15/28 & 22/40 Profile Spots **\$595** - Teatro Tratto 1000 Fresnel & PC Spots
\$350 - All prices are unit prices, luminaires include a working lamp and are exclusive of sales
tax & GST. All offers considered.

EX RENTAL

EFFECTS - 4 x Claypaky Miniscans **\$2395** - Martin Roboscan System, 4 x 1008 &
Controller **\$7995** - 4 x Coemar Spartans **\$250** - 4 x Ice Starflash Strobes **\$205** - 4 Flower
Motorised Effects System **\$1995** - Stormtrooper Motorised Effect **\$995** - **LUMINAIRES** -
Teatro Comma F 650 Fresnels **\$215** - Talento Followspots, 1 x 1000TH **\$900**, 3 x 2000TH
\$1200, 2 x 1000 CID **\$1995** - 12 x Teatro Tratto 1000 Profile Spots **\$495** - Teatro Tratto F
1000 Fresnels **\$345** - 20 x Teatro Diluvio A1000 Cyc Floods **\$325** - 2 x Teatro Comma 20/35
650w Profile Spots **\$355** - Redhead Portable Video Lights **\$295** - **SMOKE MACHINES** -
JEM 6500 Heavy Fogger **\$12,950** - 2 x JEM ZR 20 Fogger **\$995** - **CONTROL** -
Theatreight Showmaster II 48 Lighting Control Desk *as new* **\$4995** - **AUDIO** - 3 x Bose
802 Speakers & Controller **\$1800** - All prices are unit prices, luminaires include a working
lamp, and are inclusive of sales tax. All offers considered.

TERMS - C.O.D or OFFICIAL SCHOOL ORDER ONLY Offer available until 31/3/93 or whilst stocks last

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What is DMX-512?

The DMX 512 lighting control protocol is a standard published by the United States Institute of Theater Technology (USITT) that describes a method of digital data transmission between controllers and dimmers. The D in the name stands for 'digital', the 'MZ' for 'multiplex' and the '512' represents the number of channels or dimmers that the system can handle, namely five hundred and twelve.

To unravel all of this, you first need an understanding of what constitutes a digital system and what is meant by 'digital data transmission'.

If we look at the history of lighting control systems we find that after the invention of the thyristor controlled dimmer, the basic arrangement of a lighting control system has not changed a great deal. A typical modern system would comprise of a control desk located at the rear of the auditorium for preference, and interconnecting cable, and a bank of dimmers.

lamp full intensity). If the fader is at some intermediate position between 0% and 100% - say 47% - then this is converted into the equivalent percentage of control voltage; in this case 4.7 volts.

An alternative method or technique to an analog signal is what is termed a digital signal. A digital signal does not take on various voltage levels to represent the fader position, but rather uses a combination of two discrete states to represent the desired level.

The best way to explain this concept is with an example: Everyone is well aware that a light switch has two discrete states, ON and OFF - and in it's simplest form this is effectively digital control. However, it is a little difficult to get a smooth 2 minute fade with this type of system.

Instead, suppose that we employ electronics such that when the switch is turned on the lamp does not go to full, but rather to a selected percentage of full. Furthermore if we were to use two switches, name them S1 and S2 for the sake of the discussion, and arrange

the electronics such that turning S1 on will increase the intensity by only 66.6% and turning S2 on will increase the lamp intensity by only 33.3%, then as you can see in the following table, we can use a combination of these switches to

each switch, then we have eight possible levels of light that can select. Again this is shown in the table below:

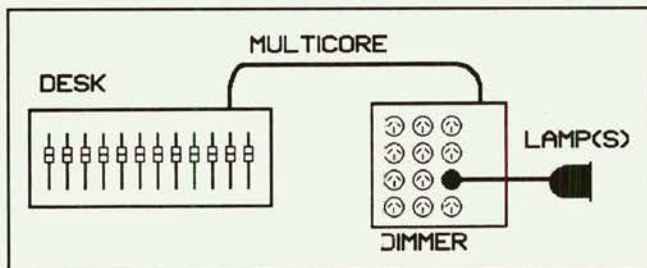
Still with even eight states, a smooth fade would be impossible. However, extending the idea to eight switches gives us a total possible combination of 256 states and hence a resolution of about 0.39%. That is a combination of eight discrete states, enabling us to specify a level on the dimmer to 0.39% accuracy.

To put what I have just described into engineering terms, the state of each switch in termed a 'bit' of information, and the combination of eight bits is termed a 'byte'.

Therefore, rather than sending an analog voltage to the dimmers to specify the light level required, we could instead send the state of our eight switches. Our dimmer could then interpret these eight bits of information and set our lamp level accordingly. Why should we want to do that? What's wrong with the old analog system?

There are a number of reasons for choosing digital technology over analog. Firstly almost all control desks utilise a microcomputer of one form or another. It just so happens that these computers operate purely on discrete levels (notionally OFF or ON) and hence sending a set of discrete states to a dimmer is easier than first converting the internal discrete or digital levels into an analog level to send to the dimmers.

Secondly, more dimmers are now using microprocessor technology, so again it is easier if the dimmer can receive digital input, rather than having to convert an analog signal for its own use.



The method of operation for this type of system is that the lighting desk generates a control signal relative to the position of the fader on the desk. This signal is then conveyed via the interconnecting cable to the dimmers, whose job it is to use this signal to regulate the amount of voltage or power fed to the lamp. i.e. control the lamp's intensity.

It is in the method of conveying the information from the control desk to the dimmer that the DMX-512 specification refers to and is of interest to us in this particular discussion.

Typically most of you will be aware of what is termed an analog system. In these systems the position of the fader is translated into an electrical signal that varies between 0 volts (usually representing lamp off) and 10 volts (usually representing

give four different light levels.

If we take this idea a step further by increasing the number of switches to 3 and changing the relative percentage added by

| State | S1 (66.6%) | S2 (33.3%) | Intensity |
|-------|------------|------------|-----------|
| 1 | OFF | OFF | 0% |
| 2 | OFF | ON | 33.3% |
| 3 | ON | OFF | 66.6% |
| 4 | ON | ON | 100% |

Continued next month.

| State | S1 (57.14%) | S2 (28.56%) | S3 (14.28%) | Intensity |
|-------|-------------|-------------|-------------|-----------|
| 1 | OFF | OFF | OFF | 0% |
| 2 | OFF | OFF | ON | 14.28% |
| 3 | OFF | ON | OFF | 28.56% |
| 4 | OFF | ON | ON | 42.86% |
| 5 | ON | OFF | OFF | 57.14% |
| 6 | ON | OFF | ON | 71.42% |
| 7 | ON | ON | OFF | 85.17% |
| 8 | ON | ON | ON | 100.0% |

AES update

AES Melbourne August 24-26, 1993.

The 4th Australian Regional AES Convention is looming, with six months until the professional audio and broadcast industries gather at the World Congress Centre, Melbourne for the professional audio event of 1993.

As was expected, sales of exhibition space have been strong with over 60% of available space reserved by manufacturers and distributors of audio equipment, components and services.

As well as the exhibition component the Audio Engineering Society is committed to providing information on the latest innovations in the audio field. A comprehensive program of Technical Papers and Workshops will analyse and discuss the current thinking in the major areas of audio engineering with presenters being drawn from Australia and internationally.

The Paper's Chairman, Peter Crossley is keen to hear from Practitioners in the industry who are willing to prepare and present a paper- the Convention is looking to present a more practical approach to the Papers Program at this year's AES- topics such as ISDN technology, large scale live shows, Digital Audio Broadcasting with a major focus being the new technology in broadcast are currently being discussed. Contact Peter-- Tel. (03) 697-8261 or Fax (03) 697-8444.

Similarly, the Workshops' Chairman, Graham Haynes is preparing a program of workshops designed in a more hands-on environment. Subjects to be covered include Recordable CD's, ISDOR-CODEC corporate computer systems, Outside Broadcast Audio for Sport, Audio Editing using IBM computers, Hard Disk Recording Systems, PA Rigging, Digi-Cart automation etc.

You can contact Graham on Tel/Fax (03) 887-3765. He is interested in input on other topics also.

Convention Enquiries: Rob Walker, VRF, (03) 696-2022.

AV Philips 'Flicker Free' Video Wall

Giant TV screens at conferences and sports venues are up for a major quality lift according to Philips - with a new generation of video wall which they say includes flicker-free high resolution pictures.

The significant improvements in Philips new Vidiwall series is the incorporation of its 100 Hz Digital Scan technology. Built upon multiples of the latest 96 centimetre (38 inch) internal projection monitors, the individual picture frames are renewed twice as fast as with conventional monitors - hence the elimination of any visible flicker.

A greater light output of around 1800 Nit (cd/m²) gives the new Vidiwall a more brilliant picture and increased contrast for better visibility. Colour temperature is now switchable between the standard value of 3200 K and a new higher value of 7600 K, giving a choice of colour balance settings.

An additional benefit of the new projection monitors is a significant reduction in weight and dimensions. The weight of each monitor has been reduced by 25% & the depth of the monitors has also been reduced.

The entire Vidiwall system is suitable for the display of HDTV signals; for example from satellite broadcasts or high-quality programme carriers. The higher resolution of the monitors has been made possible by an increase in the RGB bandwidth to 16 MHz

Marketed in Australia by Philips Scientific & Industrial, the system can be controlled from a PC using the 'Screenplay' program, which offer programming facilities for auto operation of the Vidiwall. Vidiwall is modular, & can be built-up in almost any desired configuration. A 4 x 6 unit (24 monitors) system would give a widescreen display 4.3m wide and 1.45m high, with an ideal viewing distance of 14 metres.

Any video source can be used with a Vidiwall including live TV cameras, VCR's, Laser discs and CD-I discs. Messages and other information produced by a text generator or PC can also be displayed.

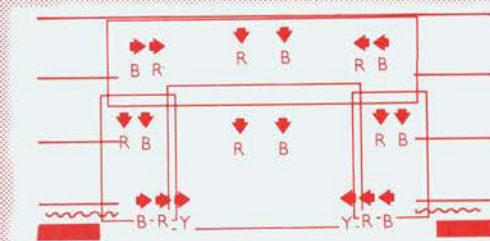
For info, contact Philips Scientific, on (02) 888-8222.

Lexicon 20/20 AD is here

Lexicon's 20/20 AD Analog-To-Digital Converter is now available-the converter offers a variety of operating modes and connectivity with AES or S/PDIF digital recorders- it operates either as a 2-channel 20 bit

processor, or as a 4-channel 18-bit converter. In its 2-channel mode, the 20/20 AD delivers 112dB of dynamic range, while in the 4-channel mode, a dynamic range of 100dB. Details- Amber-(02) 975-1211.

HOW Colour Planning A Musical



B = Blue R = Red Y = Yellow

Light the front half of the stage in three areas, from above in rather saturated colours, a hot and cold rather than a warm and cool. The rear half is

treated as one area, also with a hot and cold above. The side washes are less saturated hues. With neutral colours from the front, our palette offers scope!

Courtesy Bytecraft. From The Strandbook

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CIRCLE 112 ON SERVICE CARD

Bytecraft Sell to France

'State' Control System creates international interest

Bytecraft's 'State' stage movement control system is rapidly gaining international recognition, recently having been installed in France.

The State Stage Movement Control System (also referred to as a Power Flying Control System), is totally designed and manufactured by Bytecraft in Australia. Featuring advanced distributed processing, this high quality computerised system provides precise automated control of stage machinery using hydraulic, AC or DC motors.

Following successful installations at the Victorian Arts Centre (both the State Theatre and the Concert Hall) and the Australian production of the Phantom of the Opera, the State system has captured the attention of theatres around the world.

While Bytecraft engineers are currently in France completing the installation of a State control system at the famous Opera de Lyon, the Hong Kong Cultural Centre has confirmed their contract which will see their State system installed by the middle of the year.

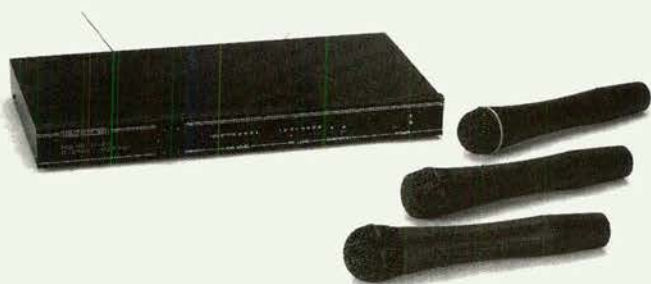
Versatility, flexibility, accuracy and, above all safety, characterise State which has been specifically designed to provide users with freedom to dynamically configure system functionality, initially to suit the venue and ultimately to suit each and every production.

State provides the environment for creative, efficient and safe scenery management in any type of theatre. State is equally at home in opera houses, ballet and drama theatres, musical stages, conference centres and TV studios. It is especially suited to repertory theatres, according to Bytecraft, who are headquartered in Melbourne, with offices in Sydney and Brisbane. *Contact Bytecraft Pty Ltd on (03) 587 2555*

CIRCLE 114 ON SERVICE CARD.

Hire System Upgrade

HirePoint V 5.0, due for release any day now, sports an electronic plot sheet of the type drawn up by many Hire Companies - with the date along the top of the sheet, and the equipment listed down the page. The new version of the system draws up the plot sheet showing jobs against hire product in about a half second. It is also mouse driven, and is sensitive to the hour. After installing the plot sheet, Sydney's 'The PA People' said it improved the usability of the system. V5.0 has GST capability built in. *Call HirePoint for details: (02) 876-2745.*



Vega Release AX20 & VX20

Two New Wireless Systems From Mark IV Australia

PA Ian Johnstone is -maybe he'll kill us for saying this- a veteran, meaning he's survived the dark days before there was lighting in Rock & Roll. Back then he was Mr. WASP, building amplifiers, speaker boxes and roadcases. Today he is the product specialist at Mark IV, where his years building things has given him an insight into all things audio. Especially Wireless Systems. Johnno is, you see, very clever with wireless.

Now he has his chance with some new Vega systems, the AX-20 is a professional diversity system, the R-22 Receiver has dual mode squelch circuits, multipole RF preselectors and a lot of IF filtering.

Transmitter options include the EV N/D757B hand held mic, the EV BK-1 Cardioid hand held condenser mic, Vega Cardioid condenser hand held, and the Vega body pack.

Other features include external squelch adjustment, headphone output on receiver, and of course XLR mic-level output.

The other system unveiled by Vega is the VX-20, a companion system that isn't Diversity, meaning it operates on one antenna and is slightly more prone to dropout. The R-27 receiver is a battery operatable device, with 8 hours claimed operation time from a 9v battery.

The transmitter options are the same as the AX-20 system, namely the three handheld and one beltpack unit previously detailed.

Both these systems will work at up to 1000', according to Vega, who stress this is under ideal applications. Count on less.

The subject of frequency selection is dear to Johnno, he'll help you. *Call him on (02) 648-3455.* CIRCLE 113 ON SERVICE CARD.

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APOGEE SOUND is distributed exclusively by ESA Audio Systems

Artist
Systems

CIRCLE 150 ON READER SERVICE CARD

PRODUCTS for LIGHTING

AV Video Touch- new horizons

Run a video and control everything on a touch screen

The newest technology in Control System hardware is the Touch Panel, where you have all your sound, lighting and video gear remotely controlled in a programmed sequence that you choose- and activate on a simple screen. This technology is available from two US vendors, AMX and Crestron, who are doing battle in the Australian marketplace. Aside from the business communications explosion, where AV is the tool for teaching, sales presentation and teleconferencing, a raft of new applications for this technology is appearing in the entertainment industry. One blatant application, as yet un-exploited, is the Stage Managers Console. Think about this one!

Now Crestron have gone to the next generation, according to their release, which means they have a touch screen through which you can run your video program as well. Given video is one of the major elements a Crestron System can control, by means of Stop, Start, Freeze

and most other functions, the ability to route the medium through the touch screen is a major plus.

VideoTouch is name of Crestron's new system, and it is on offer in two new models, the VT-3000 is a 6" diagonal screen that supports composite video, while the VT-4000 is a 10" screen supporting NTSC and PAL real time video; as well as VGA Graphics and real time video.

Converging technology is the buzz phrase here, where all the elements that were once alien are now drawn together to create a new work environment. Media Link technology is another area to watch, and Connections hold firmly the view that AV, Sound, Lighting and Studio is one giant converging technology. Imagine a world where everything works together. Isn't it wonderful?

For Crestron information contact Peter Grisard at Jands on (02) 516-3622.

CIRCLE 134 ON SERVICE CARD

● **STAGE LIGHTING CABLE:** Kroflex® is a highly flexible cable from Germany, available from Multi-Contact Australia, a leading cable & connector supplier to our trade. Kroflex® is a flexible PVC insulated control cable with fine wire bare copper stranding. Stocked in 7, 12 or 18 cores with a nominal cross section 1mm² and 12 and 18 core with a cross section of 1.5mm². Sheath colour is grey, black is available, and operating temperature range is -50° to 80°C. The cables can be easily terminated with "Contact" connectors. MultiContact Australia: Phone (02) 438-3600.

● **BLAKES FIREWORKS APPROVED:** Coemar DeSist Australia have obtained approval (under section 54 of the Dangerous Goods Act in Victoria) to sell the Blakes Fireworks range of pyrotechnics, which include Theatre Flash, Coloured Fire and Smoke Canisters. Blakes Fireworks cartridges can be used with Le Maitre firing systems, according

to C.D.A. Martin Blake was a co-founder of LeMaitre. The promise is that the cartridges are guaranteed to fire, or you get a "two for one" replacement. Presumably provided you don't dunk them in a bucket of water first!

CDA call (03) 467-8666.

● **CONTACT CONNECTORS:** Contact of Stuttgart has released the H-BE range of Rectangular Connectors. Standard pin numbers to suit stage lighting requirements are 6 pin (B-BE6), 10 pin (H-BE10) and 16 pin (H-BE16) for screw or crimp terminations. Crimp pins can be soldered. Contact connectors are modular, and cable mounting connectors of different gender can be co-joined. Inserts with screw connections come complete with male or female pins, inserts for crimp or solder pins are supplied without pins which are sold separately. Hoods are protected to IP65 against dust and water. MultiContact Australia: Phone (02) 438-3600.



ATC SCM-10

Bill's Baby

With the release of any new studio monitor you get heaps of hype aimed at pre-convincing you the things particular sound is a reference benchmark. This usually means the unique-ness of each monitor type is passed off as a scientifically created sound, made from a master plan. This is because if you built a speaker system that produced dead flat sound it would sound horrid.

ATC is the firm run in Gloucestershire by Bill Woodman, a kind of loudspeaker guru who always attracts a crowd when he comes downunder. In fact the crowd last time (at SMPTE) was so dense we couldn't interview him! Now Bill has released a baby brother to his acclaimed SCM-20, this is the SCM-10, and it has won some kudos O/S.

The key to the SCM range is a mid/bass driver that acts as two components. "At low frequencies it radiates as a combined mass of dome,



cone, coil and rubber surround. At about 1.2KHz a kind of mechanical cross-over takes place as the cone smoothly decouples from the dome, leaving the voice coil driving only the dome". There is more to this, and the importers AR Audio (AR stands for Anthony Russo) will gladly flood you with data, and even let you listen to a pair.

Call them- (02) 299-3666.

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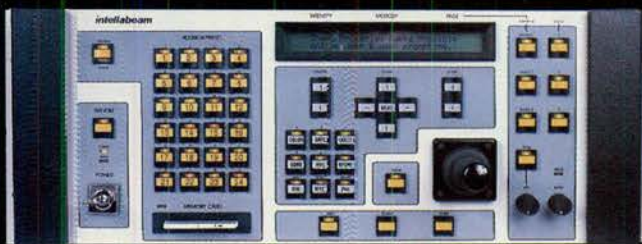
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other professionals
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intellabeam 700 HX

moving light with technology



The Intellabeam 700HX automated luminaire is the professional's choice for any lighting situation. Intellabeam has the intensity, speed, and accuracy to cut through on the big stage. Options in beam size, color, and templates make it ideal for your lighting application. The fixture produces a brilliant white light and the versatile optical system offers 11 pure dichroic colors (plus 8 dual-color combinations) and 12 gobo patterns. Optional modular gobo wheels will accept custom patterns to suit your needs. 100% dimming capability allows for variable light intensities and seamless fade-to-black and cross-fades between fixtures. Soon to be released, the new Intellabeam LCD controller offers you unprecedented regions of control and amazingly user-friendly programming.



High End
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FOR MORE INFORMATION CONTACT:
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82 ARTHUR STREET, FORTITUDE VALLEY,
BRISBANE, QUEENSLAND. 4006
TOLL FREE PH: 008 773 187 FAX: (07) 358 4969

Chapter 3: Directivity and Angular Coverage of Loudspeakers

Introduction

Proper coverage of the audience area is one of the prime requirements of a sound reinforcement system. What is required of the sound contractor is not only a knowledge of the directional characteristics of various components, but also how these components may interact in a multi-component array. Such terms as directivity index (DI), directivity factor (Q), and beamwidth all variously describe the directional properties of transducers with their associated horns and enclosures. Detailed polar data, when available, gives the most information of all. In general, no one has ever complained of having too much directivity information. In the past, most manufacturers have supplied too little, however, things have changed for the better in recent years, largely through data standardisation activities on the part of the Audio Engineering Society.

Some Fundamentals

Assume that we have an omnidirectional radiator located in free space and that there is a microphone at some fixed distance from it. This is shown in the figure, (Part A). Let the power radiated from the loudspeaker remain fixed, and note the SPL at the microphone. Now as shown in B, let us place a large reflecting boundary next to the source and again note the SPL at the microphone. At high frequencies (those whose wavelengths are small compared to the size of the reflecting boundary), the

increase in SPL will be 3dB. The power that was radiating into full space is now confined to half space; thus, the doubling of power at the microphone. Moving on the example at C, we place a dihedral (2 sided) corner next to the source. Power that was confined to half space now radiates into quarter space, and the SPL at the microphone increases another 3dB. Continuing on at D, we place the sound source in a trihedral (3 sided) corner, and we note an additional 3dB increase as sound power is radiated into one-eighth space.

We could continue this exercise further, but our point has already been made. In going from A to D in successive steps, we have increased the directivity index 3dB at each step, and we have doubled the directivity factor at each step.

We will now define these terms: Directivity index is the level difference in intensity along a given axis, and at a given distance, from a sound radiator compared to the intensity that would be produced at the same distance by an omnidirectional point source radiating the same power. Directivity factor is the ratio of the two intensities. Details are shown in the figure at right. Directivity index (DI) and Directivity factor are related as follows:

$$DI = 10 \log Q$$

$$Q = 10^{DI/10}$$

The data of the figure at right was generalised in 'Molloy's Equation' (see right). Here,

note that DI & Q are related to the solid angular coverage of a hypothetical sound radiator whose horizontal and vertical coverage angles are specified. Such ideal sound radiators do not exist, but it is surprising how closely these equations agree with measured DI and Q or HF horns that exhibit fairly steep cut-off outside their normal coverage angles.

As an example of this, a JBL Model 2360 Bi-Radial horn has an nominal 90° x 40° pattern measured between the 6dB down points in each plane. If we insert the values of 90 and 40 into Molloy's equation, we get DI = 11 and Q = 12.8. The published values were calculated by integrating response over 360° in both horizontal and vertical planes, and they are DI = 10.8 and Q = 12.3.

(Continues next month)

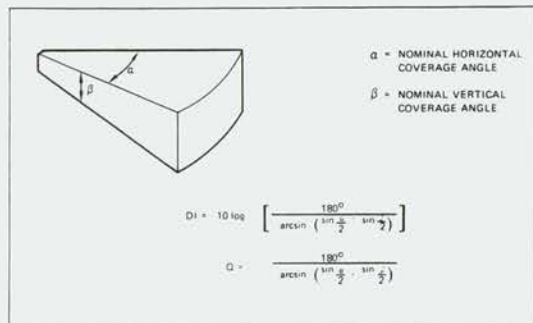
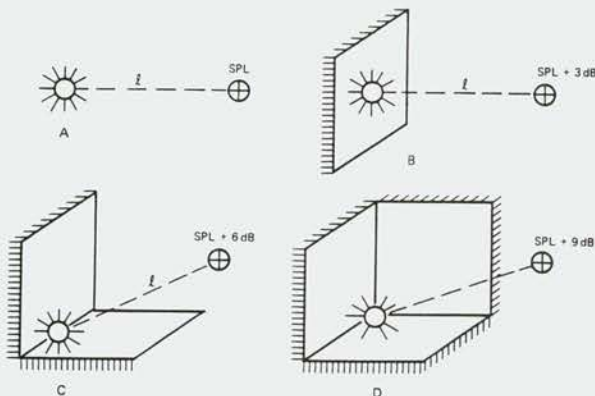
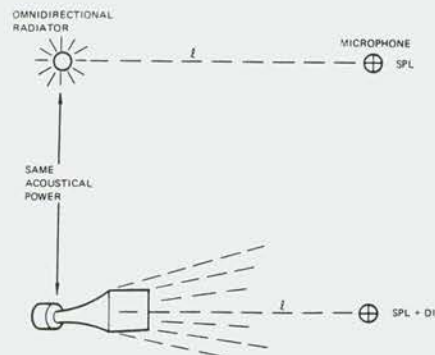


Illustration of Molloy's Equation

SEEN in L.A. - Aussies at NAMM, the BIG music show. Connections was the only Aussie Magazine there!



Warren McAlister of Phase Engineering, with Stuart Ransom of CMC



Alex Bolt from the Electric Factory shown shaking hands with competitor Peter Hayward of Australis. Australis NZ's David Hines looks in amazement!



Nunzio Gambale of Pro Audio ACT with Frank Goodman of Mesa Boogie



Tony Moore of Mocre Music. Looking for Moore Products?



Bunch of pissheads- at rear centre is Tom Wilton from Nat. Music Supplies, right rear is Steve Abigail, Gtr. Factory Hurstville. Others are obscure & confused!



John Goldsmith & Greg Garbeline of Kosmic



Michael Allen (Electric Factory) & Paul Bowden of Music Junction QLD.



Oh Oh..... Pat Bonham at work, road testing his pacemaker with the Budweiser Gals.



Sperry Gruppetta (owner, Electric Factory) with supplier, Clay Evans



Morgan Hayward discovers Elvis has lost weight in obscurity!



John Carter of Live Sound NZ, with Ian 'Woodie' Woodhouse of Rebel



Tony Hosking, ex-Penn Australia, now trading as The Resource Corporation. Pictured at the Mackie display.



John Goldsmith, Robin McFarlane & David Bray of Pro Music Australia.

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NETA & YOU

The recently formed National Entertainment Technology Association is undergoing a membership drive right now, having been properly incorporated. Known as NETA, the Association aims to provide a voice for the broadly based sectors of the industry, aimed at Practitioners, Suppliers and Enthusiasts in AV, Audio, Lighting and Communications. These diverse industry groups need a voice on a whole raft of matters, not the least of which is standards, according to Chairman Mark Carpenter. Mark is the technical director of Theatre Studies at the University of NSW.

Standards for DMX Networks and Distributed Dimming Networks are topics NETA could deal with, according to board member Jonathon Ciddor. "Convention and Exhibition centres are talking about these systems", says Jonathon, "and standards need to be sorted out, like connectors - even things like having a 'Smart Pack' which is a single 30a supply unit with 3 x 10 amp dimmers - which no one is manufacturing. If we can come up with a stand-

ard for a product before everyone starts making it, it'll be easier to use, and easier to build. Then there's things like MIDI Show Control and so on."

"Issues arise like one in Queensland, where a local council safety inspector has outlawed the use of a tallescope (portable ladder/platform) on a theatre stage. The ordinances say he must be happy about safety, he isn't", according to Mark Carpenter. "The reason you have that problem is you have guys that have no idea how a Theatre works. If you have an industry body that says: 'the usual way to do this is' then it can provide a sensible ruling."

Other services NETA will offer include seminars and meetings with visiting technical people for NETA members, and backstage tours of various productions.

These are side benefits to the main game, which is that the association is a contact point and almost a bul-



Jonathon Ciddor and Mark Carpenter of NETA

letin board for members. The association has a wide library of material available, including technical and standards rulings of overseas associations and bodies.

NETA is a non-profit, limited company with a core of responsible industry types at the helm. It is worthy of your support, and one way to do this is to join. Membership rates are \$25 for students, \$50 for individuals, and Sponsor Membership costs \$500. Connections Magazine has become a Sponsor Member, and NETA is welcome to relay its news and issues to members through this magazine.

To join, phone Virginia Boyle on (02) 697-4860 with your creditcard handy, or write to: PO Box 517, Kensington, 2033 NSW.

Editors note

February is a short month, especially when you are used to producing a magazine every six weeks, as our previous incarnation, 'Channels' was. Suddenly we had just three weeks to get this one out after our debut issue - but of course this was foreseen. Here it is - and on time.

Some interesting statistics have presented themselves with the return of our first hundred or so Reader Service Cards. These ask what you do, and how many readers read each copy. First interesting snippet is we actually have a tangible base of musician readers - we are generally accused of bagging out this sector, *in a fun sort of way!* The number of readers part is encouraging, because at the moment the average response is **four**. Naturally we're delighted with this, we had guessed maybe 1.5 readers per magazine, so any upside to that is a bonus.

Now for a readers guide on how to use this magazine. First up, the Reader Service Card is there for you, and it costs you zip - it's a Freepost Card. We process at the END of each month, then pass on your name and address to the distributor of the product/s you've indicated. If you want to know about the product right away, call them - it's faster, because after we've sent your details to them they will still need to respond, which could take a week or two. Do us a favour - when calling any of the firms noted in this magazine, please tell them you saw their product in Connections. They need to know, and we need their goodwill!

This is because the \$3.95 on the cover of this magazine goes nowhere near paying the raw costs of producing it. We rely on advertising, this is no secret. Along the way there is the issue of how far an advertiser can go

to get coverage.

Getting your product or service into these pages is not difficult, there are several ways to do this. The trusty Press Release is the established form, whereby you fax us a precis of what you are doing/selling no later than the 14th of the month. If you send pictures we prefer sharp black and white prints, but we can scan brochure shots. It's easy.

If you operate a recording studio, fax Caroline by the 14th and detail your months activities, and any news you have. Likewise production company's - send it in by the 14th.

Then there is the **FREE** Employment Classified's - the deadline is as late as the 25th of the month - and we come out on the 1st! If you have had equipment stolen, likewise list it **FREE** in the Classified's, so others can help you recover it.

Come on, be in Connections!



Sonic Youth - Crew talk

Catriona Forcer visits the gig and reviews Lighting & Sound.

Recently 'The Big Day Out' festival has been touring around Australia and it attracted many international bands. Artists such as Iggy Pop, Carter USM and Mudhoney also played independently at various venues throughout the country. One such band was Sonic Youth who are currently on a six week tour incorporating Australia, New Zealand, Japan, Hawaii and the West Coast of the US. Prior to that was a three month tour of the US and Europe playing venues holding about 3000.

The bands lighting designer was New Jersey based Susanne Sasic. Originally she was a friend of Sonic Youth and she had no knowledge of lighting when she began traveling with them selling T-shirts, packing guitars, driving the bus or whatever needed to be done. One day they wanted somebody to do their lights and there she was. This all started about seven years ago and Susanne learnt her trade the hard way working with the band through clubs in the US. "Clubs in USA different from here," explained Susanne. "Like even the really small clubs in America will have some kind of lighting system in place. They don't hire in production until you get to larger venues so you learn it that way."


"The Big Day Out was kinda strange. For one of the shows which Sonic Youth headlined, Perth, I had a very close approximation to my own plot but then there was another Big Day Out which we headlined where I didn't. It was somebody else's. Overall they went pretty smooth and I really only had to work at two of them because for two of them Sonic Youth played in broad daylight. I was particularly happy with Sydney as it looked real nice and we had a good time. I like Selinas as a venue although I wish the ceiling was a little higher. I tend to wish that at every place we play!"

For the show at Selinas there was almost a

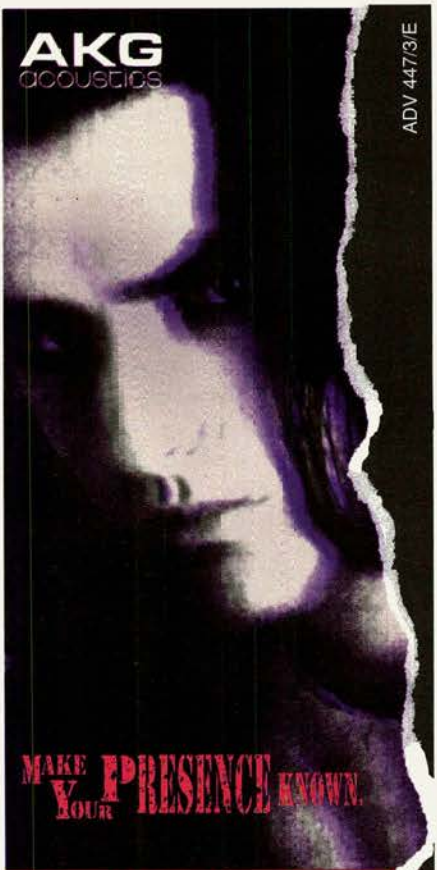
full plot with only a few of the Lekos with gobo rotators missing as the hire company Chameleon weren't able to get as many as required. Susanne did not mind as she did not think she would have had room for all of them on the stage that night because the floor was quite crowded. The front truss was pretty simple with about six different colour washes. There were two trees, one on each side downstage that also did side and front wash using about six different colours. Added to that were two 18ft vertical towers that were mid-stage, just behind the backline, and they shot everything all different directions. There was also a white backdrop, cyc lights and a back truss with some simple things on it. There were some strobes, a couple of par cans on the floor to throw shadows on the cyc and usually about 15 Lekos on the floor with gobo rotators in them. Some of the gobos Susanne made herself. Usually she has two 24 RDS Effects projectors with film loops in them which she also made but she only had the one at Selinas. Fortunately just one of them was effective enough.

"I have a particular dislike of open white light favouring colours like 122 and 111," Susanne told me. "I like real bright pinks and weird locking green. I don't like smoke and neither do the bands I know. For this show I'm using a Bands Event Plus for control, which I used on The Nirvana shows last year, and I really like them. They're a really cool desk. I've found the hire company Chameleon very helpful."

Visually with Sonic Youth I don't use too many super bright colours and never any open white. There's a lot of shadow and a lot of strobe. The band prefer as dark as possible although gradually over the years as they play larger venues, they've got used to having it brighter on stage. That makes me a little happier as it looks better - it looks like I know what I'm doing instead of looking like I'm





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fumbling along!"

"When I'm at home I don't go to many shows of the size of which I like to play - theatres which seat around 3000 people. I don't usually go see big arena shows either. I usually go to small club shows which don't really have much of anything. The last time I was here I met a guy called Bas who works occasionally for Chameleon and I found him a great inspiration. I talked to him a lot and he gave me a lot of good ideas and was very helpful."

The tour goes on to middle of March and then there is talk of the band going to South America for four or five shows. At this moment Susanne can't imagine what that will be like, production wise, especially at the level they play at. After that there will probably be some festivals in July.

"I like traveling and touring so I'd like to do this for some time yet," said Susanne. "I'd like to do some bigger shows and I wish Nirvana would do a full US tour so I could actually do that as they play some pretty large venues. We've already played some pretty large venues with Nirvana and I handled it alright but I guess I didn't feel as confident as I do in a smaller size venue. There are plenty of bands I'd like to work with - My Bloody Valentine, Teenage Fan Club, Mudhoney, Dinosaur. I saw My Bloody Valentine last year in New York and they had film loops, some cool projections, strobes and not a whole lot else but it was really suited to them and I really liked it. The music is something I really enjoy and it's reached the point where more and more bands whose music I like have attained a level of success where they could hire somebody like me to tour with them."

Originally Susanne was set for a career as an editorial illustrator and now she is a lighting designer she is continually amazed at the amount of people who call themselves lighting designers but do not have any design or artistic background. (Editors note: Susanne has an aversion to being photographed. We couldn't persuade her to be pictured when Nirvana were here, nor this time. Next time she visits, however, our Dolly Roadbox will pursue her relentlessly for a pic!)

Sound engineer Terry Pearson has been working for Sonic Youth for six years as well as for other bands like Mudhoney and Helmet.

"Originally I was a singer," explained Terry. "At the time I started in music you had to have a sound system in order to be a singer so I put together my first sound system that way. I was based in Texas and together with a friend I bought a nightclub. He did the booking and I became the house sound man and that's where I met Sonic Youth. They asked me if I'd like to join them on tour and I said yes."

The desk that Terry prefers to use is a Midas XL3 as they have a really good EQ section but unfortunately they are very expensive. At Selinas Tony was using a 40 channel Yamaha P3000 desk with twenty-one inputs, using eight for effects returns. He likes to run the sub-bass on an auxiliary send so that he can assign it to a specific instrument that he wants

to use sub-bass on as this makes it a bit clearer in the mix. The system in Selinas were Meyer Sound MSL3's with 8 per side, and 6 subs per side.

"We hire systems based on what our needs are although we always indicate that the band are very loud," said Terry. "I think Selinas is a very good venue. We have our main stacks in front and then in the area where there's an overhang, just behind the sound board, we have two delay stacks there. There are also two delay stacks upstairs in the balcony area which provides pretty good coverage. It's a 20K system and the sound hire company we've been using is Troy Balance."

When asked about The Big Day Out, Terry said all festivals were difficult because you basically get a line check and then you do the show. For a band like Sonic Youth where there's a lot of programme material to deal with from the very beginning of the set then you have to be in a lot of places at once in order to try to get definition to focus out of it.

"I think you'd have to be in a proper mind-set for doing festivals which means that you are very focused prior to set itself so that you have already checked the EQ as per your memory for every channel, the assignment of every channel and programmed in all your processing like reverbs and delays. There's just a lot of, like, a mental check list that you have to run down for doing these shows. I thought at the first show in Melbourne I wasn't quite in tune with that focus. The problem we had in Sydney, I thought, was that we had a mix position that was too far back and not enough of the system itself in a very large area. So I felt that all the bands faced that problem that day. Outdoor shows are difficult also because it's hard to create the same ambience in an open space that you get when you have walls. I think Sonic Youth, to a certain degree, depend on a certain sound pressure level that's created within that confine of a room. I just think it conveys more of what they are about in that setting as opposed to being outdoors where everything dissipates and the wind blows things around.

"Sonic Youths' growth has allowed me my growth. We did



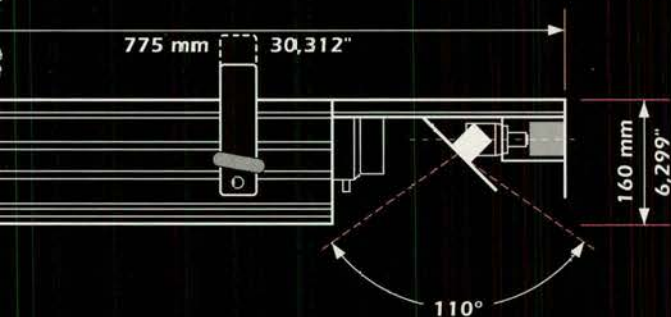
Terry Pearson, Sound Engineer

a tour with Neil Young in '91 and it was an arena tour around America. It was my first opportunity to work in that setting and it was a great learning experience. They've allowed me to put myself into just about every situation I can think of aside from doing stadiums."

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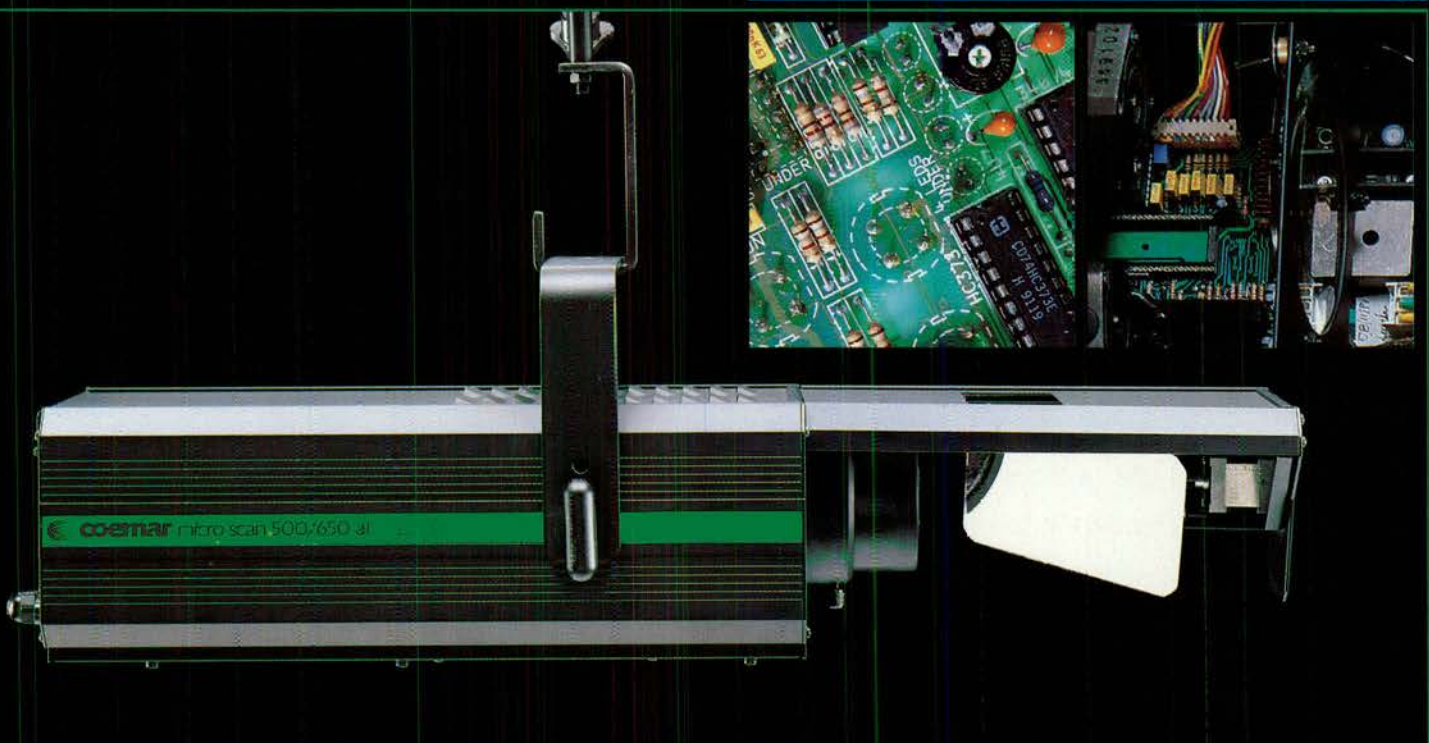
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