

Connections

SOUND • LIGHTING • STUDIO • AV • MUSIC TECHNOLOGY • THEATRE • TOURING • SHOWBUSINESS

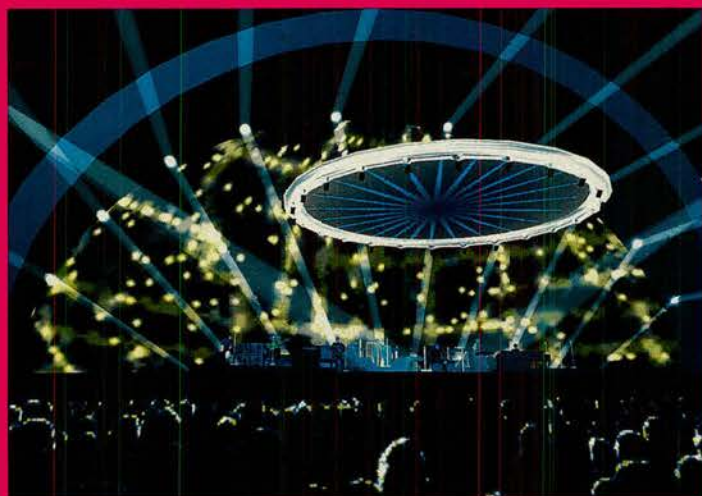


World EQUIPMENT issue

We travel the world in search of What's
New and find LOTS of it!

New AUDIO, New LIGHTING, New TECHNOLOGY for the
Studio, Contractor, L.D., and for YOU - the end-user!

Live:



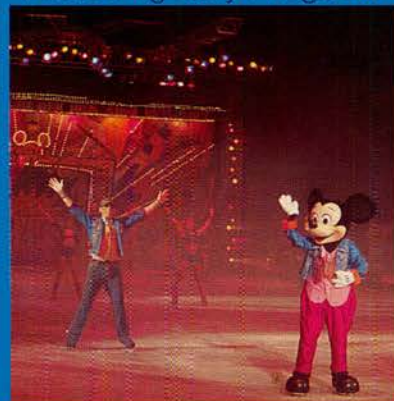
PINK FLOYD

The Division Bell Tour - the SOUND, the
STAGING, the LIGHTING, the EVENT, the
SPECTACLE ... from Dallas direct to you...

Our monster feature starts on Page 63

You KNOW this guy!

His touring story . Page 24



Music by ISDN line:

The latest developments from
APRS. Studio News: **P36**



UB 40 on tour

Where are we today? **P26**

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Performing Arts:

New regular pages: **P33**

PIRATES:

Critics rag the show, and
then it sells out! **P22**





Imagi

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Trade Shows Ne

Studio Pro Sound Lighting Digital Recording Contracting P

me

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NIGHTS where Clubs and Venues beckon and recognise you, where equipment is properly Showcased, harbour cruising, eating in style at the Awards Dinner, touring technical establishments, and much, much more

In't Be Boring!

at Theatre Equipment **Stage, Tour, Venue, Nightclub** **V i s i o n A V**

02 right





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90
exhibitors!



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Friday night October 7th, the Entech awards are handed down- Entertainment, great food by **MORE THAN A MORSEL**, socialising and more, held in a film studio, with a major **SHOWCASE** following at 11pm. Party until very late! **Book NOW** - \$45/head, call (02) 876-1411. Ticket limit applies.

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Trade Shows No

Studio Pro Sound Lighting Digital Recording Contracting

**SYSTEMS
INTEGRATION**



Entertainment Technology TRADE SHOW

**SYDNEY EXHIBITION CENTRE,
Darling Harbour.**

**Thursday 6th October,
Friday 7th October,
Saturday 8th October.**

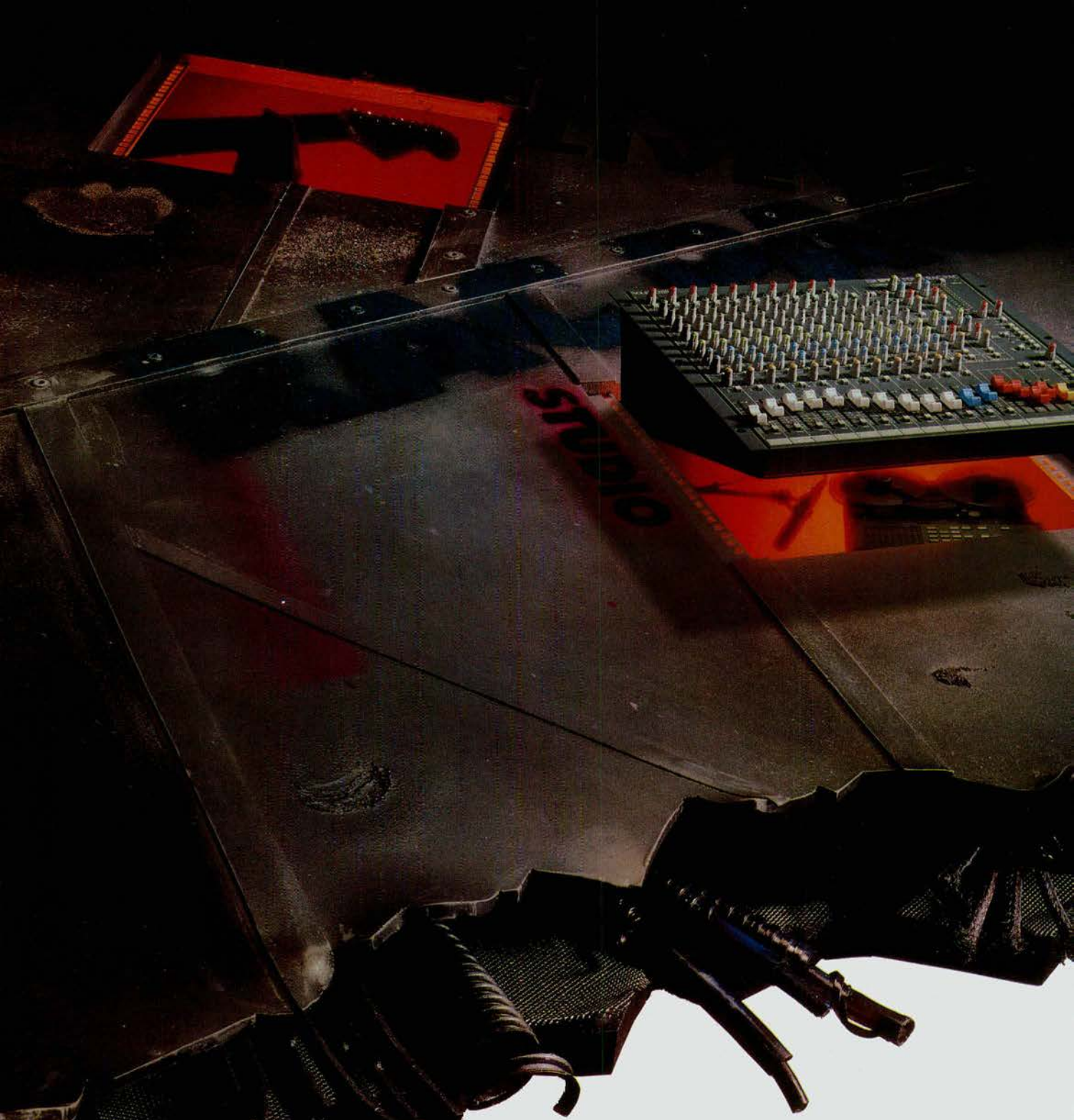
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THE BEST OF BOTH WORLDS

Who needs a separate studio and live mixer when Spirit Folio Rac Pac will do the job of both, perfectly?

Rac Pac is a no-compromise, multipurpose console, that - unlike any other mixer at its price - is built from the ground up to exceed the exacting demands of studio and live users.

Rac Pac's features put many a large desktop mixer to shame: 10 mono and 2 stereo inputs with up to 28 inputs at mixdown, a real 4 bus group section, a post-fade direct out on every mono channel with separate pre-fade inserts, PFL Solo switchable to Solo-in-Place, 2 band EQ, 6 aux sends, 6 stereo returns, High Pass Filters and many more. With -129dBu microphone amps and 95dB fader cutoff, Rac Pac is more than quiet enough for quality digital multitrack work.

Rac Pac is a great desktop mixer. It's equally at home in a rack where, by relocating the connector field to its underside, it takes up just 8U.

Spirit Folio Rac Pac doesn't cost the earth, yet it gives you the best of both worlds - without compromise.

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By Soundcraft

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H A Harman International Company

SHOWBIZ

NEWS & UPDATE

TROY-BALANCE TO QUIT CONCERTS

Melbourne may lose major audio system

Peter Troy has decided to quit the concert audio industry, declaring it a younger mans game. "I haven't enjoyed it for several years", he told Connections.

The assets of the production arm of the Melbourne firm were advertised for sale by tender in July, and include 56 Meyer MSL-3, 40 Meyer subs, 32 Deltamax cabinets, amplifiers, Yamaha consoles, chain motors and everything else needed for concert audio.

The firm will retain its long established outboard rental and driveway hire, rehearsal rooms and pro audio sales outlet at South Melbourne.

Peter Troy said he was not desperate to sell, it was not a fire sale, and he may retain the equipment - believed to carry a price tag of over \$1 million - if genuine buyers did not emerge. The firm developed into a major force in concert sound during the 1980's, with clients such as Men at Work and John Farnham. The recession shook Peter Troy, and the recent loss of the John Farnham account would not have helped.

AVD FOR SALE

Owner takes Sony job

Peter Strohkorb has announced he must sell his Sydney outlet Audio Visual Designs. The business had been sold, whereupon he took a 'very senior position' with Sony Australia, but the original sale fell through. "AVD is a healthy company, any suitable purchaser can continue the business profitably", he told us. Buy AVD - call: 02 716-0211.

YAMAHA'S RADICAL NEW DIGITAL MIXER

Unique DSP chip brings price down, features up... shock!

Yamaha have utterly turned the mixing console world upside down with the Pro Mix 01, a programmable digital 16 channel mixer that should sell here for about \$5000. That's WITH flying faders, so read on.

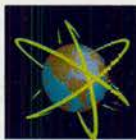
The Yamaha stand at APRS in London was stacked with industry types both amazed and shocked at this development, for it is more than just a low priced mixer for anyone needing a low priced mixer, it is the first of kind.

Pro Mix 01 redefines the mixing console. I saw the thing hooked up to a Mac and run from Notator Logic - it will also run from

MIDI.

The Pro Mix 01 powers up and does a little "g'day" type display on its 240 x 60 dot backlit graphic LCD screen. In three seconds or so, it's ready to go. You plug in your analogue sources in the usual manner. There are eight XLR's for balanced mic's, and a further eight balanced jacks. In addition is a stereo input channel with 2 jacks, and a pair of RCA connectors for a two track return.

On the desk are 16 motorised channel faders. A further three motorised 60mm faders control the stereo input channel, a return/send fader, and stereo out. At the top of the desk are conventional rotary input gain controls and pad

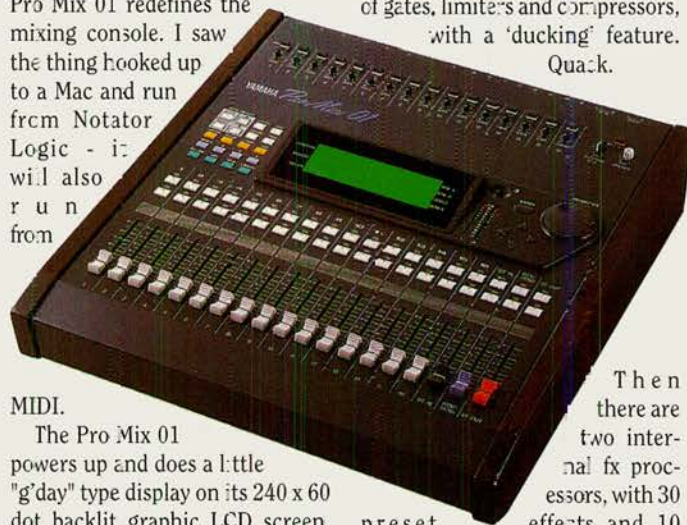


switches. You keep control.

So. Look at the picture of the desk. To the left of the screen you see five rows of four buttons. These access the functions you need to use on each channel, and memories, amongst other things.

You can, of course, apply parametric 3 way EQ to each channel AND the desk outputs

But there is more, much more. You can stereo pair two adjacent channels. There are two stereo dynamics processors, with a library of gates, limiters and compressors, with a 'ducking' feature. Quack.



Then there are two internal fx processors, with 30 effects and 10

preset user presets in each. Mix snapshots? Store up to 50 scenes! These are 50 separate mixes, complete with EQ, effects, dynamics and auxiliary settings. There are four auxiliary sends per channel.

Mix automation on a 16 channel desk is really going to prove a major time saver in Project Studio world, because the user can store memories of each song.

How can Yamaha do all this at such a low cost? Their new CDSP LSI chip uses a parallel micro code technique. Until now DSP

>continua next page

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Phones:

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Editorial: (02) 876-2612.

Faxes: (02) 876-5715.

International prefix: (+61)

Compuserve: 100242,3662

Editor: Julius Grafton.

Feature Editor: Catriona Forcer

Studio Editor: Caroline Grafton

Audio Technical: Greg Simmons

Contributing writers:

Tin Tin Stromm, Duncan Fry,

Howard Jones, Paul Bryant,

'The Idiot', Michael Orland, Peter

Kemp, Ray Bond (Singapore)

Advertising: Caroline Grafton.

Admin: Elaine 'Analogue' Auld

Graphic Art & Layout: Josh Luo,

Catriona Forcer, Julius Grafton.

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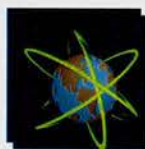
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**YAMAHA
PRO-MIX 01**
(continued)

chips used serial micro code. Mix, EQ and dynamics processing on a single chip speeds up the process by a factor of four, "without the new chip it couldn't be done. The change time for each parameter would be too long, and the cost of the whole desk comparable with existing digital products out there. We've priced this desk to recoup chipset R&D over a 10-year period. We expect to sell Pro Mix 01 in enormous volumes", a Yamaha insider told me in London.

The A/D converter is 20-bit linear with 64 times oversampling, while the D/A converter is 20-bit linear with 8 times oversampling. Processing is 24-bit linear, with 36-bit linear for the EQ. Sampling frequency is 48kHz.

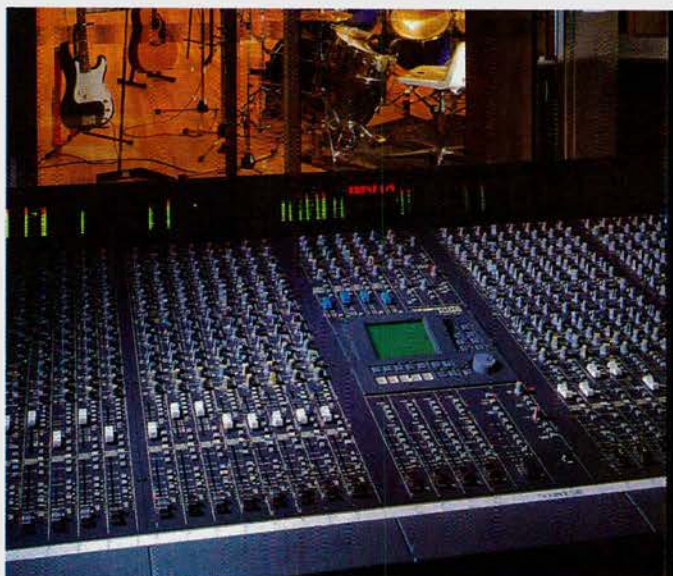
With the Pro Mix 01 Yamaha have thrown one product at every market. It will find use in broadcast, pre and post production, music recording, and live applications. Most punters at APRS agreed that of all applications, live mixing was where the interface Yamaha have introduced here may (possibly) not be too popular, because you need to 'SEL' (select) each channel before you can apply EQ or auxiliary or dynamics.

If the Pro Mix 01 has some rudimentary memory lock or PIN feature (I couldn't establish this at APRS) then it could be a hot contracting product too, because users cannot goof with the EQ, aux and dynamics unless they can get into the functions.

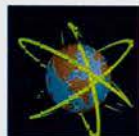
Total instant recall and full dynamic automation for about \$5000? No wonder the other exhibitors at APRS looked painfully at the hoards prodding the thing.

Yamaha Australia tell us Pro Mix 01 will debut at **ENTECH '94**, where it is sure to be every bit the hit it was in London.

Missing? No digital inputs, but it has digital output. So you can't go direct via the digital domain, but likely this is on purpose. It also is not possible to link Pro Mix 01 mixers together. This tends to confirm a rash of Pro Mix models would likely be gathered, waiting in the wings after all, if you put EVERYTHING on one mixer, where do you go from there? **-J.G.**



**SOUNDCRAFT
DC2000 AUTO**



It's significant Soundcraft kept developing their new DC-2000 console up to version 3.0 before launching it down under - even internationally, the first review we've seen was of version 5.56 recently.

This is a clever console, which I've seen hands-on both at APRS and on a demo tour here at home. The console was first shown at the recent SMPTE show in Sydney, where Jands say a great deal of interest was generated.

What it does is bring moving fader automation and MIDI machine control into the upper echelons home recording, project studio budget. It is also pitched at the Post Production industry which is booming right now. The retail ask for the DC-2000 is between \$50 and \$72,000, but actual prices ex-tax out of pro dealerships should be well under this, as any retail price is usually located. Jands also stress that the console is complete - no external computer is required. A hard disk is installed within the console chassis. This is *almost* forward!

The DC-2000 operating software can be upgraded via an external floppy drive under the arm rest at the front of the mixer.

It comes in 24 or 32 channel versions, and all processing is done on-board - or should I say, 'in-board'. This is one complete stand alone package, say Soundcraft.

The LCD screen on the DC-2000 is, in fact, a touch screen which

is not just concerned with automation, because it also has pages of desk control functions.

Machine control is via actual buttons beside and under the screen, and a dial operates as a shuttle/scroll wheel for transports that are compatible, it also can be pressed to confirm a particular touchscreen selection.

Nick Orsatt from Jance and Alan Martin from Soundcraft had the DC-2000 operating a pair of ADAT machines in a demo at the Sydney branch of the PA People. One essential is that if you trip the power, the desk will re-boot where it was previously.

Moving fader automation is always better than VCA automation, where the level is adjusted through the VCA, not via the fader. Moving from conventional consoles to an automated console like this is easy, because the control surface is familiar. The EQ, in-line design, auxiliary sends and master section are all fairly friendly.

At the master module are four (moving) group assign faders which are not unlike VCA groups. Automated cuts can be effected on all channel and monitor paths, auxiliary sends, auxiliary masters, groups and stereo effects returns - of which there are four.

DC-2000 has an integral time code reader/generator, thus the SMPTE readout on the 'bridge.

More details from Jands, (02) 516-3622, fax (02) 517-1045.

EDITORIAL

We used the break created by the combined June/July issue to debunk north, visiting the APRS tradeshow in London, and the Pro Audio & Light Asia tradeshow in Singapore.

Along the way we spoke to people, read local press, and think we had time to see the whole machine, not the cogs. What a machine it is, this world!

What is clear is that audio is evolving rather faster than most people think, Yamaha's new CDSP LSI chip is evidence of this, as is digital compression technology on offer from companies like Dolby with their ISDN 'music down the line' Dolby Fax system.

Pro Audio as an industry is seemingly more stable than the Musical Instrument or M.I. industry, because Pro Audio pitches products at niche markets while the MI trade is forced to operate at consumer level.

Never has this been more evident than with the announcement that the Nine Network will go up against SEGA in establishing 'out of home entertainment complexes' throughout the region. More erosion for MI, because young punters spending their dough at a Sega Centre (or whatever it will be called) are even less likely to take up a musical instrument.

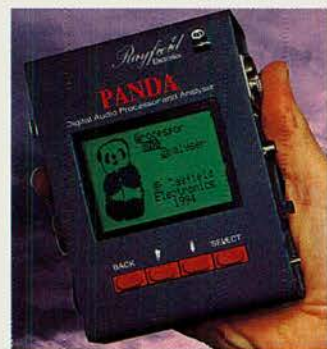
The other thing we saw that most agree on, is that the majority of visitors to the Pro Audio & Light Asia show in Singapore were a just a little lacking in technical knowledge. The inclination of some of these professionally employed people to say 'Yes' when they didn't understand what you were talking about led us to look at how some pro audio and lighting distributors sold product in Asia.

You guessed it, they sell turn-key systems, the simpler the better. High technology faces a hurdle in some Asian markets, the lack of enthusiasm in the halls at Singapore proved it.

An opportunity? We think so.



Panda



The PANDA digital audio processor and analyser from Rayfield Electronics is a hand held general purpose processor and analyser for digital audio signals, it is a fairly unique gadget indeed.

Typically you'd use it between say a AT and a CD-R, to interrogate the line. Maybe you're outputting consumer rate ASEBU

Crookwood Paintpot

In an ocean of outboard it pays to have a *Unique Selling Proposition*, thus Crookwood of England package their dual channel pre amplifier as a paintcan. Paintpot, in fact, is the name of the device (right), which is aimed fair and square at the upper end of the studio market.

You put Paintpot next to your source microphone/s, (it also accepts line inputs) and you may send

the signal direct to tape if you wish. The unit is a dual mono or can be used as a stereo device with balance/width controls on the 'lid'. It's got EQ and gain control galore, and may be remote controlled with a 2 rack unit optional controller. The remote can control up to 16 Paintpots. All functions in the Paintpot are digital, but relays are used to switch analogue functions.

instead of professional? I'll display CD and DAT user sub code, and do d.c. filtering and stripping pre-emphasis of an incoming digital audio signal. It can also act as an A/D converter, accepting analogue input. Signals can be generated, and digital gain adjusted, with up to 18dB of extra dynamic range available.

£1650 from Audio Design, 44 734-844-545, fax 44 734-842-674.



Details from Crookwood, 44-628-528-026 or fax 44-628-531-959.

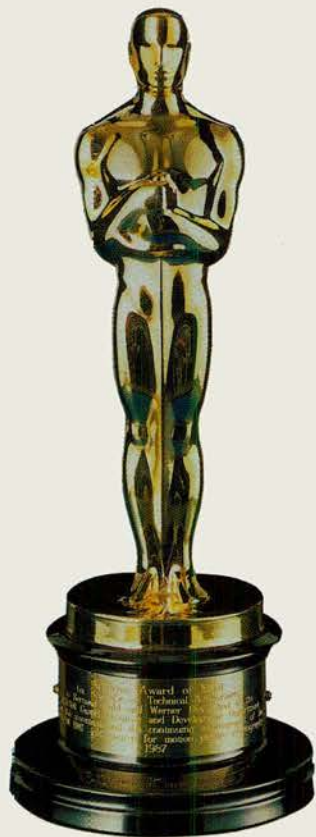
T ravel

• What DO you really get in Business Class? We surveyed a bunch of upper echelon industry types to find out.....

- Fast check in, and you get to walk onto the aircraft by skirting the queue or the rabble;
- A welcome drink and a lot of grovelling and crawling;
- Four courses on China, with a napkin spread over your tray;
- A free something like a leather wallet, or amenities kit;
- Hot towels at least every second hour;
- At least one cabin attendant per 20 pax at all times, more during meals; (vs 1:80 up back)
- One toilet per 10 pax; (vs. 1:35 in economy);
- An extra 10kg baggage;
- Service on demand when you press the call button.

But there are a couple of bummers

MORE >>



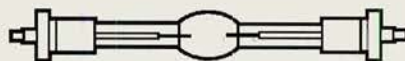
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CPA

Foundation 2000



Digital Audio Production Platform

The product of a major US research program, the Foundation 2000 from Fostex is an advanced 18bit digital audio hard disk system.

Foundation 2000 may be used as a stand-alone system or integrated into a multi-machine environment, where it can function either as master or slave.

Each unit is capable of recording, playing and mixing 16 simultaneous real-time audio channels summed into 8 tracks. Multiple units can be cascaded for up to 96 channels.

Edit Controller

This is the operational interface for Foundation 2000. It features a touch-sensitive screen with soft keys for selecting the display of track data, metering, mixing parameters, etc. The edit controller is straightforward and a joy to use. Dedicated keys are provided for cut, paste, fade and trim functions, and 10 levels of undo/redo non-destructive editing are available.

Extensive Machine Control and Synchronization.

In addition to LTC and VITC timecode, ESAM, MIDI and Sony 9-pin protocols are used for master/slave controller/controller commands or for communicating with the Fostex RD-8 Digital Multi-track Recorder, VTRs, and video editors.

The rear panels includes three card slots for various I/O modules, which can be selected according to need. The simplest configuration has two analogue XLR inputs, four XLR analogue outputs, and two AES/EBU, S/PDIF digital ports. The multi-channel analogue board has eight inputs and outputs; the multi-channel digital card will offer four pairs of AES/EBU I/Os, along with 8-channel ADAT I/Os on two fiber optic connectors. The stereo digital inputs can be routed through AD-1890 asynchronous sample rate converter chips – the latest technology.

True "plug & go" operation is possible with the Fostex Foundation 2000, with removeable 3.5" SCSI hard drives able to be used for all audio edit, mix and project data. Fostex calls it the Removeable Project Environment (RPE).

SYNTEC

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NSW:
Tel: (02) 417 4700

VIC:
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QLD:
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WA:
Tel: (09) 275 5066

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Tel: (08) 211 7044

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LONE WOLF TO RUN MEDIA LINK WORKSHOP AT ENTECH '94, SYDNEY

The Media Link control protocol for audio, music and digital data will be detailed in a landmark Workshop at the forthcoming ENTECH '94 tradeshow in Sydney.

At presstime the Seattle based corporation confirmed Lone Wolf personnel would attend and present the Workshop, designed W-18, and one of about 30 scheduled during the three day event. The Workshop carries a nominal entry charge of \$10, and may be repeat scheduled to satisfy demand.

The Media Link concept has gained considerable strength, with licensees including Apogee Sound, Crown, E.V., JBL, QSC, Soundcraft, TOA and Yamaha.

This network system allows your computer to control devices downstream, with VNOS software showing a control surface for each device, including the monitoring of some operating parameters.

Lone Wolf are a stand-alone developer, whose approach has been lauded by most manufacturers as it promises a 'standard' - rather than a 'go-it-alone' proprietary system approach. The Media Link system is not limited to pro audio applications, but will feature in consumer electronics and communications systems of the future.

• **DETAILS:** Media Link Workshop (W-18) at ENTECH '94, October 6-8, Sydney Exhibition Centre. Cost \$10, (entry to the tradeshow is free after walk-up registration). Schedule in the Entech Visitors Guide (see September Connections), bookings in advance on (02) 876-1411.

ENTECH-NICAL TOURS

Aside from around 90 exhibitors showing thousands of different products on the trade show floor - and entry is free after registration - Entech will also feature tours of nearby interesting facilities. Confirmed so far is a daily technical tour of the Sydney Opera House, a tour of Channel 9, and a whiststop tour flagged 'the Great Studios Of Sydney'.

These tours are limited in numbers, and carry a \$20 cost to cover organisation and coach hire. Advance booking advised, wait for the Entech Visitors Guide for details.

More Than A Morsel at Awards Dinner!

Brian Lizotte, the infamous caterer to the stars (and sundry plebs), has agreed to provide catering at the Entech Awards Dinner on Friday October 7th. After examining and flatly rejecting various rubber chicken proposals, Connections arbiter of taste and decorum Caroline Grafton accepted an offer from Brian, whose end concept is worth infinitely more than the \$45 door charge!

The function will be held in a film studio in a suburb between the airport and the city about a ten minute taxi ride from town. "We chose the studio because Brian recommended it", said Caroline, "and it has great vibe." (The real reason is so Caroline can smoke fags in there! - editor)

Importantly, the adjoining studio will be used for a Showcase of several exhibitors sound and lighting systems, with a live band start-

ing later. Because of the industrial location, the Showcase can run late without noise hassles. "You would not believe the difficulties in finding a suitable venue for all this", said Caroline.

The Awards Dinner starts 7.30 with a welcome drink, and has entertainment and the great taste offerings of the More Than A Morsel catering company, who will stage 'a buffet with ambience'. You get all the above for \$45, and buy your drinks at fair prices after the first welcome one. Tickets limited.

All trade visitors to ENTECH are then invited to the SHOWCASE performance (free entry ONLY if wearing an ENTECH tag) at 10pm until very late, which is adjoining the dinner. All dinner guests can also attend the SHOWCASE, free.

These events follow the Harbour Cruise on Thursday evening Oct. 7th. **Book NOW: (02) 876-1411.**

TRAVEL (continued)

The Business Class bummers: First, you get to your destination at the same time as everyone else, and even though your baggage comes off quick you still get caught in a Customs queue.

Second, even although most business class seats recline 17°, are 20" wide and have a footrest, the arm between each seat is usually fixed down. So if you are travelling cattle class on a lightly patronised flight you might get a centre block of four seats which usually have flip-up armrests, for a good nights sleep.

Third, despite claims to the contrary, the -ahem- cost of Business Class is usually about double that of economy. This is a touchy issue, most people surveyed say their firms only send them Biz if the trip is more than 6 hours. They do get 1.25 frequent flyer points per mile, so a single biz class return ticket to Europe is worth something like three Sydney - Melbourne return trips!

• Story Airliners Magazine reports a German tourist was arrested for a 'bomb threat' after jumping up and rushing to the toilet midair, shouting "the roof is going to go" while waving his arms widely. After several months in a Florida jail, a German speaking judge released him, accepting that the German expression: "then the roof flies" is slang for having to use the bathroom.

• Story ... Two Swiss business big wheels fly first class to Australia, changing from Swissair to Qantas in Bangkok. Upon settling in, the Purser asks for drink orders. Number one is happy with a beer, number two is very stiff. "I will haff ze mineral vater viv ze lemon jooce" he commands. "How terribly exciting, sir" the laid back Aussie Purser retorts, to laughter all over the pointy end of the bird!

• Frequent Flyer Note ... a recent redemption for a Qantas ticket return to Melbourne worked OK, needing 14 days minimum advance notice. The traveller was even upgraded on the home leg.

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Write in Reader Service number: 141

APRS - What?

APRS is really a recording show with some live sound thrown in, so their tag 'the one audio show' was a little off the mark. It was also smaller than I'd figured, but still had mostly all of what's on offer on show. Live audio is a distant secondary target, after all, APRS stands for Association of Professional Recording Services. They will doubtless have a navel gazing session soon, because while their membership includes studios, producers, engineers, post, duping and manufacturers, they EXCLUDE what we call Project Studios. This is tradeshow suicide.

Home recording, (which is the UK moniker for Project Studios) is, of course, a growing force, and while it grows, the traditional recording studio market shrinks. The other growth market in the northworld is audio-for-anything, meaning video, film and broadcast. This market seemed patchy at APRS too, but there was enough to keep the mostly professional looking punters happy for 3 days.

In the reasonably quiet sanctity of the press room we met a character from Hyperspace, a 'loose alliance of people involved in integrated and interactive media production'. In the reasonably chaotic confines of the Mix Magazine stand we met Alan Parsons, who was impressed Michael White in Sydney had already convinced us the Alan Parsons audio test CD was a great thing. Trade shows are always interesting for the people you meet. We got a brochure headed: 'HATE all this precious muso wank? Then communicate!' It hawked a secondhand analogue equipment vending firm - great!

MIX is a very famous magazine out of the USA, but they failed in a UK court to prevent a new magazine called THE MIX appearing in the UK. It was handed to every APRS visitor, and the MIX (USA) people were highly unimpressed.

The word on the floor at APRS was that the European AES show held in the first quarter of each year is increasingly important for recording and broadcast audio, and that PLASA, held in London in September is THE U.K. show for sound and lighting. -J.G.

Tascam have a mixing console for the project studio army, a new in-line, 8 buss mixer, the M-2600. Tascam build very solid consoles, and have resisted the rush down-market, so the M-2600 is pitched at the semi-pro user, 16 or 24 track DA-88 or ADAT type facility.

Available in 16, 24 or 32 channel formats, the M-2600 has a few features that put it apart from an increasing field of in-line style consoles. The EQ section, itself a fairly standard 4 way fixed high and low, with two mid sweeps, may be assigned in total to either the monitor or the channel signal.

Conversely, you may assign the sweep midrange controls to the channel signal, with the top (high) and low frequency controls on the monitor path. It's having the OPTION that is a refreshing change, because most other consoles split



Tascam M2600

the EQ for mixdown. Another different aspect is that the two track return inputs on the M-2600 are balanced XLR's! The eight auxiliary sends are clever too, because aux 1 & 2, and aux 3 & 4 are stereo, taking signal from both channel fader and monitor pot, whilst aux 7 & 8 may be switched to the channel or monitor path. Pre/post switching can be had on all but Aux 5 & 6. It's at the output section the auxiliary sends become really interesting,

because you can sum aux 5 and 7, and 6 and 8, so monitor and channel signals may route to the same effects gizmo!

The Tascam M-2600 has 6 fully routable stereo returns, stereo cue mix capability, direct/group outputs, and comes with reasonably ergonomic colour coded knobs. Worthy of audition.

Travers Faulkner at Tascam Australia will doubtless hopefully have this baby on hand at Entech '94, starting October 6 in Sydney.

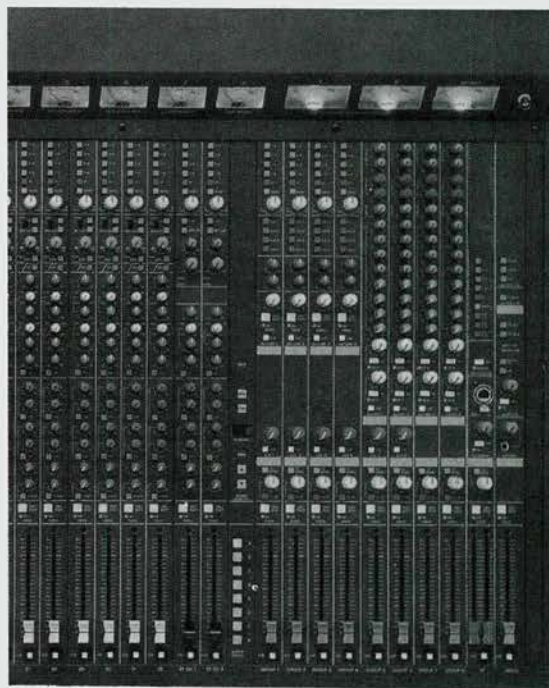
Yamaha M2000

Yamaha's new mid market live console entrant is a real surprise. While not in shock league like the Pro Mix 01 (see lead story), the new M2000 is a lot of console for a reasonable sum of money in pro audio terms.

The core requirements of a console for touring and smaller concert work are all serviced here, but with a few neat touches thrown in. A 13 way matrix services two separate outputs, and there are four such matrix's available. Most importantly Yamaha bring MIDI muting onto the M2000, with 128 mute scenes possible.

Scene muting is something you either really use a lot, or not often. Yamaha have given you both options, because your favourite eight mutes appear on eight large lit buttons.

A mute scene is a channel on/off, and auxiliary and subgroup buss on/off possibility. The auxiliary send and return channels can be turned on or off too, so you memorise a bunch of channels you



need ON for a particular moment, and that is your scene.

Conventional features of the M2000 are the obligatory four band EQ with two mid sweeps, six auxiliary sends, pre/post switched in pairs, and an auxiliary direct out on aux. 6. This was first invented because engineers always run out of auxiliary sends, -the availability of a direct auxiliary

output from the channel is a boon to live recording the g:g to an ADAT or DA-88.

The M2000 has a dual input switch on every channel too, which is a neat way of handling pesky line inputs. Two stereo input channels are standard, so a 40ch console has plus two stereo modules, and the other console choices are 32, 24 or 6 channels, all with 2 stereo channel extra.

You may option an extra four stereo channels in place of four mono, because the channel modules are arranged in groups of four.

Price here in Australia for the M2000 is under \$30,000 retail for 40 channels, which with the usual haggling reduces the console to the very affordable level for sound reinforcement firms and venues everywhere. See it at ENTECH '94.

Pioneer DJ CD

Pioneer may have taken the high ground in the battle to get DJ's to use CD's more often. At APRS the message from the major recording company reps I met is that they are still forced to produce 7" vinyl for the club set, who do break a lot of music for them, thus creating sales. They silently pray a mass accepted DJ CD deck will appear, and maybe it has

The Pioneer CDJ-500G is a really cool looking piece of hardware that is ergonomic in the extreme. The jog/shuttle wheel allows real beat-by-beat cueing, even with eyes closed. The overlength tempo slider allows +/- 10% changes.

You can connect two machines together for auto instant relay



play. The large backlit buttons and LED displays mean the thing can be used in the dark.

Best of all, it is the right psychological package, because it's roughly the size of a turntable.

Pioneer Australia say they will debut this product at ENTECH.

SADIE has V2.2

The Sadie Disk Editor system from Studio Audio and Video Limited, of Cambridge, got a large interest component at APRS, with the firm launching Version 2.2. There are several existing Sadie users in Australia, and 550 sites worldwide since its inception. Sadie is broadly spread across Broadcasters, Studios and Post houses.

New to Sadie V2.2 is the Processor Window, allowing a variety of post processors to be applied to selected audio clips or indeed the entire playlist. Digital EQ, dynamics processing (comp/limiters, gates, etc) Noise reduction, Time distortion, Digital re-sampling and bounce down are all available in this window.

Further enhancements include fader, pan and mute automation, auto-conforming, machine control, CMX support, background networking, playlist overview, CD-R support, and faster editing.

You can buy Sadie as a turnkey system, or incrementally. The whole system comprises the XS digital audio processor card, XACT analogue converter and timecode card, SADIE breakout box, software, and a fully featured 486DX-33 PC with internal drive plus external 1.2Gbyte audio drive.

At 1.2GB your recording time varies from 3 hours 40 minutes at 44.1kHz sampling rate in mono 6 bit, down to 1 hour 5 minutes in 24 bit stereo at 48kHz sampling rate. You can SCSI connect additional drives, or buy a 4GB drive for nearly 4 hours recording time.

The system will accept two inputs, and optionally provide four outputs. Various perambulations are available, and certainly in the UK the system has a reputation for great customer service support.

In Australia SADIE will now be distributed by TVC in Perth, call them on (09) 249-6688.

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Write in Reader Service number: 135

Tannoy New Things

Tannoy originate in Scotland, and have been building their business steadily for quite some time their new SuperDual of dual concentric (ie- the h/f horn is mounted in the middle of the woofer) loudspeakers are getting very popular in theatre productions.

Having said that, the new product of note for Tannoy at APRS was the PBM 6.5 II playback monitor, with a new 6.5" bass unit with injection moulded cone, a new crossover, and improved everything else. The original PBM 6.5 won a MIX magazine TEC award for being very good indeed, the Mk. II produces a cleaner, detailed mid-range and



a tighter, more accurate bass, say the firm.

It's small, with a rear firing tuned port, and gets down to 57Hz say the firm. The improved internal damping helps it get there.

In addition, they have a new product called The Limpet, an amplifier module designed to be screwed to the back of small-ish monitors like the PBM 6.5 II. Limpet delivers 115w at 8 ohms. Tannoy's Derek West says: "The Limpet is a versatile solution for studios who simply don't have the space for an amplifier rack or in places where monitoring requirement may not be fixed to one room."

Tannoy is distributed by Syntec.

FOSTEX superior DAT

The Fostex D30 DAT has a RAM buffer, which the firm say is a DAT first, and brings the timecode DAT medium they first pioneered to the point where 'Now Everything Connects' is their slogan.

The D30 is notable due to the large backlit LCD display, and the window that allows you to view the four head drum under the actual tape. See the tape move.

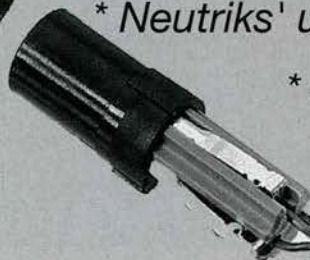
The RAM feature in the machine allows you to hear what you are

scrubbing, & find sync or edit points immediately. Instant start can be used repeatedly and continuously, which means you can scrub the audio and timecode together when you stop the tape. RAM is expandable by another 2Mb as well, and if so optioned you may cut, copy and paste internally, then preview the edit before committing to tape.

Fostex is distributed by Syntec.



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Write in Reader Service number: 154

NEUTRIK
 CONNECTING THE WORLD

Bits

• **TimeLine** have introduced a new DAW-80 digital audio workstation which utilises technology based on the industry standard Intel/Windows platform. The basic DAW-80 configuration offers 8-tracks of recording and editing capability and features icon-driven editing for quick, easy-to-learn and completely non-destructive audio operations which are easily interfaced into multimedia production and post-production.

• **Jands** have had two of their SR3000 amplifiers chosen by Sony Music along with a JBL MPA 1100 amp to drive ATC monitors at their East Sydney recording studio.

NewAudioNewAudioNewAudioNewAudioNewAudio



SOUNDCORP offer the SC219 modular balancing system, to interface balanced and unbalanced inputs and outputs. Call (03) 416 1066

ALTRONIC'S new 200MHz true diversity radio mic system comes in single or double channel receiver models, the single channel receiver with a handheld mic retails at \$984. Details from Altronic Distributors on (09) 328-2199.

SENNHEISER are known for high-end UHF wireless systems, the new EK4015 UHF receiver is a pocket size diversity device with 32 switchable frequencies between 450 - 960MHz. It has a headphone jack too. Contact Syntec on (02) 417-4700.



APHEX Four Channel Rack Packs



APHEX Easyrider, a four channel intelligent compressor that varies attack and release characteristics dependent on the texture of the input signal. Just dial in the amount of gain reduction, choose fast or slow time constants and adjust for output gain - it's that simple.

APHEX Logic Assisted Gate, a four channel fully parametric noise gate with ultraclean audio path and click free performance. Logic assisted detector circuits ensure absolutely positive and consistent operation, and allow the user to quickly and easily find the right threshold.

Call **EAST COAST AUDIO** now for the name and location of your nearest APHEX stockist. Phone (03) 428 9797 or 018 381 481 or Fax (03) 427 9898.



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Write in Reader Service number: 136

ROB NICHOLS

Catriona Forcer talks to Mr. Equipment in Sydney

After 25 years in the lighting industry, Rob Nichols remains a very gentle and modest businessman. He began his career at Reg and Judy Bartram's company 'Stage Spot' which, at that time in the late sixties, was the Australian NSW agent for Strand.

"I began by doing the Friday afternoon deliveries," laughed Rob. "We had about thirty lights and a couple of followspots in hire - Patten 23's, 123's, couple of 223's, couple of 93's, couple of 243's and a couple of 293's."

You get the impression that Rob can remember the entire lighting itinerary from every single warehouse he has worked in. At this time Rob was also gaining experience working at The Doncaster which used to be a large theatre restaurant in Sydney. Eventually Strand bought out Stage Spot and Rob was offered a permanent job. He stayed with Strand as their Hire Manager up until they closed down their operations in Australia in 1992. In fact Rob was the only employee to stay with Strand from the beginning to the end.

"Strand encourage young people in the hire department knowing they were never going to keep them for ever," said Rob. "They hoped they would leap into the industry and chuck work back at them which they often did. We had Phil Cullen when he was Mac Enterprises Lightshows, Colin Baldwin when he was a sixteen year old running Vibe Lighting and someone called Julius Grafton with a company called Zapco."

Fortunately Rob didn't mention any outstanding bills concerning the latter. (*Steady Cat -Ed*)

"Strand actually pulled out of Australia a few years ago when there was a credit squeeze worldwide," explained Rob. "They decided to sell the company to an Australian consortium but we were still Rank Strand Electronics. When the credit got better Rank bought it back again but then it went wrong again and they pulled out forever more. Hope they die with their secret! (*Joke*)."

"I was always very loyal to

Strand but I must admit they gave us six months notice and asked us to stay on if we could. We knew what was happening and they were very good about it. It wasn't a stab in the back in the dark. They were a good mob to work for and all the bosses were great."

"I think the only other person who has been in this industry as long as myself is Bob Fletcher at Channel 7, he's the dinosaur of television."

Whilst at Strand, Rob got to work at a variety of places including the Australian Opera and the Elizabethan Theatre at Newton, always rising in the morning for another day at Strand.

After his departure from Strand, Rob worked as a freelancer for companies such as Rosco and Starlite until he was offered a job by Chameleon in Sydney.

"I had done a couple of days freelancing for them first," said Rob. "When I arrived I thought it was going to be all rock'n'roll and I wasn't going to like it. Fortunately it wasn't. The occasional band comes through but most of the work is theatre biased. I've never liked rock'n'roll, it's never been my thing. At Strand we didn't have the equipment for it and the management weren't interested in it. We didn't do many trade shows or business theatre either because the management were always too slow to make a decision. Here if you need something, and the client are going to pay, then we buy it. At Strand it would take six months of letters and by then the job would be gone. You couldn't get an instant decision from management because if it meant spending dollars they had to get approval from London. Basically they didn't like spending money outside of the Rank group. I don't go out to any of the jobs but stay in the office doing the dry hire bookings. Tony Davies and the boys look after the productions whilst Roger Barrat looks after the professional theatre."

"At Strand we only hired out Strand products but here we hire out everything. Whatever's best to

do the job - we buy. We have CCT, Selecon, Strand, Jands, Dynalite and Coemar de Sisti. The hire business today is getting stronger and better despite the last recession. I think the hire departments grew stronger because no one was buying anything. With all the different products on the market today you have to be very wary where you put your investment. We stick with Clay Paky moving lights which have been very reliable although not the cheapest. Sometimes dollars are important and sometimes it's more which product will be better. We recently bought some Strand Preludes because they are still the best 650w profile around. Hurt me a bit to put money into Strand, I'm still a bit cut up at times (*Joke*)!"

Rob certainly seems at home at Chameleon, which has a family air to it, and at least twelve people hold keys to the premises. Staff know what is to be done and are free to do their work when they please.

"If work's not fun then don't do it," stated Rob. "It's been better than I thought it would be here. I didn't know if I was doing the right thing, perhaps I was too old to go back into another company. It's turned out I'm hiring to 90% of the people that used to go to Strand anyway so I know most of them."

Another good thing about Chameleon is that dogs are allowed and Rob is now on his third Basset hound. Rob obviously has a great love for these dogs although unfortunately they only live about eight years and consequently he already has Basset number four's name chosen.

Rob lives in the Blue Mountains, occasionally staying the night at a friend's house in Sydney. After Strand, Rob sold his city house half, intending to retire to the mountains where he already had a weekend retreat. He is currently plagued by the sort of dramas that occur when a new house is nearing completion. •



Thanks Rob

Rob Nichols always had a great way of dealing with people. I learned the concept of customer service from him when he alone ran the Strand Electric hire department in Sydney.

Back then I worked part time to support my business, and I got to meet interesting people who came through.

I already knew the guys Rob mentions in the interview, and the things that went down between Mr. Baldwin and Mr. Cullen & myself in those days would make a really good story another time. The good thing about Strand Hire under Rob, was it was neutral territory!

One day we unpacked 24 new Patt 763 profile spots, futuristic looking things they were too, the next day Rob hired four to Sherbet, who destroyed them on one of their pioneering Far North Queensland road tours. They also broke an axle on the Bedford 4 tonne rent-a-truck from Sydney Truck Rentals.

I knew about bands, so Rob was my intro to theatre. I discovered a different culture, where the lights were rigged to A PLAN, and the crew all had funny names. Who ever heard of a bloke called Hilda? Or Nell?

I owe Rob a lot.

-Julius Grafton.

Bits

• **Iain Everington** has resigned from his position as National Sales & Marketing Manager for Australian Monitor. Until a replacement is found, his assistant Francesca Peskops will assume responsibility for co-ordinating the company's sales and marketing efforts for the Australian dealer network. Iain Everington will now operate a new Sydney office for IMST, the rapidly growing high tech arm of the Electric Factory. More on them soon.

• **RCF (Italy)** have a major, large range of audio, with new products on show up at Singapore including new mixer amps and conference audio. Details: (08) 234-2789.

NewAudioNewAudioNewAudioNewAudio

AHB Radio Mixer 24 Tracks, 1 hard disk

ALLEN & HEATH have released the new GB3 12 input broadcast console, including the essential combination of mono, stereo and telephone inputs, along with master facilities and talkback communications.

Metering is also available in P.P.M. or V.U.

• *For more details call: Studio Connections, (03) 723-4300.*

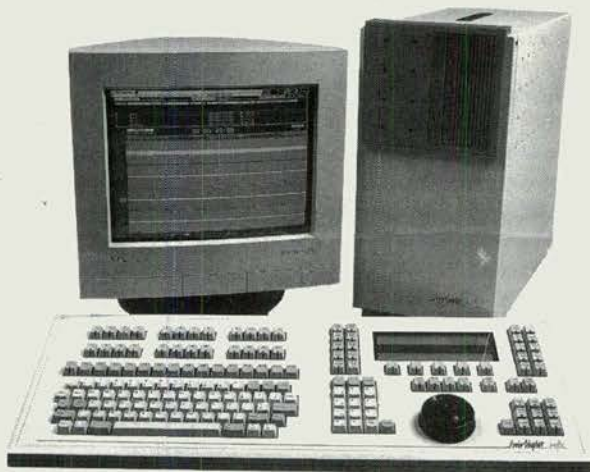


FAIRLIGHT write more export audio sales than any other firm featured regularly in this magazine, so it was no surprise that the MFX3 Mini got a lot of interested lookers at the huge SMPTE and APRS tradeshows, in Sydney and London recently.

The MFX3 Mini is touted as the worlds fastest digital audio workstation, configurations range

from 4 to 24 track systems with simultaneous playback or record of 24 tracks from a single hard disk drive. MFX3 provides up to 24 inputs and outputs in digital and analog, together with DSP functions such as real time clip-based EQ. The system retains the MFX editing console.

Info from Graeme Rothwell, Fairlight ESP, (02) 975-1230.



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Write in Reader Service number: 137

ISMT grab more AVID

While AVID grabbed the best exhibit prize at APRS, Melbourne based Innovative Sound & Media Technologies were expanding their portion of AVID distribution here in Australia. Managing Director Robert Styles confirmed ISMT now exclusively represent AVID's range of desktop video editing systems.

The firm have just opened a Sydney office, to be run by Iain Everington. ISMT has grown solidly since inception, and supply digital audio, video and multimedia to the diverse world of broadcast, post production, recording studios and end users.

AVID has just announced a new line of entry level DAW's, which may find their way into ISMT's product range. *Details from ISMT, call (03) 416-9688.*

Jands divest Broadcast

Jands Electronics have handed distribution of Soundcraft Broadcast consoles to Syntec International. The only products affected are the MBI Series, LM1, B100, BVE100/S, Delta AVE, GP1, VSA24 and SAC consoles.

This divestment, initiated by Jands, results from the recognition that the broadcast market needs to be serviced directly if significant market share is to be gained. This runs counter to Jands' determination to build and support a strong dealer network, a spokesperson said.

Distribution of Spirit, Folio and all other Soundcraft studio, performance and professional equipment will continue to be handled by Jands.

NEW CREST AMPS

Crest Audio introduce the CA Series, a more affordable range of ultra high powered amps.

The CA6 offers 600w per channel stereo, and 1500w bridged mono, Price \$2,995.

CA9 generates 900w per channel stereo, and 2000w bridged mono, Price \$3,695.

CA 12 outputs 1,200w/ch stereo, and 2800w bridged mono. Price \$4,995.

These will run into 2Ω, and all have a protection circuit for your drivers.

For details contact Production Audio Services, (03) 852-0900, (02) 954-5100.

AUX 2 Gossip

It can now be told .. the very amiable Mark Dryden from Penn Fabrication (Australia) was in marketing mode before the Singapore trade show last year. He direct mailed every possible sales prospect, inviting them to visit his huge stand at the show. One Korean firm decided to do just that, arriving in a party of four first class from Seoul, with 400kg of freight! The freight was, in fact, a trade show display, and guess where they thought they were putting it? On the Penn stand, of course! The translation of Mark's letter read (to them) like they could exhibit, with Mark for free, so they were! NOT. Very much lost face all around, and a hasty departure for the luckless Koreans. So take care next time you write to Korea

Then there was the extraordinary letter circulating at this years Singapore show, from a Chinese firm offering Great Copy Gear by 'ALX' - the 'Afterburner', 'Quadcompl' and other 'indescribable products for your further furious inspection'. Sadly for this story, gladly for ARX, it was all a hoax by Perth's Ian 'Audio Source' Ross.

Seen at the Singapore show was Jands Production Services boss Eric Robinson, in Singapore for shows all month. The firm has an office there, with a complete concert PA & lights, Vari'Lites and smaller gear for conferences, etc. They are deadly serious about Singapore, judging by the local firms there who are fighting back by spending more - serious - money on gear. Jands are training local crew, meanwhile their Aussie system engineers work in Asia on shows and tours.

Caught, David Carson (engineer, SPV8 Mildura) and his better half were treated to dinner by a 'friend' in France - who had his wallet STOLEN from his jacket in the restaurant so no-body could pay! Now if you've been to a restaurant in France, you'll know the feeling, the service is pretty mean even when you ARE paying!

Events

Music, Entertainment Technology
Multimedia Conference, Sydney Sept 3 - 4
PLASA, London, Sept 11-14

ENTECH '94, SYDNEY 6 - 8 October

Melbourne Music Expo, Oct 22 - 24

AES 97th, San Francisco Nov 10 - 13

LDI Reno USA Nov 18 - 20

NAMM, Los Angeles, Jan 20 - 23

98th AES, Paris Feb 28 - March 3

Musik Messe, Frankfurt Mar 8 - 12

AES 5th Australian, Sydney Apr 26 - 28

NSCA, Indianapolis USA, April 29 - May 1

SMPTTE 1995 July 3 - 6

AIMS '95, Sydney Sept 4 - 6

ENTECH 1996: dates to be announced

A note on Australian Trade Shows:-

A couple of our international readers have asked what the pattern is. They were confused.

As we understand it, **SMPTTE** is on again next July and then on subsequent alternate years, ie: 1997, 1999 etc. **SMPTTE** say they need to run a smaller show in 1995 to realign the event with other shows internationally, thence go alternates.

The **AES Regional** show is usually held each alternate year, so after next year it returns in '97.

Likewise the **AIMS show** - the Australian International Music Show, which is the largest of them all, runs in 1995, then should return in 1997.

Because the above three trade shows operate on the same alternate year, the 'ODD' year, the designers of **ENTECH '94** took the decision to run each alternate 'EVEN' year. Thus 1996 will see the next **ENTECH**, the dates will be announced during this years event, which kicks off on October 6th.

Entech have claimed the 'even' years.

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

AES TO 'MAKE WAVES' in '95

The 5th Australian regional AES Convention is well into its planning stages for its heralded move to the Sydney Exhibition Centre at Darling Harbour, scheduled April 26 - 28, 1995. Exhibition enquiries have been solid, with 20 companies reserving space in the first weeks of the release of exhibition details. These include **Studio Connections, Sony, Ampex, Ampower, ESA, Amber, Jands, and East Coast Audio.**

The convention theme, 'Making Waves' reflects both the end product of Audio processes and an impression of changing the natural order - to challenge the established thinking in the ever advancing audio field. As is traditional, the Convention will be presenting a series of Technical Papers, Workshops and educational sessions, all aimed at advancing the industry's knowledge on the advances all the time being made in the audio field.

The AES is particularly interested in receiving submissions from both individuals and organisations interested in presenting Papers at the Convention. Abstracts must be submitted by late November, in order that the Committee may consider which of those topics proposed should be included in the program. Submissions are also being sort on Workshop topics, an ideal method of explaining the nitty gritty of audio product to a knowledge hungry audience.

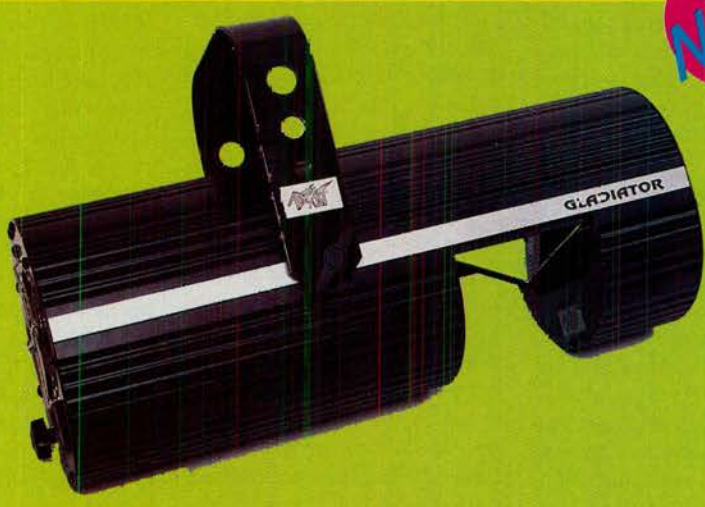
The AES awards will again be presented, genuine consideration as to worthy participants in various categories is encouraged.

For more details call Rob Walker 03 534-5755.

ABSTRACT™

DESIGN TO LIGHT

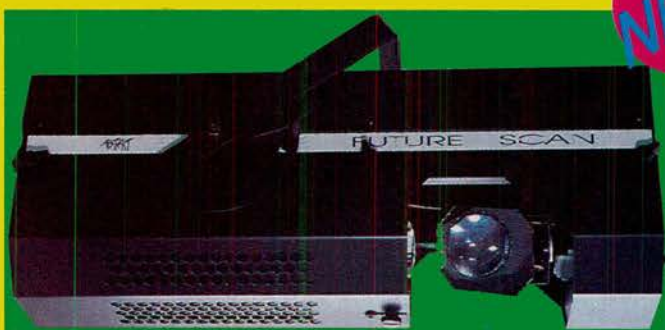
GLADIATOR PRO 212



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Feed Back

• **Scott Kinlyside**, Production Manager at Radio 2GZ in Orange NSW, says: "This is the best new gear magazine around!" Of course!

• SAE graduate engineer **Adam Mulquin** (looking for work, call 042 682-154) comments: "Cannot fault your magazine, it's excellent & very informative."

• On the other hand **Shiela Yates**, well known as a critic and veteran letter to the editor writer has decided rather than share her commical views on the supposed sexist nature of this magazine with you, dear readers, she would prefer to telephone the office and abuse the editor. The topic was, of course, the advert for Abstract in the last issue. Of course the editor was *the PIG* who Is To Blame. Not.

• **WHAT YOU WANT:** **Chris Clarke** (Studio engineer, Doveton Vic): "More pro recording equipment". **Tony Maio** (Sound Engineer, Evansdale SA): "More on touring PA's & effects". **Tony Stojkovski** from Traditional Sound (Sunshine Vic): "Expand the PA Page". **Axel Hofner** (Instrument maker, from Brooms Head) wants the 4Ω power ratings for the H-Series Yamaha amps on page 12 last issue. OK: 450/700/950w. **Josh Adams** from ABC Mobile Discos (Maffra, Vic): "More lighting info." **Glenn Thomas** (Producer/programmer, Harbord NSW): "More articles on recording". **Bruce Ker** from Disco Image (Wantirna Vic) would like a story on the cover band topic, and **Chriss Jonas** (Student from Bulla, Vic) would like us to cover some touring bands. "Other than that, your magazine is legendary!" **Steve Woods**, a rock guitarist from Umina Beach NSW, would like "more in depth detailed reviews and info on true multi effects units". **Alan Vidot** (South Clayton, Vic) want's more on building a studio - and: "Its excellent" - this mag, of course.

• **J. Heywood** (DJ, Kunwarara Qld) says: "great mag, I read every page and have learnt a lot from it".

• The last word goes to **David Griffiths** (Guitarist, Tugun QLD): "Don't forget the little people!". -To which WE SAY: *Never, David!*

SEX & PIGS

I wish to take issue with the advertisement in the latest Connections. If you must use sex to sell product you could at least get some decent looking bush pigs.

-**Steve Devine., Topstage, ACT.**

PIGS & SEX

Connections, lift your standards!

I was both annoyed and frustrated with your inclusion of the Abstract Lighting advertisement in your June/July issue depicting sexually suggestive, scantily clad women accompanied by the caption "Power with Beauty".

I fail to see the relevance between the image and product.

The growing number of women in the industry should be encouraged and not alienated as this advertisement serves to do. It strengthens the stereotype that the only power women have is sexual power and that, (for women) intelligence and skill matter less than appearance.

Technicians and designers deserve not to be labelled by gender, but by levels of competence. So let's stop supporting sexism and start to even the playing field, shall we?

- **S. HARMSTON, Architect and set designer, (gender irrelevant), Sydney NSW.**

• *Don't shoot the messenger, we didn't design that advert and can't police ad content beyond what is legally permissible. We'd accept an advert showing beefy blokes too. Supporting sexism? Bullshit.*

I really don't think we all need to be so politically correct, precious and sensitive any more. It's 1994, and the barriers to women getting ahead in the technical and performance industry are coming down. There are not enough women in management - yet - but this is a product of the repression of an earlier era, not now.

This magazine has, and always will, triumph the professional achievements of anyone, and yes: Gender is Irrelevant! -Editor.

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SAMSON UPSET

I am faxing this in response to our telephone conversation yesterday evening where I outlined several inaccuracies concerning our company in your publication which you admitted to and have subsequently agreed to retract.

To wit: Your reference to "Korean Giant" Inkel and the fact that it is manufacturing a similar version of the Mackie 1604 known as the MX-1242 is false. Also, the statement that Inkel "also OEM one for U.S. pro-audio marketing giant Sampson (sic)" is inaccurate as well.

The reference to the Behringer console as the "Mackie Clone 32-8" is not only unfair and possibly libellous, it also assumes certain facts based on an early prototype, most of which do not reflect the look and feel of the final product, shown as the Musik Messe that lead you to some premature and downright dangerous conclusions, none of which are based on any hard evidence.

Mr. Grafton, while I understand your efforts to reveal the "inside track" of the international pro audio community, you must also appreciate that playing fast and loose with the facts in this kind of editorial environment can be hazardous to everyone involved.

We would appreciate an immediate retraction of the mis-statements about Samson, Inkel and Behringer and would very much appreciate it if you could properly verify your information prior to publication in the future.

- **J.C. Costa, V.P. Marketing, Samson Technologies Corp, New York.**

• *I admitted NO SUCH THING, pal. I said I'd CHECK WITH the writer of the article in question, Ray Bond in Singapore. Ray says:*

"Inkel is a Giant Company, what I accept is that the Samson mixer is not made by Inkel. It is, however, built in Asia. Why does this bug you so much, Costa? The MX-1242 bares a strong resemblance to a Mackie model, I said it was 'very similar', not a clone.

Your defence of Behringer is very strange. Your statement that we play 'fast & loose' with the facts is offensive". Amen. -Editor.

Barry Crew say:

We all had a really terrific time in your wonderful country, and I for one was very impressed with the level of professionalism and expertise exhibited by everyone involved in putting on our show.

Unfortunately, you saw (and of course wrote about) the show in which Barry used the in-ear monitors for the very first time. Needless to say, they take a bit of getting used to, especially for a performer who's been doing it as long as Barry has. So he was a bit tentative about them, hence the "....sight of Barry persistently sticking his finger in his ear during the show..."

We switched back and forth between in-ear and speaker monitors for the shows on the Australiana tour, having very mixed results. In the end he decided that he just didn't feel comfortable with them, and would like to continue with speaker monitors until such time as the in-ear monitors (and the art of mixing for them) are more "refined".

So Dave's hopes of completely doing away with speaker monitors are a thing of the past.

I was reminded by your article that it was also the one show that didn't start out so well, what with Barry's mic not being on....Just for the record, I would like to point out that no, I didn't "forget to switch on the mic through the FOH", and it wasn't "pumping through the monitors" at all!

What happened was that what with this being the first time Barry was actually trying the in-ear monitors for a show, Dave was very frazzled, and we forgot to do our normal vocal mic check. To top that off, Butch, our tech, was busy until the very last minute cleaning up the cosmetics of the in-ear ear pieces. So when he grabbed Barry's vocal mic, he simply forgot to check whether or not it was switched on. Hence, Butch was the "grubby roadie" who grabbed Barry's mic from him and switched the power on. Thank God Barry's as understanding as he is.

- **Ken Newman, House Sound Engineer, Barry Manilow Greatest Hits Tour '94. Van Nuys, CA, USA**

TV embraces Drummer upset

I was about to sit down and write a letter both complementing Connections, and in the same breath asking for some changes. This letter is long overdue, as I have been an avid reader of this magazine since inception, and I believe Connections' existence is crucial for the dissimulation in production and product information in this country. The only criticisms I have are that:

1. There seems to be a decreasing amount of lighting articles,
2. There is a minimal presence of Melbourne based articles,
3. Aside from the Midday & Home & Away articles, there are no articles relating to the Film & TV industry. TV in particular embraces all the elements of Connections within the one medium.

Then in a blinding flash I realised the most probable reason is that apathetic people like myself don't get up out of our chairs and submit articles.

I offer assistance from Down South, we at GTV are in the unique position to be able to use just about any lighting product in an operational sense.

-Rohan Thornton, Lighting Supervisor, GTV-9.

• We definitely need articles from the field, so please send them! -ed

I must take exception to a comment you made on page 57 of the June/July edition of Connections, that "Drummers make shocking live sound engineers in my opinion!". Me, a shocking live sound engineer, never! Shocking drummer sure, but not the other.

As someone who has worked for many years as a live sound engineer, I can honestly say that being a drummer has never had any adverse effect on my ability to operate a, um, you know, that big thing with all those knobs on top. In fact, I have found that being able to speak "drummer" has helped my enormously as the majority of bad drum sounds come down to kits being tuned to what sounds good in the bedroom i.e. six layers of gaff tape to get that authentic telephone book sound.

As an addition to your otherwise great article, I would like to offer the following advice for people who are in the position of being a F.O.H. engineer for a support act. ASK QUESTIONS!!!

I wish I had a dollar for every time a support act brought along an "engineer" who not only had no idea of how to operate your rig but was also too stupid, arrogant or scared to ask.

Remember, it is better to ask a

question and be thought a fool than it is to not ask and prove it. Also when I have been the engineer for a support act I have found that many arseholes turn into pussy cats when you pick their brains and give them an opportunity to become teacher and tell you how good they are. I have learnt something off every other engineer I have worked with (even if it's how not to run a rig).

Keep up the brilliant work people, it is very much appreciated.

**-Mark Gibson
Camden, NSW.**

Free beer upset

Re: your announcement of my joining the esteemed company Coemar De Sisti Aust. Pty.Ltd. of Melbourne, Victoria. Certainly all of what you said was factual and even flattering to a small extent. However I presume that no one actually reads the magazine or that all Victorians are simply antisocial bastards as NOT ONE SINGLE PERSON has rung me up and offered to take me out for a drink. I mean it is not as if a schooner (or 'pot' as it is supposedly called over here) is exactly a huge expense.

**-Richie Mickan,
Coemar De Sisti.**

Mackie upset

In reference to your article "The Mixers, The Market. The Year in Review", (June/July) I offer the following comments.

The current level of pricing in Australia has nothing to do with the perception that we are a new distributor and are not setting correct margins. This is a fallacy obviously fuelled by our competitors. Your decision to believe it concerns me, your decision to print it shows a total disregard for fair and informed reporting.

I have been involved in the national distribution of various audio products for over eight years now and worked as a sound engineer for eight years prior to that.

We are not a corporate company with huge overheads; we maximise our resources, keep our costs down and pass the savings on to the people who buy our products. Service is another issue, something many of the larger distributors have forgotten about.

If the other distributors are gnawing their teeth, as you put it, about our entry to the market it can only show we are doing our job.

- David Croxton, Australian Audio Supplies, Gladesville NSW.

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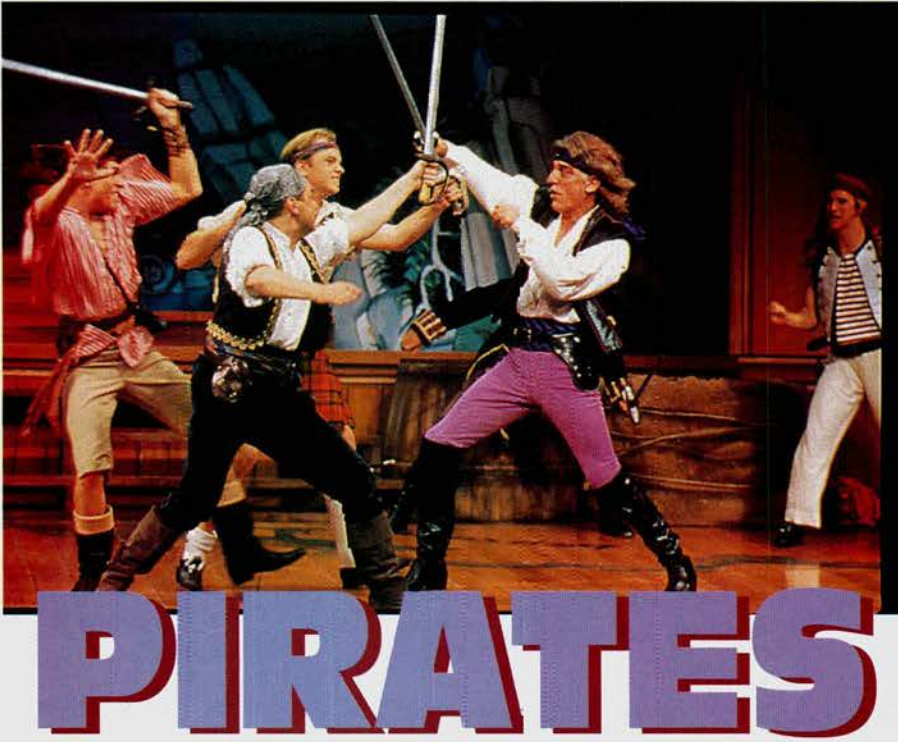
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Write in Reader Service number: 127



The review in the Sydney Morning Herald was cruel. But it ended by saying the show would sell a lot of seats ... and it has. Give the people What They Want, Catriona Forcer delves into the production of *The Pirates of Penzance*

There was a time when a Gilbert & Sullivan musical relied solely on strong voices and a loud band - but today's audiences are used to a more sophisticated sound whether it be at a concert, the movies or the theatre. Expectations have been raised, Dolby sound is the normal and, at the theatre, every whisper must be heard clearly. As a result, Essgee Entertainment (which stands for Simon Gallaher, one of the male leads in the show) in collaboration with Dick Smith and Australian Geographic's production of *Pirates of Penzance* has strived to achieve today's required standards of sound in entertainment.

Sound designer for the show was David Gurney of Urban Dynamics, a Brisbane company. The operator was David Greasley. Urban Dynamics have been involved in theatre sound design for years, but also diversify into computer animation, 3D graphics, video production, lighting, staging, production management and event theming. *Pirates of Penzance* was put together in Brisbane early in May and after running there for a few weeks, it transferred to Perth before arriving at Sydney's State Theatre.

Sound requirements were fairly straightforward with a small band comprising of three synthesizers - bass drums and percussion - and the cast on stage. The cast were miked with three foot mic's and twelve Shure EC Series radio mic's.

"We use Shure WL93T microphones which are designed for theatre application," said David Gurney. "It's a miniature microphone with a slightly longer cable than the standard unit and that enables us to place them better. The system has been computer calibrated and

it works like a charm. Our radio microphone technician is Mark Cheney and backstage we have a radio rack. He also has a radio room where he looks after all the microphones."

Before any of the cast go onstage they have to go through quite a sequence. Although the microphones are all fitted up before the show they change around all the time so Mark has to listen through the headsets, cue their microphone, test it, and then they can go onstage. Having people running from dressing rooms straight onto the stage is too risky. Mark has the listening stations and so if there is a noise during the show or someone is not sure if a microphone is working properly, they can come over to the station to check it," said John Robertson who assisted David Gurney with the sound installation.

Next to the radio microphone rack was an essential piece of equipment - a Video Painter which is like an Etch-a-Sketch but transfers what you write to a TV screen and is available from high street stores. (*Catriona is English, and that's what the English call electronics stores -ed*)

"Because David Greasley out front mixing the show cannot be on headsets, we had to figure out a way to get messages to him," explained John. "We tried using a CCTV camera pointing down on a piece of white paper on which we could write. It worked but not that successfully so we ended up getting this device which is really a kids toy. What we write here comes up on a screen at the front desk.

For instance, Tim Tyler hurt his ankle during a show in Perth and we had to let David know that his understudy was coming on so he'd know which microphone was coming on."

The FOH sound control was via a little Soundcraft Spirit Live 4 which was used to submix the band, with the main console a Soundtracs Megas Stage. This goes to prove you CAN do professional shows without spending \$150,000 on a console.

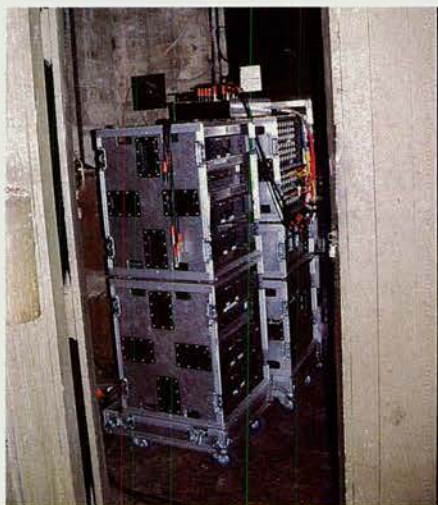
"The desks are choc-a-block," said David. "From the Soundtracs desk we're doing all the auxiliary sends for the band, front fill and side fill for the stage. We have a stereo auditorium system that is configured on different levels and we also have a delay system which is on three different levels. It's all equalised using ARX EQ60's which are very quiet - and that's important in theatre."

"Part of our brief was to make the sound very 90's," explained David. "They didn't want it to sound like an old fashioned, traditional musical. They wanted something a contemporary and modern sound hence we have sampled drum sounds.

The system was designed for touring and the auditorium system picks up on two points. The main arrays are picked up on two pick ups, one a side, and we have three levels to the sound system with each frame suspending the one below. That makes it a very fast system to rig which is important on this tour as there is often very little time to set it up. We only had two days here. It's all multipinned using Socapex multipins on both the loudspeaker cable and on the multicore."

Consequently it's only a matter of running the cable and plugging it in. The amp racks are already hard wired to add to the speed of fit up time. The front fill system was attached to the front of the stage and also had three levels of delay and that's what took the most time to put in. David believes the main array speakers are unique to Australia as they are a new Martin Audio system. The smaller, top speakers were Martin Audio CT2 which are a trapezoidal enclosure equipped with 12inch coaxial drivers. The lower speakers were Martin Audio EM185 which is a three way system. Additional, behind some golden grills, there were two martin Audio BSX sub bass enclosures each side of the stage.

"We've been using Martin for years," said David. "We have a lot of their stuff and I think that it's a very natural sounding system. It provides seamless coupling between the enclosures so when you're configuring arrays like this you don't tend to get any lobing occurring. We also found you tend to get the same sound in Row 3 as you do in Row 23 as it's a very even sound. I also think Martin loudspeakers are very flattering to vocals with a nice, warm sound. There are no peaks built into the frequency response, it's just totally smooth with no extra lump on the low end or anything like that. I think it's a bit of a shame that something designed by an Australian never really took off here."



Neat amp racks

The wonderful plaster work at the State Theatre is particularly delicate and that factor has to be considered when rigging. Hence David used Pollard Productions for the rigging as he believes they are the best in Australia.

"It is a bit of a fiddle getting everything in and we have the amplifiers located down below the pit in the old battery room," said David. "Most of the amplifiers are Jancs SR3000's, although we do have a few SR1500's, and they are fantastic. The only difficulty with the acoustics in this room is that the stalls have a low ceiling and you tend not to be able to have the operator hear things like the rest of theatre."

You can't help but get the impression that the crew are very fond of this production and enjoy working with the cast.

"The input of humour from guys like Jon English and Glynn Nicholas, over and above what's in the script, is just amazing," said



Here 'tis, the Viac Painter, a great (cheap) way to get text to a remote site - how about on-stage at a gig? "Turn Down, dimwit"

David. "They are two of the funniest people you can put in one show. There is also the Fabulous Singlettes which are interesting because they look like they are using three hand held microphones but they are actually dummies. In fact, WL93's are actually used to mic them up but we're getting so much gain from the Shure radios that you would swear everybody was on a Beta 58. It's just extraordinary. The other interesting thing about the WL93 is that they sound so natural and warm, many of the condensers tend to sound very thin."

As with many shows in Australia the lighting designer for Pirates of Penzance was Roger Barratt. This is the fourth production of Pirates that Roger has worked on, the first being as an electrician in 1969, then a Broadway version and finally he designed a production for the Victorian State Opera in 1990.

"I've done more productions of Pirates than any other show that I've done and I've designed about 400 shows," he laughed. "The approach was the same as the Broadway version - big, bold statements and easy to get into a theatre especially as we had very short time. In fact to get this on, I worked 40 hours straight with only a four hour break in the middle of it which was a bit hard. It's a simplistic design with only fifty lighting cues and 125 control channels. We're running the show on an ETC Microvision and this is the biggest show I've ever put onto the Microvision, it's jam packed the board and we don't have any cues left."

"The megamix at the end of the show takes up a fair chunk of memory on the board. The 125 control channels soft patch up into 512 dimmers although we're only doing a one to one patch. The Microvision has two playbacks, has automatic follow ons, and will link to cues so for the megamix it's just a matter of pushing a button every time we start a new sequence. It then

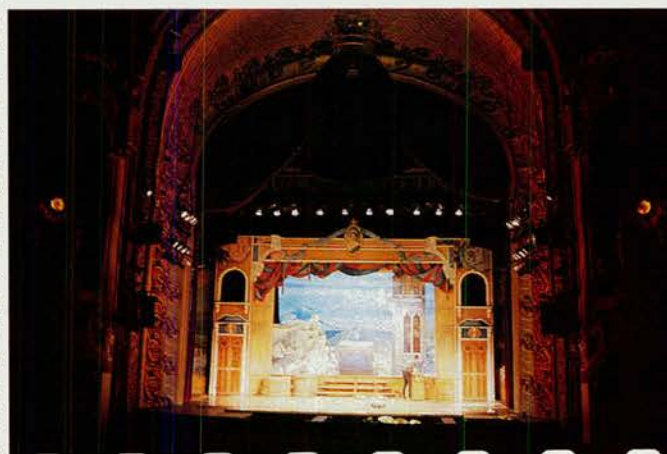


David Greasley (seated) with David Gurney

adds in all the chasers and does it all, then does follow ons which build in the scroller changers and it's very simple to operate."

The rig, supplied by Chameleon, had about eighty pars, sixty conventional theatre lamps, sixty 1K and 2K fresnels and another sixty 1K profiles. There were eighteen Colourset scrollers. Colour wise, for the naturalistic scenes, Roger used a range of blues as well as 132, 151, 201 and 202. For the daytime scenes he switched to a lot of open white, pale lavenders and pale pinks. Then the megamix had saturated colours, mini strobes and many chase sequencers. Smoke machines were used as well as a ripple machine and three 1200watt Neithammer follow spots which, although the theatre is quite large, succeeded in doing their job.

Lighting operator for the show was Shaun Driscoll who also runs his own company called Blue Log Lighting. •



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Backstage with The Mouse & his mates



Sound operator Steven Martz examines indigenous publication before calling in translator....



You know who these guys are too, or you should. But what kind of song may they be singing from within this cage? And why?

It's amazing where you find the large productions these days and, believe it or not, this is one of them. What must surely be one of the longest running tours on the road today (three years into a five year stint) finally arrived in Australia to the delight of anyone under the age of eight years. The production was lavishly slick and the sound quality was excellent but the miming was irritatingly false.

Before any lighting or sound equipment can be installed, the ice floor has to be set up two days in advance to give it time to freeze. The company travel with their own generator and compressor that power the whole show - ice, production lights and sound.

"We don't rely on any building power at all" explained Toby Wagner, Production Manager. "That way we avoid the problems of dealing with 50Hz or 60 Hz. Sometimes if the building has its own ice floor we do have transformers so we can run the whole show through a transformer with building power. But if we have to install the ice we might as well use the generators for the lights and sound as well because we have 1200amp breakers for the show and 1200amp breakers for the compressors which keep the ice cold. The floor is made up of 20ft x 2.5ft panels which have to be laid down and lined up just right. Plumbing interconnects all of them and there are tubes inside the aluminum panels, which run back and forth just like an air conditioning system, containing a glycol mixture which keeps it cool. The tubes have to be accurately connected so there is no leakage of the glycol and it takes a lot of time to line it all up just right."

If an arena has a permanently installed basketball floor then styrofoam, plastic and plywood have to be laid down before the ice floor to protect the court.

The entourage has a cast, crew and staff of

about seventy people, thirteen of which were crew members including five electricians, two sound guys, two carpenters, two wardrobe people and two props people. Four ice engineers travel with the show. Added to that were four 40ft ice containers and ten 40ft show containers on the road. Another tour to please Australian hire companies although Toby did concede that they had been researching the possibility of getting some rope for the curtains here (!). "With Sydney being a port town they should have plenty of rope," he said. "We also locally get CO2 supplies for our fire extinguishers because some of the props use a blast of CO2 as an effect. When it comes to supplies we're pretty well stocked with bulbs and connectors etc."

The show has already been seen in the States, Japan, South America, South-East Asia and the tour of Australia lasted two months. Toby had been with this particular show for two years although he has been with the company for over three years. Usually Walt Disney's World on Ice have six shows out on tour at one time.

"The Australian tour is actually quite a short one for us," said Toby. "After this we have a six week break whilst it is shipped to Europe to continue the tour."

Victor Seastone was head electrician with the tour and was in control of the lighting rig including the Pan Command system. The original design came from Joe Schwieker who did all the moving lights design and Jeff Johnston who assisted with the design of the stationary lighting. The majority of the lights were par cans with a number ACLs and Lightwave Research's Dataflash and Foggers. All the moving lights were Panspots and there were also Morpheus Colour Rangers.

"The control is an ETC Impression desk which runs all of the stationary lights, foggers and balls which are motorised," said Victor.

"We have a Morpheus Commander and Expander for all the Pan spots and colour scrollers. I have four assistants right now. One runs the eight spot lights, one helps maintain the Pan spots and one runs each board. There are a total of about 350 lighting cues between all the boards. The system has a lot of flexibility designed in it, the trusses can spread out to 35ft between them and they can compress to about 10ft per truss. We can also ground support this entire rig including the large M-truss which is motorised and drops during the show."

I had to ask Victor if he ever got bored running somebody else's show for years on end. "Well, yes and no," was his uncommitted reply. "I've been with this show for two years and at times the music makes your skin crawl but you move on and start noticing more and more detailed things on the show. Usually humidity is the main enemy particularly with motorised lights but Australia is dry enough so we don't have any problems."

So I then asked Victor what was the drill for taking lights off the skaters when they take a tumble. "No one ever falls!" he lied. "It depends on the fall of course. Generally they get up fast enough so we don't have to worry." Sound engineer Steven Martz was deploying a distributive speaker system at the Sydney Entertainment Centre with a centre cluster and two sets of satellite clusters.

"One sits on the truss and the other hangs over the audience for the delays," he explained. "Almost the entire sound system is Meyer based except for the BSS TCS804 delay units. We have Meyer amplifiers, Meyer speakers, Meyer equalisers and the new Meyer SIM system to evaluate everything. The SIM system is one of the most useful time saving tools that you could use. We're using it with all of our shows now because it is so quick and effective. Basically it takes what would normally

be a two day set up, as far as equalising and evaluating how a room would sound, and turns it into a two hour deal."

Steve sets up his microphones in three different zones and takes about 64 readings in a two hour period. Through the computer, he can see what is coming in from the microphone and adjust the EQ curve accordingly on screen. Without this aid he would have to walk around the zone, listen to what it sounds like and call to someone else to, for example, take out 200Hz.

"It gives me a really good start and I can get the show up and done in one day," said Steve. "In this room 200Hz is a really big thing and a bit of a problem but after Asia I really appreciate this room! The show sounds really good."

Steve is kept busy during the show with the sound effects although the show program (music, vocals and songs) is on DAT. Sound effects include a Yamaha X7 drum machine, a keyboard, Peavey and Akai samplers.

"We use a Mackay 1604 mixer which is really cool," said Steve. "It's a really good value, pretty inexpensive but very quiet and efficient. I never have any problems with it and it's just a wonderful piece of gear. We also use the Mackay Auto 1604 to remote control volume so I don't have to keep turning around all the time. There's also some Meyer parametric equalisers. It's a pretty involved show and some



Ice work if you can get it ... the whole show, including refrigeration containers and power plants is shipped around the world.

parts are more demanding than others. The second half of the show has a ten minute comic routine which is half tape and half live sound effects which is pretty full on."

I asked Steve if he ever got it wrong. "Oh all the time," he admitted. "But that's the cool thing about it. You see the show so many times you go past seeing it like an audience

member. In the comedy number they purposely don't do the same thing everyday which kind of makes it interesting and a lot of fun.

The only live vocal part of the show is when the compare skates over to the audience to engage in conversation with someone and a wireless microphone is used.

•Catriona Force•

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Write in Reader Service number: 143



UB40

It was refreshing to see a road tour through remote locations in the far North of Oz and through regional NZ recently. Catriona Forcer caught up with the slightly lagged UB40 crew...

UB40's 'Promises & Lies' world tour recently visited the region with a hectic schedule and little time off. Lighting designer Tony Austin was so tired by the time the band were due to play their second show at the Hordern Pavilion, Sydney, he seriously considered cancelling the show. Mind you, when pressed, Tony did admit to some heavy partying with the Jards boys the night before!

UB40 are renown for long tours which invariably visit countries that are off the usual itineraries and were one of the first bands to tour Russia, Chile and Argentina. On this tour, which started July 15th 1993, they had already been to the USA, Europe, Japan, Indonesia and were due to go on to South America. For the first time ever, the band were scheduled to play Columbia which Tony was looking forward to although he did express concerns about being 'set up'.

"You have to be pretty versatile to play some of these places," said Tony. "I've seen some strange equipment and seen guys falling off makeshift trussing. It can get quite bizarre but you try to forget about it and get on with it. Usually the people are really nice and doing the best that they can. Fussia was odd because we were supposed to be doing a film over there but every time we tried to film we were stopped! We also had soldiers as stage hands."

The crew had arrived the day before in Sydney and loaded in to the Hordern at 3pm for a show that night. A rather dazed Tony couldn't remember where they had come from.

"It was a bit of a shock trying to get the show ready for 4pm!" he said. "Although they had some problems with the sound at last night's show, everything went well for us. Australia has been a bit of a horror tour for us as we've only had one day off. I don't know why it's like this as I try keep out of the politics of a tour."

For the first time the band were using Vari*lites as well as projection which was Ally Campbell's idea.

"We had about five weeks to get it all together," said Tony. "We didn't start off the tour with projection, as we were doing outdoor shows in America, but we added it when we returned to Europe for indoor shows. The projection made a big difference to the show. The images were done by the guy who does our album sleeves and lives in Birmingham, UK. The band always try to support local artists in any form and give young people a break. They're really into putting stuff back into the community."

They're not a band that give you a lot of time and everything is always last minute. Normally I'm given a free hand with the design but this time they gave me a couple of ideas which was they wanted a curved look to the stage with no hard edges and the projection. I managed to get the Vari*lites which they've always been against because they think the music should speak for itself. Now they won't go anywhere without them. In a way that's been good for me because it's been challenging to try compete with people who were using the latest technology."

Most of the people in the band and on the crew come from Birmingham and even went to school together. From Tony's house he can walk to five band member's houses in five minutes. In fact, ten minutes is the longest it would take him to get to anyone's house. *What an interesting insight into this tight and long standing cliché of people around a band. Some people find security in working in the same place with the same faces, and some band cultures are like this too, as this story reveals. -Ed*

"It's a very tight family thing," he said. "Some people find it very difficult to work

with us because they can't crack that. It's very difficult for an outsider to come in and try change anything."

Although Tony described his rig as fairly small, he was pleased with the way it worked. It consisted of 30 Vari*lites, 120 par lamps, 6 5K's with colour changers on them and 4 strobe lights. Unfortunately at the Hordern the system had to be hung 15ft lower than usual the usual 30ft. This made a big difference particularly with the projections. The set was predominantly white with the band members wearing white suits. For control, Tony was using a Celco desk.

"It's good when you're using colour changes as I put them on individual channels so I can just dial them out," he told me.

I asked Tony if he always did the same lighting for the older songs or whether he came up with fresh ideas.

"Well with something like 'Red, Red Wine' what can you do?" he replied. "You have to make it red except when Ally sings 'blue, blue heart' and it goes blue. So that one's has always been the same but that's the only one. With the Vari*lites and the projection, I try use them only when necessary. I use the Vari*lites as a light source rather than an effect, it's not appropriate with this band. The projection is used in six songs and I'm using 5K Xenons (the Vari*lites and lighting system were hired from Jands but the Xenons came with the band) which are pretty good."

• *Catriona tried to get the sound story too, but as is sometimes the case with live show technical reviews, was defeated by time running out On The Day. -Ed*

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PRODUCTION & HIRE NEWS

ASIAN SOUND FIRMS BUY BIG

The Singapore concert production market is heating up, with Jands Production Services increasing its presence.

Jands moving into the market last September has spurred the other Singapore sound firms, one of which has just seriously upgraded by adding a large Martin F2 system. Highway Sound Light Engineering has bought 48 F2 mid/high cabinets, 24 F2 bass, and 28 FSX sub-bass cabinets. The sale is worth about one megabuck, and included 32 wedges, along with sidefill and front fill cabinets. All Martin speaker cabinets are powered by 116 BGW GT amplifiers.

Highway have two Midas XL-3 48ch consoles, Hawco are their suppliers.

Having handled most of the major tours through the region this year, Jands has recently added additional equipment to inventory. Jands boss Eric Robinson was in Asia for a month at presstime, the equipment on hand includes an S4 system, Soundcraft Europa console, Vari*Lites, and conventional lighting. Recent additions include Spirit Live consoles, Array series speakers and Shure wireless systems for the corporate market.

The other players in Singapore are running a variety of inventory, most notable being Apogee. Audio Visual Land operate 48 3X3, 24 AE1211 subs and 20 AE5 speakers. Their amplification comprises 80 Crest 7001 & 8001.

Concert Sound Pte Ltd have a medium sized Meyer system, again Crest driven. Pantomine Entertainment operate Turbo Flashlight, with 36 mid/high and 36 subwoofers. They have both Yamaha PM4000 and TAC 9000 consoles, with a TAC Scorpion 48:12 monitor console.

Showtec Communications Pte Ltd have a variety of kit, with Apogee 3X3 and AE5 driven by Crest and C Audio amps, and Yamaha and Midas XL3 consoles.

Local crewing is difficult, Jands are training local crew, but for the meantime fly Australian system engineers into the region for tours. The firm maintains a home unit in Singapore, and operates from warehouse premises in Tantery Lane, staffed by nationals.

The 'far east' as it is known to Europeans is widely expected to open up dramatically as a touring circuit, with Malaysia, Hong Kong and the Phillipines already hosting tours. India, Thailand and China are possibilities too. -JG

TROY SALE 'OFF'

FIRM CANCEL SALE, BUSINESS AS USUAL

As we typeset this page on the 25th of July, Peter Troy called to advise he had rejected all Tenders and plans to continue the Concert Production audio business of Troy Balance Corporation.

The sale of the assets of the business had been pursued around the region during June and July, as reported on Page 7 of this issue, which - being a colour page - was printed first.

The continuation of the Troy Balance concert production business prevents a major drought of equipment in Victoria, where the only other major players are McLean Audio, System Sound, and Db from Geelong.

Troy Balance own a large Meyer system, along with a lot of EV Deltamax, and would now be expected to push on with upgrading some older parts of their inventory, namely replacing the original AB amplifiers, and adding at least one new console.

The concert audio business is difficult at the best of times, the busy summer months can see every firm running at maximum capacity, but the key to profits is utilisation throughout the year.

Yup, it's a New Look for these pages. Send your NEWS to us, fax (02) 876-5715.

BUZZ

- **Wild Gravity** Townsville Qld, has upgraded with the purchase of another six Deltamax cabinets with flying facilities top and bottom, giving them a total of twelve boxes. Wild Gravity have also taken delivery of a Crest 9001 3000x3000 watt amp which is powering a pair of System 1400's and 805 subs in a pub install and a ColdFlow high pressure LC02 system. Call Noel Anthony on (077) 213 540.

- **Hectik Elektrik P/L** a Melbourne based lighting hire company is scaling down its operation and despite the rumours the main reason is a change of company direction and Tony Lamplough tells me "I want to be able to spend more time with my family, especially with our third child on the way. 24hrs a day, 7 days a week does not allow me quality time with my family". Tony still has a 40-60 can show, moving lights etc out on permanent hire. He is not winding up the company. Call Tony on (03) 827 9036.

RADIO STATION here for HIRE

Garwood Radio Station is the In-Ear Monitor system chosen by the Grateful Dead - who you'd think would be about the last people on earth to forgo the comfort of 20,000 watts of monitors! The Radio Station system is now available for hire and sale from Murray Tregonning & Associates in Melbourne.

Recently we've seen a lot of artists O/S using in-ear systems, and its only noticable because increasingly they have generic earpieces, typically Sony Walkman type headsets. In some cases these are preferred over the custom moulded Future Sonic ear monitors.

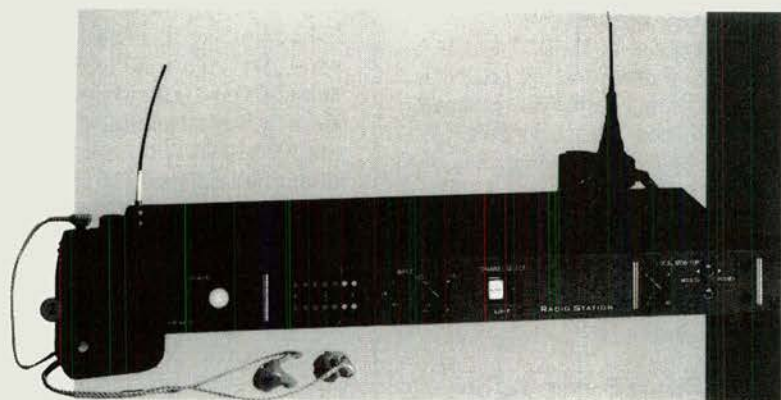
The rental systems offered by Murray & Co comprise a rackcased UHF stereo transmitter

with Aphex Dominator II multi-band peak limiter (oh so important), antenna, and a pocket UHF receiver. Generic earpieces supplied. MT&A have ten matched sets available, at \$200/day or \$800/week. Tour & stage show discounts available.

Custom moulded ear monitors may be ordered and purchased (only), they form a secure acoustical seal, conforming to the individuals ear, after MT&A have taken a mould.

MT&A have systems on hire to the new stage production of 'Superstar', and the Radio Station system is used by Baby Animals, Midnight Oil, Tommy E and Kate Cebrano locally.

Call MT&A on (03) 819-6455 & go wireless.



BUZZ

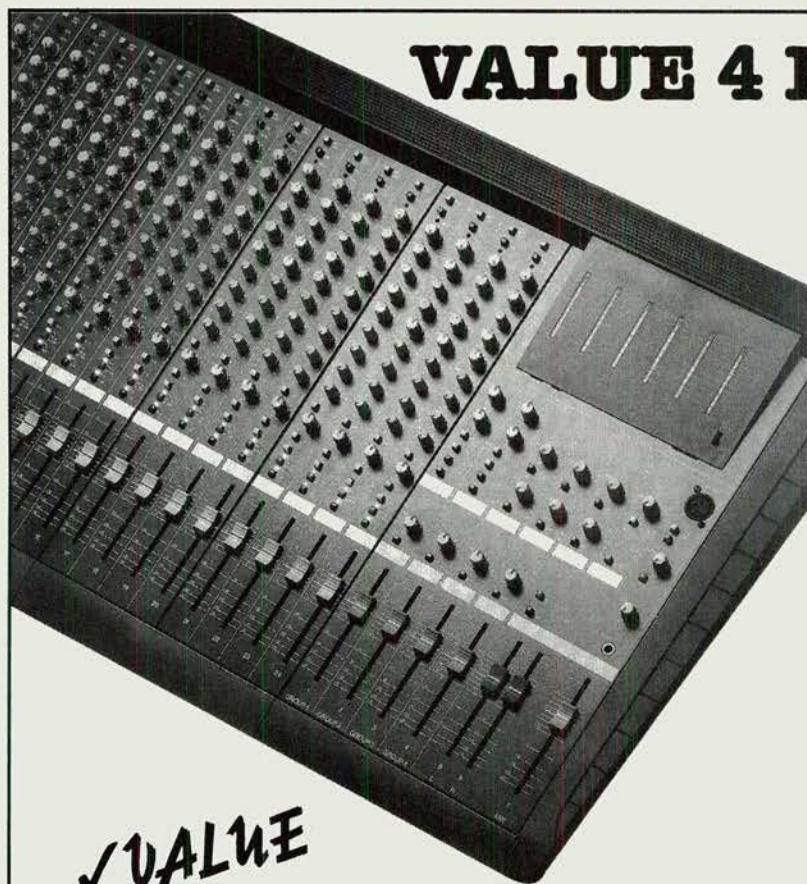
• **Clearlight Shows** Melbourne Vic, have expanded their Hi End range with the purchase of four Cyberlights, a Status Cue control system and a ColdFlow system. Call John on (03) 553 1688.

• **Roanwatt** Newcastle NSW, have just added a pair of Community CSX57 2x15" 3 way loudspeakers to their hire inventory. Call Bob on (049) 435 853.

• **Entertainment Lighting Supplies**, Gold Coast Qld., have taken delivery of four Cyberlights. Call (075) 93 5105.

• **Ziggy** has been working for Ravenswood Records in Amsterdam and has just been appointed Tour Manager for the Big Geraniums who were in Australia a while back. He will continue to work for Ravenswood but will take some time out to be on tour. The Big Geraniums are scheduled to play lots of festivals this summer with the first being Montreux Jazz festival on the 9th July on the bill were Bob Dylan and Van Morrison so Ziggy has just jumped into the deep end!

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International Production Notes

Buck Freeman reports from Detroit

TURBO SELL A MILLION:

The Turbo Sound Flashlight/Floodlight system has received a major boost with a sale to a Cleveland based outfit, Eight Day Sound. The sale is for 72 Flashlight mid/high enclosures, 24 Floodlight mid/high, 12 760HM and 12 760LM downfill devices, and a total of 96 780L 21" woofer loaded subwoofers. The bill was around one million US dollars.

The system is supplied complete with 18 BSS/Turbo amplifier racks and four LMS-780 loudspeaker management systems. All flying gear was included, as was cabling. This allows Eight Day to run two Flashlight/Floodlight arena sized systems at once

Eight Day started using Turbo TMS-3 cabinets in 1983, and became the largest operator of this type in the USA. The firm have their first system out on the Meatloaf tour, in August the 'Loaf will play venues like Miami Arena, and here at Starplex Ampitheatre in Dallas. This system was air freighted from Turbo to Eight Day to make the start of tour.

This is the first sale of this magnitude for some time, and indicates the SR industry here is awakening after the recession. Right now we are in the middle of our second busiest month here, with August Summer Vacation the peak season for touring.

WOODSTOCK, 2 SYSTEMS:

Your TV will show you scenes of middleaged zippies taking their gear off in the rain this month at Woodstock. The sound on stage one is courtesy Audio Analysts, with the south stage handled by Ultra Sound. Steve Lemon is the production coordinator. Unlike the original event, which I attended - *and isn't Chip Monck living downunder somewhere, I'll never forget his 'bad acid' warning!* - this one has all the essentials. The communications system must interface medical, police, sheriffs, avoid dozens of on stage wireless systems, and keep clear of satellite uplift.

UPCOMING TOURS:

The Eagles, managed by Irving Azoff, would like to come down under, they are looking for offers through the William Morris Agency. The period on offer is November/December, they would like to work NZ and Asia too.

R.E.M. may start a world tour in Australia in January, and I couldn't confirm **Kiss** will tour anywhere at all soon, let alone Australia.

A JANDS RUMOUR:

Something is going on at **JANDS** down there. I was talking to a major touring production guy last week who told me the entire management and R & D team from a lauded manufacturing firm were down under doing some kind of deal. He told me about it because he couldn't get ahold of his main contact from the firm, and the trip was conducted with unusual secrecy. He figured it was weird, because his contact wouldn't even confirm he'd been down under at all, whereas he normally tells all.

QUICKLY NOW (& \$\$\$ July):

Pink Floyd have grossed \$86 million for 48 shows so far, outperforming the previous best performers, the 'Stones Steel Wheels tour some years back. The Eagles grossed \$25 million for 19 shows, putting them at #3 on the Performance Magazine mid-year charts, behind Barbara Streisland who took \$30 million for 9 gigs.

• **Bite the hand** Pearl Jam could be touring and selling \$30 tickets, instead they have cancelled a tour at \$18 a seat because they are in vicious dispute with TicketMaster over service charges. They priced themselves at \$18 as a favour to their fans - then cancelled the tour!

TicketMaster have a virtual monopoly on ticket sales here, and typically charge \$2.25 per ticket sold. Pearl Jam were offering \$1.80.

BUCK is our new USA correspondent, and will be down for ENTECH '94 to meet YOU.

BUZZ

• **Lighting Lab** Melbourne Vic, has just taken delivery of more Trackspots and Universal controllers, making their Trackspot inventory one of the largest in Australia. Call (03) 898 7064.

• **Active Lighting's** Hawthorn Vic, crew Kevin Gaynor, David Wright and Mick Davis, had near ringside seats for the NSW v Qld State of Origin at the MCG providing 4 x Xebex Followspots. On the corporate front Active provided Golden Scan IIs and IIIs, and Dynalight DMX Dimmers controlled together by Scanc Commander. 32 x Roboscan Pro 218s were also subhired in from **Drew Muirhead Corp.** Otherwise known as **dmc** one of Sydney's dance party kings in the production field. Active also provided an Instinct 60 and Dynalite Multipatch Rack, Teatro 1Kw Profiles, Tri Truss and Drapes for a Kodak Launch. This was crewed by L.D. Beau Southey, Tim Hall, Alan Eno and Mick Henry. Active and L.D. Rohan Thornton supplied Goldenscan IIs, 3s and VL5s to Hey Hey Its Saturday and Active closed the month with another sporting type event with concert trussing and 5Kw Fresnels going to Kickboxing (Glasshouse). Call Active on (03)819 6912.

• **AND AND AND IT'S A BOY!!!** Yes the lovely **Anne** and **Andrew Topp** from Active Lighting, now have a precious little bundle by the name of **Matthew**. Born on July the 6th, Matthew weighed in at 6lb.2oz. Congratulations guys and welcome to the rest of your life.

• **G.U.V.T.** Adelaide SA have 140 Lekos out with West Side Story and were called upon to supply (the original fog) dry ice machines for that look that most companies are still trying to develop chemicals and mechanical designs to obtain. Call Paul Beck on 018 830 393.

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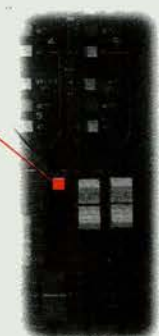
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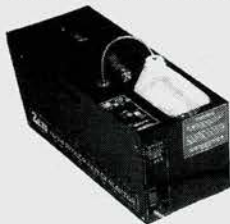


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2. Design and Product Implementation Sessions—Chairman Bob Moses, Rane Corporation)
3. Applications Sessions—(Chairman Michael Karagosian, MKPE, Inc.)
4. Closing Session—*From Now Until...Where We Are Going?* (Chairman David Scheirman, Lone Wolf Corp.)

Conference Cochairmen:
Tom Roseberry
Innovative Electronics Designs
9701 Taylorsville Road
Louisville, KY 40299, USA
Fax 502-267-9070

David Scheirman
Lone Wolf Corp.
2030 First Avenue
Seattle, WA 98121, USA
Fax 206-728-9604

For additional information about the conference contact:
• AES Headquarters Office, 60 East 42nd Street, New York, NY 10165, USA, Telephone 212-661-8528, Fax 212-682-0477;
• AES Europe Region Office, Zevenbunderslaan 412/9, B-1190 Brussels, Belgium, Telephone 32-2-345-7971, Fax 32-2-345-3419;
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The Aristocrat Hotel

Dallas, Texas USA
Thursday, 1 December
through Sunday, 4
December 1994

CONFERENCE COSTS

Advance registration only:

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\$200.00

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\$75.00

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\$250.00



PERFORMING ARTS

Turando Blockbuster!

A \$7 million dollar production of Puccini's *Turandot* will be staged at the Sydney Football Stadium in November. The spectacular will be mounted by the Canadian-based production company Opus, in partnership with Sydney entrepreneurs Kevin Jacobsen and Pat Condon, who staged Verdi's *Aida* at the stadium in 1988. Sydney will be the only Australian city to mount the production.

The show will be staged on a giant 80-metre by 40-metre stage and will feature a cast of 1,200 including an orchestra of 110, a chorus of 250, a full ballet company and hundreds of extras as well as martial arts experts and acrobats.

The director, set and costume designer will be Italy's Vittorio Rossi, who is well known in Europe for his arena-size opera productions.

Jesus Christ Reborn

Harry M. Miller's new \$4 million production of *Jesus Christ Superstar* makes its Australian debut at Newcastle's Civic Theatre on August 20th, then runs at Sydney's State Theatre from September 8th before touring Brisbane, Adelaide, Melbourne and Perth. The production recently completed a sell-out season in New Zealand seen by one tenth of the population.

"During the run of the concert version it was always in my mind that there are many theatrical tricks and effects that you just can't use in an open arena," said Mr. Miller. "The concerts were truly magnificent but *Superstar* ultimately belongs where you can draw upon all the magic of theatre."

The show is directed by Richard Wherrett, director of the Sydney Theatre Company from 1979 to 1990, working with set designer Michael Scott-Mitchell, musical director Patrick Flynn, lighting director Peggy Eisenhauer, costume designer Terry Ryan and choreographer Kim Walker. Sound designer is Peter Ratcliff and all the production is by Jands Production Services. Murray Tregonning will supply wireless systems and in-ear monitoring.

Bolshoi Ballet Tour

Billed as the 'ballet event of the 90's', the Bolshoi Ballet are scheduled to tour Australia in September presenting the ballets '*Spartacus*' and '*La Bayadere*'. In Sydney the performances will be in the lyric mode at the Entertainment Centre and music will be provided by the Australian Philharmonic Orchestra.

Blasted Orchestra

At the recent *Challenge Concert* in Brisbane to save the Queensland Spina Bidifa Association, Peter Andre's pyrotechnics were so powerful they blasted the strings off the Queensland Philharmonic Orchestra! When the explosion came, the cello player also lost his instrument as it bounced out of its floor socket.

Thunderbirds Go Up In a swirl of Smoke

Guests at the Sydney premiere of *The Thunderbirds* at the Seymour Centre must have thought there are some pretty powerful smoke machines on the market when the auditorium filled with swirling grey smoke. As the smoke became thicker, many of the audience decided to take flight before the organisers ordered an evacuation of the auditorium. Fortunately the problem was only a minor one.

"A male and female plug were not connecting properly," Glen Watson, Technical Manager at the Seymour Centre told me. "The resulting arching caused rubber to melt and the ensuing smoke smelt very toxic."

Belvoir Street To Expand

After a year of intense discussions with the Ministry of Transport, State Rail has agreed to lease Belvoir Street Theatre 8,500 square metres of space in its empty 108 year old railway carriage workshops at Redfern.

The venue will be used by Belvoir as an additional performance venue, extended rehearsal rooms and storage space.

Dwarfs Cancel

The troupe of Russian midgets that were scheduled to tour Australia, with a production based on Gullivers Travels, unfortunately had to cancel at very short notice.

Current Productions & Openings

● Sydney Theatre Company present the Playbox production of David Williamson's *Sanctuary* at the Wharf Studio. LD is Shaun Gurton.

● *A Chorus Line* continues to pack them in at Sydney's Her Majesty's Theatre.

● Willy Russell's *Blood Brothers* opens on Sept. 10th at Sydney's Her Majesty's Theatre after a run in Melbourne.

● The Really Useful Company's production of *Cats* has recently opened at the Queensland Performing Arts Centre after a tour through Asia. Expect to see it later this year in Sydney.

● The State Opera of South Australia presents *Adriana Lecouvreur* throughout this month.

● This month Melbourne Theatre Company is staging Terry Johnson's *Hysteria* at the Playhouse, Victorian Arts Centre. Set design is by Iain Aitken, costume design by Tracy Grant and lighting design by Jamieson Lewis.

● The Victorian State Opera present three operas this month - Puccini's *Madam Butterfly*, Verdi's *Il Trovatore* and Mozart's *The Magic Flute*.

● Sydney Theatre Company's production of Tom Stoppard's *Arcadia* is still playing at the Drama Theatre, Sydney Opera House and looks to be a sell-out season. The props department had trouble with a battery operated tortoise which tended to be either too speedy or too slow onstage.

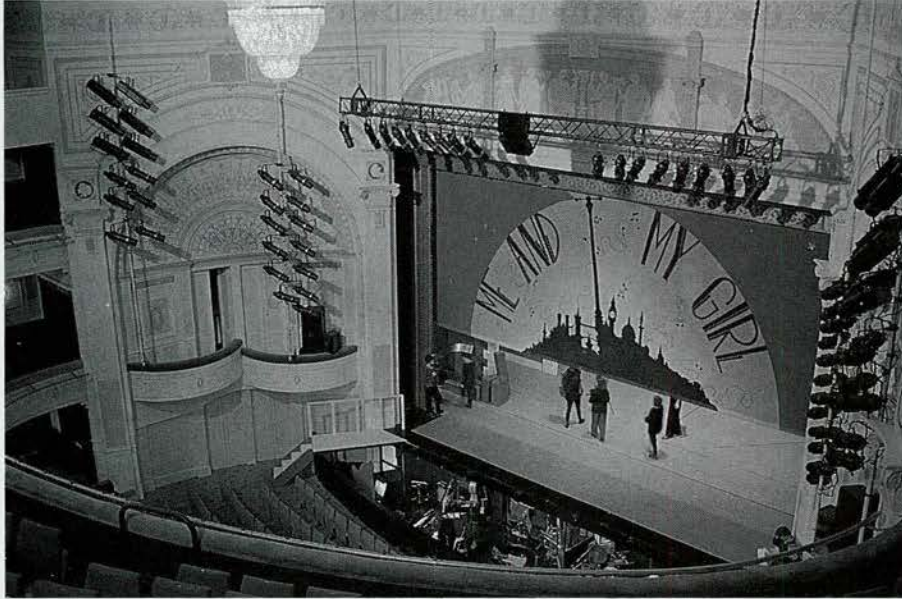
● The Australian Opera are staging the massive *The Trojans* by Berlioz in two separate evenings. To do it in a single evening would take well over five hours. Part one, *The Fall of Troy* featuring the famous wooden horse, will be followed by Part two, *Dido and Aeneas*, a week later.

● Glen Street Theatre are presenting a Melbourne Theatre Company production of Louis Nowra's *Cosi*.



PERFORMING ARTS

Tannoy System with Me & My Girl



Sound designer John Matheson was busy with technical rehearsals at Melbourne's Prince's Theatre when I spoke to him. The show, *Me & My Girl*, had already played Adelaide and Brisbane. John is in charge of the Adelaide Festival Centre's sound department and it was Ken Wilby, production manager on *Me & My Girl*, who approached him to work on the show.

"The Adelaide Festival Centre have been involved in designing sound for touring shows since *Evita* back in 1980," said John. "We tend to have two shows out on the road at any given time and at the moment we also have *South Pacific* in Hong Kong. For this show I really had very little direction from the producers, it's not in any way a spectacular 'sound' show - it's a conventional musical with a conventional reinforcement system."

John is running eighteen channels of radio microphones which are a mixture of nine Sennheiser SK2012's and nine Shures (LC series, EC series and a couple of the newer SC microphones). There are also six channels of Vega wireless talkback on the same frequency band. Using computer software, Peter Ratcliff from Jands and Ian Johnston from EV helped John out with some of the frequency selections. A 24 channel Soundcraft 800B desk does most of the orchestra mix.

"We do five sub-mixes on that desk

which are drums, percussion, brass, woodwind and strings," said John. "We bring those into five channels on the next desk, a Yamaha PM3000 40 channel desk, and the rest of the orchestra are on the main desk where they are more easily accessed by the operator. For reverb there are three SPX1000's and dynamics control on ten of the radios is supplied by ten channels of Rane DC24 limiters. We use a Parametric Equaliser with a foot pedal to control what is commonly known as a 'phasing effect', when two performers wearing radio mics sing into each others mics (a technique pioneered by Clive Brown). You get an excess of sibilance so the foot pedal allows the operator to drive the EQ amount of HF roll off on the radios as people move together."

The PA rig consists of Tannoy speakers, supplied by Syntec International, and includes the new Tannoy CPA10S, a ten inch dual concentric speaker.

"We're trying to keep the audio sources down to an absolute minimum because the theory says that for the most intelligent ability you need the minimum number of sources," said John. "Consequently all of the vocals come out of a single pair of speakers in a centre cluster. To reach from the front of the stalls to the back of the balcony requires two speakers in the vertical plane. Normally you would need more than two but the new Tannoy

CPA10S has a very wide dispersion so we can get away with only the two. That means there is only one zone between the two speakers where you get any interference or coning effect".

There are also a number of fill systems that are necessary to keep the vocal balance correct with the musical balance. At the extreme front of the theatre, by the orchestra pit, there are some Tannoy CPA5's for front fill and then Tannoy CPA12's for side fill. Rear fill, at each level of the theatre, is taken care of by a system of Bose 101's that was used by *West Side Story*, which was previously in the theatre. The only other speakers in the main PA are two CPA10SXB's which are a full range cabinet with 10inch dual concentric and two 12inch bass drivers. They are placed left and right of the stage, having a wide dispersion, and they are for the orchestra.

Console Operator/Engineer for the show was Jane Rossetto, Head Radio Mic Technician was Greg Gowans, and his assistant was Cherie Stewart. Andrew Copeland was Bump-in Supervising Sound Tech assisted by David Anderson, Jon Collins and Darren Golding. Lighting designer was Roger Barratt.

Scotch Dreams

For the first time ever, the Australian Opera will be travelling overseas having received an invitation to perform at the Edinburgh Festival, UK. Baz Leurhams magical production of '*A Midsummer Nights Dream*' will be playing at the recently renovated Edinburgh Festival Theatre. Tickets for all performances sold out straight away. Lighting designer Nigel Levings will be accompanying the production and is looking forward to working in the new venue which he describes as having 'interesting front of house lighting'. Globe trotting Nigel has recently been to Hong Kong with '*South Pacific*', where he found the crews to be of a very high standard, and he has also been to Cardiff, UK to work with the Welsh National Opera. Nigel is currently working on further productions for the Australian Opera and he has also designed the lighting for Arcadia currently playing in Sydney.

From Canon, loudspeakers so versatile they'll even create harmony between architects and installers

How often has it happened? You know, that sinking feeling when you see your wonderful interior ruined by ugly black boxes sticking off the wall. It's the sound system, a very important part of the venue, but rarely designed for, more bolted on as an afterthought.

Well, all this has changed quite dramatically with the introduction of the V-100 background sound system designed and manufactured in the UK by Canon. The V-100 is designed to fit into corners of the room giving you an equal sound field of

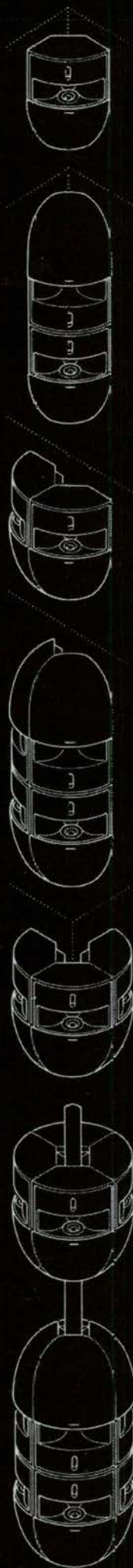
70° vertical and 90° horizontal. The system only begins here because you can keep adding

more speakers to give you different shapes and coverage levels. Think in terms of segments of sound. But, if you don't want to see the speakers, no problem. Just add the paintable grille and they blend into the background, or they can become a feature of the venue themselves. The only limit is your imagination!

The V-100 is a designer's dream and installing is simplicity itself as the bracket is an integral part of the design - you don't wire the speaker, you wire the bracket. Harmony indeed.

So, to find out more about this new and unique system, contact:
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This includes all new CD formats such as CD-i (interactive) including full motion video, Photo CD, Video CD and CD-ROM XA (extended architecture).

Disctronics' General Manager, Mr. Alan Bremner, said the company had expanded its range of services and technological capa-

bility in response to changing industry requirements.

Mr. Bremner said the upgraded mastering system centres on new software from the United States plus additional computers and players of various media. "With the upgraded system we can now 'cut' directly from an increased range of media - CD-R, existing CD and 44.1 DAT tape with time code - eliminating the need to convert everything to 1630," he said. "In most cases customers will have access to one of these input media

and save themselves a significant conversion cost."

The company, which has the capacity to produce more than 40 million compact discs a year, has also established a new \$1.2 million printing and packaging facility in Lane Cove, Sydney. Mr. Bremner said the establishment of the print and pack facility was in response to market demands for an integrated service.

The "seamless" service has a four colour press, in-house platemaking and finishing and an automatic packing machine. "We believe there is an opportunity to give record companies a level of service in terms of reliability, qual-

ity and information not available until now."

Disctronics, which passed a stringent qualification process by Kodak, is also one of the first plants to be licensed in the world and the only one in the South-East Asian region permitted to replicate Photo CD.

Mr. Bremner said whilst these new formats are all replicated the same way and to similar standards, the key is the pre-mastering and mastering, and Disctronics is the only Australian plant with this ability.

Disctronics is a wholly owned subsidiary of Shomega Limited.

For further information call: (02) 418 3044.



G.M. Alan Bremner

DOLBY INTRODUCE 'DOLBY FAX' SYSTEM AT APRS

MUSIC ON THE ISDN LINE

Sending audio out of your building can be done two ways, either someone carries the media out the door, or you blatt it down an ISDN phone line. The latter is a growing trend, and several vendors at APRS had the necessary hardware to achieve the result. It was a topic of high interest to studio owners of all persuasions.

The problem with ISDN is that you are never sure if your signal will go via fibre optic cable or a satellite link. Because you need at least two channels, they may arrive slightly out of sync if one line is routed differently. It's the luck of the draw, so sync is essential,

or alternately you redial until your lines are all together.

To get your audio into an ISDN line you need a device generically called a CODEC. The Encoder will convert your analogue or digital audio into the data that a standard 64kbits/sec ISDN 'pipeline' will handle. (Greater bandwidth ISDN is available). You need another CODEC - a Decoder - at the other end, and for two lines (stereo or dual mono) you need two of each.

A typical ISDN line won't handle enough data for premium quality digital recording, so several need to be combined. These in

(continued on Page 38, over)



TAPE KEEPS REINVENTING ITSELF



Tape vendors always mount lavish displays at some tradeshows, at APRS BASF won the style, taste and beverages award from Connections, while Ampex did pretty well at being bloody obvious from anywhere you looked. A masterpiece of exhibition stand design.

Anyway, it was 3M (who make the excellent stickytape we seal our subscriber wrappers with) who dropped the best press kit into the quiet and lonely press room at APRS. They say the ASD S-VHS cassettes are designed for Adat and RD-8, ready for endless jogg-

ing and editing. Fostex machines out of the USA, and ADAT's shipped from the UK are packed with an ASD tape.

The 3M 275LE is a new open reel digital mastering tape for DASH, PD, DMS and Nagra D, comes in 200 to 9600 feet lengths.

BASF have a new half and 1" digital master tape: the 931, while Ampex didn't have anything they called new, but reported they were flogging 499 Grand Master Gold tape like there is no tomorrow in the UK. Up 100% on last year, says the release, who are we to argue?



UNIQUE RADAR

RADAR is a 24 track digital recording system that OTARI have now taken under their wing. I saw it first at NAMM '93, where the designers were totally damn honest in saying it was still under development, it was, and it is now ready for shipping. This is about the reality for new digital products - a working prototype is 18 months ahead of stock on the shelves. If you have a copy of Connections issue number one, you'll see it there, along with that eminently sensible quote.

Why RADAR is different to most of the rash of hard disk recorders out there is that it is an integrated system, comprising a rack mounting recorder with 3 x 1 GB disk drives on board, 24 LED ramps, and a SCSI port for downloading

or backing up your material. The controller is a neat unit with keypad and a small screen, this is NOT a DAW (Digital Audio Workstation).

This is what Otari Europe say are its Unique Selling Proposition:

- The internal 3 GB of drive gives 22.5 minutes recording time, or 540 track minutes;
- you may most certainly buy 3 x 2 GB internal drives instead, and double your recording time;
- You can cascade up to 6 RADAR's with 'RADAR Link';
- A built in synchroniser chases and locks extremely fast to all timecode sources;
- The media manager software is open so that recording media to be used in future developments is of secondary importance.

Indeed, MO (Magneto-Optical) drive technology is coming on at such a rate of knots that a huge capacity MO drive will be here any time soon. You can already get a 1.2 GB MO, which could happily sit with a RADAR as a transport and backup medium. Right now OTARI say you should buy a RADAR Exabyte Streamer tape accessory, which will backup or restore your 3 GB in about 90 minutes.

While there is a very strong trend towards ADAT and DA-88 8 track digital tape formats, used en masse for 24 and more tracks, OTARI Europe have a rather touching argument in favour of the RADAR. To help you better understand, and for just a little wry amusement, I quote their official release:

"Users hardly have to study the manual to perform RADAR's operational recording basics, since they are self explanatory. No painful learning curve. Imagine a session, waiting artists and producers - while the engineer studies a manual for 'how to...' and the clients time is running. Not so with

RADAR! Imagine an enervated engineer stressed daily by the known tape/cassette handling problems. And then RADAR - locate, jog, mark, cut, copy, paste, loop, slip, shift, erase, record, edit. Most likely the studio's (existing) format, perhaps ...1, 2 or 3 video cassettes (?), may shrink to backup or transport media only."

Cheeky buggers. They further attack with the statement that RADAR will build a bridge between today's still expensive reel to reel analog, PD or DASH pro-world, down to the known digital-8 cassette formats. "Yesterdays digital 8 track buyers (S-VHS or 8mm formats) are today's potential's for RADAR".

Anyway, this machine, if I may call it that, is an item of firmware which doesn't require a computer, or indeed anything else, to function. It sells for about 20% more than a comparable ADAT type system with BRC in Germany, according to Otari Europe, which makes the price structure here in the wild land difficult to pinpoint.

-Julius Grafton.

"AND THE WORD WAS SPOKEN"

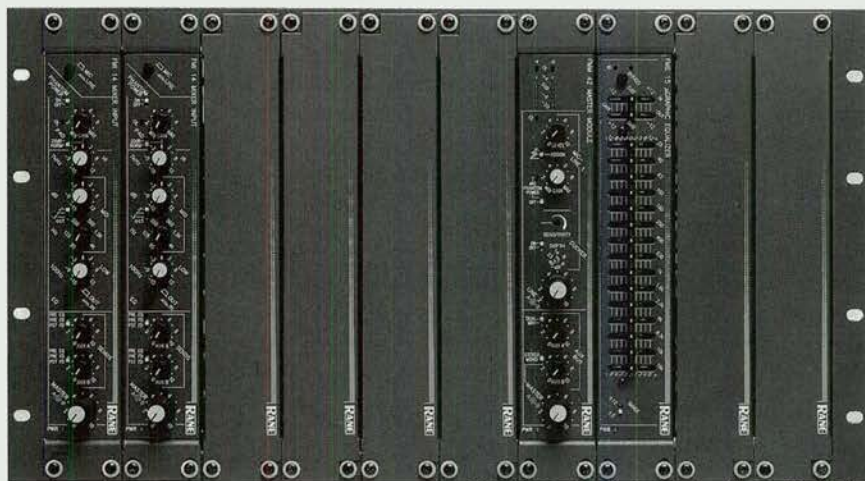
But can you afford to make it heard? Now you can, with the new Flex Series modular sound system approach.

Flex modules now make possible a top quality, custom design that can suit your particular needs AND budget, without sacrificing big-system features. The seemingly modest system shown here actually provides more sophisticated functions than large systems costing several times as much. Like built-in paging over-ride, multiple outputs and separate equalization to reduce feedback.

Ask your local sound contractor to explain the powerful capabilities of the Flex Series, the affordable answer to superlative church sound.



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RE 662 ISDN ENCODER

ISDN (continued)

turn need to be synchronised together. The same scenario exists where video imagery, as in teleconferencing, is transmitted. For this there are Video Codec systems available.

Dolby Laboratories Inc have launched a product broadly known as the AC-2 Dolby Fax, which is a system of audio coding units, a multiband ISDN terminal adaptor/synchroniser, and various peripherals, such as a palmtop controller for actually placing calls on ISDN. The Dolby system has found praise in several studio installations already, who use multiple Codec's to communicate with different locations.

Your studio installation would need the remote studio to also have Dolby Fax, rather than another brand of Codec. There are multiple Codec systems available, including devices from CCS and APT. More on APT later.

The Dolby hardware comprises a dual channel Encoder, the DP 501, a dual channel Decoder, the DP 502, and the Ascend Multiband Plus terminal adaptor. Thus equipped, you are ready for two way (duplex) interchange of digital audio. The remote site could be in LA or London, or Redfern or St. Kilda. For more tracks, add more units. The system also accepts a 1200bps auxiliary data signal.

Dolby also point out that for non-realtime transmission of master quality audio (ie: very slow), one ISDN line per channel can be fine and dandy, if you have a hard disk recorder capable of this, plus an interface card.

At APRS the Danish firm RE launched the Musicam range of Codec's, the same audio pipeline via ISDN as Dolby Fax, but with several levels of models according

to your needs. RE are pitching their systems at broadcasters, and their auxiliary user data channel capability is variable up to 9600bps.

RE have some extraordinarily good PR and brochure material describing their systems, and certainly won me with their press pack. In fact, they had an item headed "Australia shows the way", but it only stated that an unnamed broadcaster here had purchased a 'large order', and were using Musicam for ISDN transmission from smaller, secondary studio sites. No specifics.

APT are a Belfast based firm, offering a range including a new portable, limited bandwidth terminal, the DRT 128. This is aimed at field reporters. Their established DSM-100 appears, however, to offer all things to all people.

The APR DSM-100 is, according to the literature kindly supplied, one stand alone encoder/decoder for two audio channels, with options. The IMUX option offers synchronisation for up to six ISDN lines. This will also compensate for up to 3 seconds delay between lines. In addition, the new PRO-LINK ISDN manager has an integral 6 channel terminal adaptor, 6 channel synchroniser, and stores up to 100 ISDN numbers, offering quick dial.

The Audio Exchange are a London and LA based outfit, who vend ISDN Codec systems and run a user group identifying other users and which Codec system they have. Audio Exchange also say they will soon release an ISDN synchroniser that allows timecode to be sent through the auxiliary channel, rather than chewing up an audio channel.

The world is getting smaller!

DOLBY FAX



WORKBENCH

With Howard Jones

Intermittents

- or - sometimes I work and sometimes I don't

Intermittent faults are probably the purest expression of Murphy's Law - that which can go wrong will go wrong. An intermittent is the kind of fault which fails to materialise whilst a unit is in the workshop, only to reappear once it is returned to active duty.

The intermittent that really strikes cold into the heart of any service tech, however, is the fault which disappears of its own accord after you've worked on a unit for a while. You know that you didn't really do anything which was likely to have cured the problem, and yet the machine continues to run fine for days.

An example of the wretched nature of intermittents is like an adventure story with the end left off - I never did discover the true cause of the fault. This adventure involves a CD player which came into the workshop with a very peculiar problem. This machine, when a disc was first inserted, would spin up, read the Table of Contents and give the correct front panel display. When the 'play' button was pressed though, nothing would happen.

Hitting the 'stop' button seemed to clear the fault, because you could then press the 'play' button again and the machine would work quite normally.

Although I could only discover this one peculiarity, the customer mentioned that he had been having trouble on and off getting the unit to read discs, so it seemed best to give it a medical. Digging out the circuit diagrams and studying them showed that this unit had one main microprocessor chip which did nearly everything, helped along by a certain amount of intelligence built into the chips used on the front panel. These chips interpreted any and all front panel commands and communicated them back to the main micro. The processor, in turn, read the data from the disc and passed the relevant information to the front panel chips for use in the display area.

With such an electronically straightforward set-up, it seemed

that it would be all too easy to make a quick repair, but you're way ahead of me on this one, aren't you? As luck would have it, we had another of the same model CD player in the workshop at the same time, so with a little effort we were able to swap over the entire front panel assembly between the two units.

Powering up the faulty unit with the exchange front panel showed that the problem was still there, whilst turning on the good machine with the panel assembly from the dud unit showed that it still worked - without problems.

Given that a data bus linked the front panel circuitry directly with the main microprocessor, and that the processor was almost the only other significant chip in the machine the conclusion seemed obvious. However, it was as well to buzz out each individual line of the data bus to make sure that there wasn't some oddity disturbing the communications link between the processor and the front panel chips. No surprises here.

A replacement for the microprocessor was not immediately available, so the player was shelved while we waited on the back-order. When the new part arrived, the player was fired up once again and the fault was still there. And, of course, the fault was still there after the new chip was installed.

This began several days of off-and-on fault finding along the lines of "Well, it could be this...we know it's not that". You'd then get on with something else until some fresh idea came along. And the final result from all this brainstorming? The incredible deduction which solved the case? Well, after several days of testing every possible cause for this fault, it simply went away of its own accord. That's right - the player just started working quite normally. This unit has now been back in service for several months with no further hint of trouble. Luckily, it's not often that a repair leads to such an unsatisfactory outcome.

• Howard runs Studio Solutions in Sydney, call (02) 906-4363.

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AUSTRALIAN FRIENDS OF MACKIE 8-BUS

Comparing consoles is more than just a matter of counting knobs and buttons. There are many 8-Bus consoles on the market today, including some that were directly inspired by the Mackie Designs 8-Bus series. If you attempt to compare them solely on the basis of features, you're missing an invisible but key difference: sound quality. Headroom, noise floor, crosstalk and other seemingly theoretical specifications make or break a mixing board's ability to create digital quality sound.

And that's where 8-Bus Series distances itself from the competition. It's the first affordable console that can be (and IS being) used on major-label album projects world-wide. As Sound on Sound Magazine put it, "...the console maintains Mackie reputation for clean, quiet circuit designs...it displayed a very open, transient quality."

Winner of Music & Sound Retailer Magazine's 1994 "Most Innovative New Product" and "Best New Mixer/Console" awards.

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AUGAN MO RECORDER

While we all wait for Magneto Optical drives to take over the world, Dutch manufacturer Augan Instruments have gone ahead anyway and released a 2 track M/O recorder. The 202 OMX looks on first inspection to be just another high-end DAT machine, but it isn't.

The virtual instant access of M/O is the great attraction, so the 202 OMX got a good reception with broadcasters and archivists at APRS. The ISO standard 1.3Gbyte disk holds about an hour of stereo at 44.1kHz sampling rate, and of course you can jog/shuttle and edit to your hearts content.

A neat function of design is the removable front panel, so you don't really need a remote, do you? The future in removable media has to be Magneto Optical in my view, because like the CD it is a hardy, safe and long living method

of storing digital programme. The two big advantages over tape media is that contact between disk and laser is optical, so no wear, and super fast random access to anywhere on disk.

Although they said it was quite possible, the idea I got was that the OMX-202 isn't really intended for Mastering, because you'd need a lot of sites before it became accepted, whereas in broadcast, sound editing and archive facilities, stand-alone it can be standard operational procedure, without the need to swap media with others too often. It goes in the store-room, not on a courier to a Mastering Facility who'd need another OMX-202 to read the disk.

A cost indication has the thing selling at a list price of £9500 in the UK. Augan can be found at the end of this fax line in the Netherlands: (31) 85 644735.

EX-TRACK

With Caroline Grafton

- **Paradise Studio** Sydney NSW, have appointed Lien Chew as new Studio Manager. Lien is well versed in audio and holds a Degree in Electrical Engineering. Involved heavily in the upgrade of Paradise over the last two years, Lien's intimate knowledge of the facility can only benefit clientele. Call Bill or Lien on (02) 357 1599.

- **Vandersound Studios** Brisbane Qld, have expanded their spec list with the purchase of a new Neumann TLM 193 and swear with the correct placement and vocal technique no EQ is necessary. Vandersound have also installed the first of several Video Recorders for in-house 'Live' Picture-Sound recording. Call Eric on (075) 46 8866.

- **Enterprise Studios** NSW are always on the lookout for talent in the group song writing/publishing area. Call Grahame Storer on (02) 564 3225.

- **A# Sharp Recording Studio - HELP - HELP** - has to move out of their current facility and have been unable to date, to find new premises. Does anyone know of a small vacant studio or one that wants a change of lifestyle and wants to get out. Call Jeff Cripps ASAP on (02) 553 8136.

- **Whirled Records** Melbourne Vic, have upgraded with the purchase of a second Tascam DA88 making the studio 16 track digital with full chase/sync capability. Whirled are also waiting on delivery of a Yamaha CBX D5, controlled by Cubase, allowing four extra tracks with on screen editing. Needless to say an upgrade means - equipment clearance so give Craig a call on (03) 427 1436.

- **SAE** (School of Audio Engineering) Sydney NSW, had an open day on the 16th of July for

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CA 9		EIA	
8Ω Stereo	550W	600W	
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Write in Reader Service number: 122

the potential students of the future. The attendance response was positive and Angela of SAE was encouraged by the fact that many young people bought their parents along for the tours and Q & A sessions. This shows legitimacy on both the students and schools behalf and is encouraged. Call Angela on (02) 211 3711.

• **Grevillea Recording Studios** Brisbane Qld., have installed their second SADIE Hard Disk Editor, post a heavy demand for Digital Editing and CD Mastering. Increased HD capacity means that Grevillea now have 18 track hours of hard disc space for clients to utilise in their productions. Both SADIE systems carry the latest 2.2 version software which include new features: - Auto-Conform, Automation, Machine Control, Expanded PQ editing control with the ability to read and write DAT and CDR I.D's. The two systems also offer Networking and File Transfers. Give Malcolm a buzz on (07) 262 8422.

• **There's A Bear In There!** Yep you got it - Grahame Harrison - Sydney sales co-ordinator for Mark IV Audio Aust - alias "Yogi" - is acting as a presenter on a local community FM station, 2CCR. Grahame's shift is on Saturday mornings and varies from an 8.00am or 10.00am start to finish at 12 noon. 2CCR-FM's (90.5) playlist consists of contemporary Jazz, R&B and Blues artists such as Anita Baker, Al Jarreau, Frank Gambale and Tommy Emmanuel.

• **Damien Gerard Sound Studios** Ultimo NSW, newest engineer on the scene is Jamie Carter. Jamie comes fresh from working with such acts as *Screamfeeder* and assisting Paul McKercher on various sessions. Jamie has been working with Melbourne band *Fridge* in studio B. Russell Pilling has been working on new material with *Died Pretty*, the *Choirboys* and *Yothu Yindi* as well as working on some upcoming *Irish Releases*, featuring varying instruments from whistles to bagpipes. Producer/Engineer Tim Powles has been finishing off the "Sounds of the Street" project for The City Mission, developing the musical talent of Kings Cross youth. The CD will be released thru Festival. Dave Trump has been working with producer Leeno Dee on demos for the *Harlots*. Mike Woods has been working with *Mental As Anything* on new material as well as mixing an album for the *Hard Heads*. Contact Marshall Cullen or Elia Bell on (02) 692 9915.

• **Taramalin Studio** Qld, have installed the ultimate in musician EQ'ing device, a lovely swimming pool for overheated musos especially drummers. Call Allan Lahey on (07) 208 9736.

• **Troy Horse Studios** Sydney NSW, have expanded with the installation of a Behringer stereo mic pre-amp, a BBE bass preamp, a Urie stereo compressor limiter and two Rode condenser microphones. Troy Horse has also bought a Hof Dynamics Master and have made it available for hire in and out of house. An indication of this machines usefulness is a 5 to 10dB increase in apparent level with no nasty side effect (no sucking or breathing).

Also worth checking out at the Horse is the already popular and newly improved real time cassette duplication facilities. This system has been fitted with the every latest distribution amplifiers and sonic maximisers in conjunction with top of the range decks and high quality TDK

chrome stock to give optimum quality copies.

Troy Horse has also installed a new Twilight Zone Pinball machine and has the complete range of Cathy Waite's (yes that is Bruce's lady) delicious home made cookies. Call Kylie on (02) 557 3129.

• **Sound Around Mobile Recording Studios** is a new facility based in Melbourne Vic. The Creation of Trevor Cronin who has returned to Australia after working for eight years in Europe and the USA. Sound Around is available for recordings at pubs, uni's, schools festivals etc. etc. Call Trevor on (03) 523 7034.

• **Under New Management** Cremorne NSW, (a consortium of producers and engineers) contact Michael Tame on (02) 953 0332.

Garth Porter has recently completed an album for country music's rising star *Gina Jeffreys* to be released in August or September. Garth now has two projects running concurrently; i) producing tracks for a reincarnation of the *Danglin' Bros* and ii) writing and preproduction for *Lee Kernaghan's* new album. Will this be the third-in-a-row gold record Garth has produced for Lee?

Brent Clark is continuing his relationship with *Midnight Oil*. Happy with his work on their previous album, the Oils have drafted him to engineer their new album as well as squeezing in time for another "hush-hush" project from that camp. While *Midnight Oil* are playing some shows around Australia, Brent is heading to sunny Queensland for some work and some play in his home state.

Daniel Denholm is ensconced at Studios 301 putting the finishing touches to *Max Sharam's* debut album for Warner Music with co-producer Nick Mainsbridge. After this there is a single with Happy House and some interesting new offers to consider.

Kevin 'Caveman' Shirley showed his diversity by mixing tracks from *Olivia Newton-John's* new album, a *Cartoon* album and a remix for *Screaming Jets* next single - all in the same month. Kevin leaves these shores (yet again) shortly to begin work with *Bon Jovi* in the U.S.

Colin Simkins has been at it again with *Juice*, recording and mixing extra "non-album" tracks for inclusion on their next single. *Pee Wee Ferris and Culture Shock* have also enlisted his help on some upcoming material.

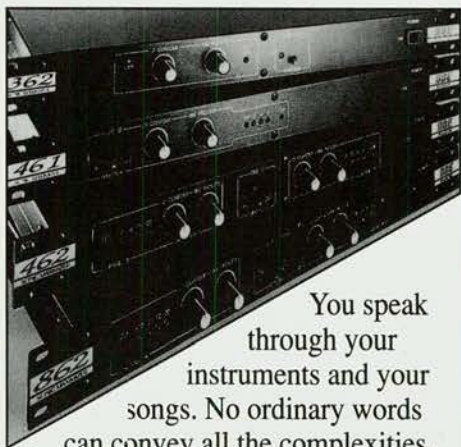
Mark Moffat has been concentrating on film work recently. During June Mark finished the score for *'Rough Diamonds'*, starring *Jason Donovan*, which he also wrote. He is now completing the recording of songs and self-penned score for a film titled *'All Men are Liars'* starring *Toni Pearen*. Both these projects highlight Mark's range of skills as Musical Director, Composer and Producer. On top of this Mark continues to devote a lot of time and energy in helping new artists with their careers.

Mark Ovenden is presently working with EMI's *Scarlet* at Studios 301. Over the past few weeks he's been involved in programming with *Midnight Oil* for their next album.

Greg Henderson has been extremely busy this month starting with an edit at Sony for *The Poor's* single 'More Wine Waiter Please' and

(over)

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MASTERING

With Paul Bryant

MASTER TAPE APPLICATIONS

In recording, the word "master" is a broad term covering a number of specific applications. It is no longer sufficient to simply label a tape as a master, and most professional tape manufacturers are now including adhesive labels in the tape package to assist in accurately describing the tape contents. Here is a brief outline of these labels and their uses.

SESSION TAPE : These are the tapes created during the recording sessions, and are usually multi-track tapes. Making safety copies of session tapes is usually awkward, so handle and store these tapes very carefully.

ORIGINAL MASTER : This is the actual tape in/on the master recorder when the track was mixed. Check this tape thoroughly, make a safety copy, then don't play the original again until you are ready to make a production master. Don't make a safety copy if the mix is worth less than \$20.

PRODUCTION MASTER : This is a master which can and should be used for production. It should be 100% the way that you want it - if it isn't, it isn't a production master. A CD production master will be a digital recording (NOT analogue!), with the correct running order, gaps, levels, sampling frequency, timecode and access sheet required by the CD format. It will also require PQ coding, and although it is common practice to leave this to the CD plant, the PQ code will be recorded on the production master, so LEAVE SUFFICIENT SPACE.

The requirements for cassette production masters are a little more flexible but again should have the correct levels, running order and gaps. It is also important that there is a SIDE BREAK in the programme, to allow for the two sides of the cassette. A reference tone recorded at the head of the tape is useful for determining channel balance and for identifying left and right but indicate which is which.

SAFETY COPY : Safety copies are exact copies of masters, and are a kind of audio

insurance policy. The most common application is to "back up" original and production masters. A digital recording should be copied digitally or "cloned", to be a true safety copy.

NOT FOR PRODUCTION : This covers everything from alternate mixes to listening copies, and includes copies of masters which are not identical, such as copies of a production master which were not transferred digitally. Tapes marked this way may be perfectly alright, except that they are not production masters.

GLASS MASTER : In CD manufacture, the glass master is the first step in the manufacturing process. Production masters are transferred to the glass master by the CD plant, and if there is a problem with the production master, it will be transferred to the CDs. Technical faults such as mutes are picked up but audio problems are not. A mistake on a production master can be very expensive.

DUPLICATION MASTER : In cassette manufacture, production masters are transferred to a duplication master so that copies can be made without wearing out or damaging the original. Duplication masters are often called "loop bin masters" after the machines they are used in.

Next, the whole process, step by step.

1. Record the SESSION tapes.
2. Mix the session tapes, creating the ORIGINAL MASTER. Make NOT FOR PRODUCTION copies, to be used as demos and to make decisions about track sequence, equalisation changes etc.
3. Prepare your PRODUCTION MASTER. For cassette, you can probably do this in the studio. For CD, you will probably have to go to a Mastering suite. Remember, a production master has to be 100% right. This is also a good time to think about a SAFETY COPY. Manufacturers call this step "pre-mastering".
4. The production master is used to make a GLASS MASTER or a DUPLICATION MASTER.
5. REPLICATION, and then, the BIG SELL.

EX-TRACK

(continued)

then on to their Triple J 'Live At The Wireless' session. Greg has also finished mixing tracks with *Don Walker and Ian Moss* for a Cold Chisel album and is in Melbourne this week mixing four new tracks for a secret Mushroom release.

Brendan Morley has been working with *Wendy Matthews* on some new material and is currently writing, arranging and engineering with *Buzz Bidstrup* (GANGgajang, The Angels) and *Michael Hegarty* (bass with Jimmy Barnes) for separate

projects. Brendan also continued his support of new artists, completing demos for forthcoming albums by *Baby Sugar Loud* and *Mother Hubbard*.

• Ravenswood Records

The *Choirboys* are currently in Damien Gerard's Studios recording a brand new album which will come out on Ravenswood later this year. The band have a free hand recording whatever they wish and will bring in a few guest artists to round out the album. At this present time Bob Armstrong is speaking to several European labels that are extremely interested in taking the *Choirboys* latest.

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FRONTIER SERIES
8-4, 12-4, 16-4, & 24-8 channels



FOCUS SERIES 8, 12, 16, & 24 CHANNELS

Focus Professional Mixers are primarily suited for Sound Reinforcement and Entertainment System applications, where low noise microphone performance is a prime need.

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- **Auxilliary sends (1 pre fade 2&3 post fade)**
- **Phantom power 48 vdc switchable**
- **Three band EQ on each channel**
- **Returns for effects, tape CD etc.**
- **Insert point for each channel**
- **Optional rack mounting kit.**

Focus Mixers use quality components including 60mm fader controls, they are attractively priced, reliable and excellent performers.



Controls/Facilities Per Channel

- Mic (XLR) • Line (TRS) • Insert (TRS) • Gain Control
- EQ Controls Hf-Mid-Low • Controls - Aux 1 - Aux 2 - Aux 3
- Pan control • Cue (Switch) • Fader (Slider)

Controls /Facilities Master

- Group Out L&R (XLR & TR) • Return 1&2 (TR) • Monitor L&R (TR) • L.E.D. Vu
- Return 1&2 (TR) • Pan Controls • Master Faders L&R • Aux Out, 1, 2&3 (TR)
- Phantom Power On/Off Ch1-4 & Ch 5-8 • Aux 1, 2 & 3 Gain Controls • Monitor Gain Control • Headphone Gain Control Headphone Socket (TRS) • Group/ Cue Switch

FOCUS SERIES TECHNICAL SPECIFICATIONS

Input Section

Mic -60dBu ~ -20dBu @ 2K Ohm
 Line -20dBu + 10dBu @ 10K Ohm
 EQ Hf-10Khz +- 15dB, Mf~ 1Khz +- 12dB,
 Lf~ 60Hz +- 15 dB
 Return Input -10dB @ 10k Ohm

Output Section

- Group Output L&R • Aux Outputs 1, 2 & 3,
- Monitor Output +4dBu Normal ~ + 20dBu Max @ 600 Ohm. • Headphone 50mW + 50mW @ 8 Ohms

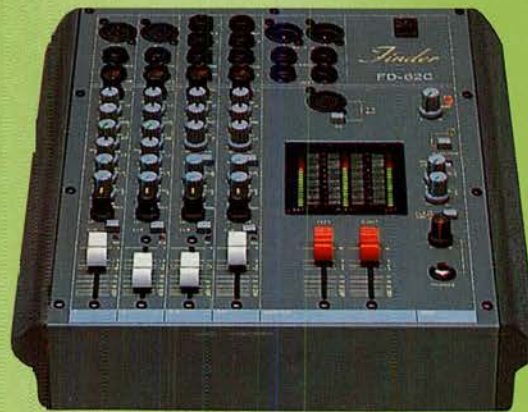
General Performance Specifications

Frequency Response Mic Line -3dB @ 20Hz - 20Khz

T.H.D. (1 KHz) Mic In -0.05% Line In 0.05%
 E.I.N. Mic In -125dB Line In -95dB
 Crosstalk -61dB
 Phantom Power Mic + 48VDC
 Cue Monitor /Incitation Graphic L.E.D. 12 DOTS -20dB +12 dB by 3dB sections

Dimension	H	W	D	Weight
FC802	427	100	399	5 Kg
FC1202	559	100	399	8.5 Kg
FC1602	691	100	399	10.5 Kg
FC2402	955	100	399	16.0 Kg

FINDER SERIES 6, 8, 12, 16, & 24 CHANNELS



Finder Series Mixers feature a combination of stereo line inputs, which makes them suitable for "live" applications, post production, dubbing suites, home studios and multitrack recording.

SPECIAL FEATURES:

- Stereo Line Inputs
- Balanced XLR mic inputs
- Two Aux Sends (one pre, two post)
- 1Khz Oscillator
- Talkback Mic Input
- High Pass Filter on Line Input
- Three Bands of EQ, with sweepable mids on mic channel
- 48v phantom power.

FINDER SERIES TECHNICAL SPECIFICATIONS

Input section

Mic..... -60dBu~ -20dBu @ 2K Ohm
 Line..... - 20dBu~ +10dBu @ 10K Ohm
 EQHf 10KHz +- 15dB Mid 200Hz~6KHz
 +-15dB Lf 100Hz +- 15dB
 Line Stereo Input -10dB @ 10K Ohm
 Phono Input -40dB @ 10K Ohm
 Tone EQ..... Hf 10KHz +- 15dB Lf 100Hz
 +- 15dB Hpf 75Hz
 Return Input..... -10dB @ 10K Ohm
 DJ Mic Input..... -40dB @ 2K Ohm

Output Section

Group Output L & R.....-4dBu Normal/+
 20dBu Max. @ 600 Ohm.
 Aux 1,2 & Monitor Output....+4 dBu Normal/
 +20dB @ 600 Ohm

Headphone 50mW + 50mW @ 8 Ohm
 Frequency Response.... Mic & Line -3dB/-2dB
 20 Hz ~20KHz
 T.H.D..... Mic & Line In 0.05%
 Signal to Noise Mic & Line In 60 dB
 E.I.N..... Mic In -125dB Line In -100dB
 Cross Talk..... -60dB
 Phantom Power..... +48 VDC
 Cue Monitor Indicator..... L.E.D. Bar /10 dots

Dimensions	W	H	D	Weight
FD-62C	295	100	355.5	5.5 Kg
FD-82C	322	100	355.5	5.8 Kg
FD-122C	403	100	355.5	7.0 Kg
FD-162C	457	100	355.5	7.9 Kg
FD-242C	673	100	355.5	10.7 Kg

FRONTIER SERIES 8-4, 12-4, 16-4, 24-4 & 24-8 CHANNELS

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FRONTIER SERIES GENERAL SPECIFICATIONS

T.H.D.<.01% All Outputs (Unity gain with +20dBm /1 KHz @ output)

Equivalent input noise-128dB (22Hz ~ 22KHz band width.)

Cross Talk (1 KHz) channel muting>90dB

Pan pot isolation >75dB

C.M.M.R. (Mic at max gain)..... > -80dB

Between L & R mix output..... > -70dB

Between L & R cr output > -70dB

Between group & mix output... >-80dB

Between L & R 2 trk input mix output~ -70dB

OUTPUT SECTION

	Connector	Impedance	Level (ncr)
CH send	1/4" (unbal)	<100 Ohms	+4dBm
Group out	X LR (bal)	<100 Ohms	+4dBm
Local group	1/4" (unbal)	<100 Ohms	+4dBm
Group insert (send)	1/4" (trs)	<100 Ohms	-2dBm
Mix L&R out	X LR (bal)	<100 Ohms	+4dBm
Mix L&R insert (send)	1/4" (trs)	<100 Ohms	-2dBm
Mix R mono out	1/4" (bal)	<100 Ohms	+4dBm
Aux 1-6 out	1/4" (bal)	<100 Ohms	+4dBm
Aux slate cut	1/4" (unbal)	<100 Ohms	+4dBm
CR L.R out	1/4" (bal)	<100 Ohms	+4dBm
TB out	1/4" (bal)	<100 Ohms	+4dBm

Maximum output level (1 KHz);

Group mix, aux, CR,TB+24dB, 600 ohm balanced

Group mix, aux, CR,TB +26dB, 1.2K ohm balanced

CH send, loc group+20dB, 600 ohm unbalanced

Other specs;

Channel LED Vu meter:.....4 dot bar graph -20/-10/0dB & peak

Group & mix LED Vu meter 20 dot bar graph -24/+14dB step/2dB

Vu selector in mix R:8 function selectable VU meters.

Dimensions W H D Weight

FT&4	692	125	691	24Kg
FT124	828	125	691	28Kg
FT164	964	125	691	32Kg
FT248	1.372	125	691	50Kg

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Bob Armstrong is travelling with other Ravenswood artists *Dave Steel* and *The Roadside Prophets* to Amsterdam to set up an office for Ravenswood under the guidance of Keith Bakker manager of the *Big Geraniums*. Keith also is the agent for Robby Krieger (ex Doors guitarist) whom Dave Steel and band will join on European tour. The band will also travel to this year's NMS in New York and play showcases there and up in Bob's home town of Toronto before returning to Amsterdam where they will be based until the end of September.

Further on the overseas releases Ravenswood have picked up the live *Peter Wells* album at the ESPIE in St Kilda. The latest live epic from Pete features his partner *Lucy De Soto* and *Geordio* (from the Tatts) on bass.

Wayne Gillespie singer songwriter from NZ releases his 'Living In Exile' CD on Ravenswood.

Wayne's CD was initially released by Sony NZ and will be out on Ravenswood very soon. *Dave Dobbin* and *Margaret Ulrich* feature on the CD.

Apart from all this Bob Armstrong has had time to record a new *Navigators* album, well ten tracks have been completed. He is finishing another four tracks in Amsterdam which will feature backing from the Big Geraniums! Navigators featured on this new album include *Floyd Vincent* and *Dave Steel* on guitar (with Dave also producing) *Tony Georgeson* (from the Dukes) on drums, *Jim Hatzis* (an old Nav) on Bass, *Bernie Bremond* (from Bone Man) on sax, *Lisa Hill* (from Deadly Nightshades) on b/v's and the legendary engineer himself *Russ Pilling*. (Who even pulls on a guitar). *Steph Miller* also lends a hand. And country music star *Norma O'Hara Murphy* jumps in for a duo! It should be out in September when Bob gets back from overseas. Call Bob & Co on (02)319 4615.

• **Paperwood Music Publishing (Administration by Sony Music)** is a new music publishing house created by a deal struck between Sony

Music (to Administer) and Ravenswood Records. Writers who include *Wayne Gillespie* (overseas) *The Dreaming*, *Bob Armstrong* and *Jim Hatzis* from *the Navigators*, *Gerry Kordegast* and *Rob Luckey* from *Road Side Prophets* and *Desert Boot*. *Bernie Bremond* and *John Hemans* and *BONE MAN*, will operate under the guiding hands of Bob Armstrong as MD and Peter Jensch as Professional Manager. Bob Armstrong from Ravenswood Records and Damien Trotter from Sony Music stitched up the deal recently. This does not change the status of *Dave Steel*, another Ravenswood artist, who just recently signed a publishing deal directly with Damien Trotter and Sony Music.

Paperwood will not only cover existing Ravenswood releases but seek out other outstanding Aussie songs and sign promising songwriters. Phone (02) 319 4615

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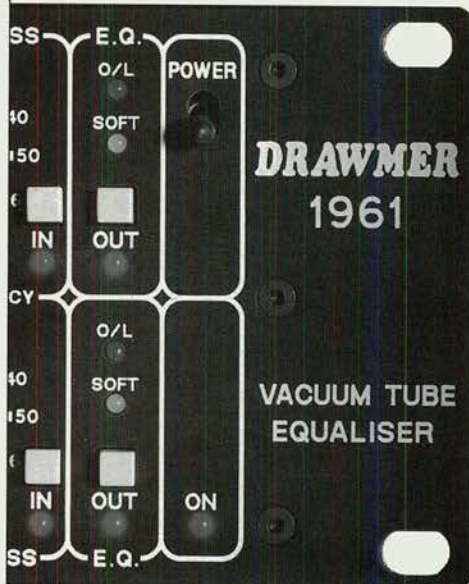
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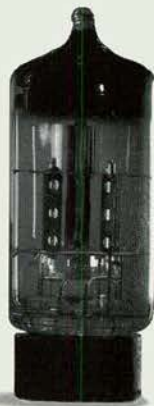
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BASF NATIONAL TRACKING GUIDE

ARTIST	PRODUCER	ENGINEER	PROJECT
New South Wales			
# Sharp Studio Jeff Cripps (02) 553 8136			
Get Ready	Jeff Cripps		CD
Scott Ward	Jeff Cripps		Demo
Margaret Britt	Jeff Cripps		Album
Oz '94 Basketball Ch'Ships	Jeff Cripps		Theme Song
Flicker	Jeff Cripps		CD
August Kings	Jeff Cripps		Demo
Airmotion Studios Kristen Wolek (02) 550 3863			
Renaissance Players	Winsome Evans		Mix Album + O/Dubs
Blair Greenburg	Blair Greenburg		Album
Transylvaniacs	Transylvaniacs		Album Mixes
Thami	Guy/Thami		Demos
All Music Manufacturing Geoff Sturte (02) 557 1169			
The Slots - Live	Gary Fleming		2 Mastering Suites
Rudy Morabito	Rudy Morabito		CD Master
John Ng	Jeff Cripps		CD Master
No Return	John Tucker		CD Master
Paddy Dempsey	Paddy Dempsey		CD Master
Aust. S.F.X.	Greg Grant		CD Master
Bush Tracks Recording Studio Ruth & Dave (066) 89 1290			
The Bourkenbacks	Band/D.Highet		24 Track Album
Chris Fisher	C.Fisher/D.Highet		Album
David Birch	D.Birch/D.Highet		Album
Lismore Skillshare Theatre	Co-Op Various		B/Tracks
Two Dogs Barking	G.Brace/V.Kanny		Demos
Nya Murray	N.Murray/D.Highet		Album
Crystal Clear Recordings (02) 975 3769			
Dr. Zeus	Band/David Tozer		Tracks
Undakuva	Band/A.S.K.		Album
Eazee	Band/David Tozer		Demos
Dance Control	Band/David Tozer		Demos
The Silenced	Band/David Tozer		Tracks
2 Smooth	Mark Capecechi/D. Tozer		Demos
Damian Gerard Studios Marshall Cullen (02) 660-8776			
Choirboys	Ian Hume		16/32 Track Album
Mental As Anything	Band		Demo
Yothu Yindi	Band		Demo
Ana Christensen	Ana		Live Dat
Moon Jumpers	Tim Powles & Ana		Tracking
Humpback	Band		Tracking
Eastern Acoustic Recording Studio (049) 621855			
Bliss	Bliss		Demos
Sparx	Sparx & D. Best		E.P.
Rumours	S. Pickett		Jingle
Fanny's	S. Pickett		Jingle
Eclipse Music Studios (Formerly Rich Music Studios) Jodie Sharp (02) 264 7734			
Olivia Newton-John	Murray Burns		Mixing
Max Sharam			Mixing
Wendy Matthews			Tracking/Mixing
Alabaster Children	Al Wright		Album
Caligula	Caligula		Mixing
Jehan/Northcote/Bruton	Northcote/Jehan		Album
Electric Avenue Studios (Mullens St) Philip Punch (02) 810 4848			
Arizona Productions	Rob Searles/Peter Kaldor		24 Track/2" A'log Ad. Tracks
Groove Myers	Groove Myers		Ad. Tracks
Electric Avenue Studios (Trafalgar St) Phil Punch (02) 660 0385			
Don Walker "Gattfish"	Don Walker		24 Track/2" A'log Album
Ed Kuepper	Ed Kuepper/Phil Punch		Album Mix
Enrec Studios Ed Matzenik (046) 361 376			
Jim Haynes	Steve Newton		32 Track Album
Young Australia	Darren Howard		Album
Enterprise Graeme Storer 02 564 3225			
Mark Deutch Gramophon	G. Storer/MDG		8 Track/MIDI Demo/Prog.
Robert Gallo	Storer/Gallo		Album
Waite & See	Band		Demos/Mixdown
Schools			Atari/Mac Setup/Inservice
Enterprise Songwriter's	Group		Demos
Festival Studio Mark Thomas (02) 660 3927			
Diesel	Diesel/Craig Porteus		24/32 Track Album
Nitocris	Mark,Nito,Libby		Album.
Baby Sugarlourd	Band		E.P.
Mother Hubbard	Doug Roberts		E.P.
48V Studio Clare Britton (02)211 6663			
Me Me Me	Rob Taylor		48 Track, 24 Digital/24 A'log E.P. Rec.
Rag Monster	Dave Henderson		Demos
Doug Williams	Craig Beck/Doug Williams		E.P.-Mix
Bugbears	Simon Sheridan		E.P.-Rec./Mix
The Wash	Robbie Rowlands		Album

Swoop	Rob Taylor/Swoop	Rob Taylor	Re-mixes Sing./EP
Hullabaloo Glenn Heaton 02 684 2039			
Disney Live	John Berrick/Hudlabaloo	Glenn Heaton	24 Track Show S'tracks
'The Big Byte'	Pauline Chan	Geoff McGarvey	Mandarin Translations
'Hot Chips' ABC TV	Heaton/McGarvey	Glenn Heaton	TV Theme
Emmetropia	Emmetropia	Glenn Langford	Demo
Rockwheeler	Rick	Glenn Heaton	Demo
Psychadelic Raspberries	Band	Glen Heaton	Album Cuts
Main Street Studio Rob Specogna 042 834 515			
Bell Tower	Bell Tower	R.Specogna	16 Track Demo
Lira	Lira/M.Nicholas	M. Nicholas	Demo
Trashed Out Cats	Band	R.Specogna	CD
The Line	The Line		Album
Living in the Shadow	P. Knox	R. Specogna	Mixing
Megaphon Studios Guy Dickerson (02) 516 3917			
Crow		Tim Whitten	24 Track Rec./Mix Album
Colin Buchanan	Colin	Tim Ryan	Mix Album
Renaissance Players	Winsome Evans	Guy Dickerson	Record Album
Peter Northcoat	Zomba	Adrian Bolland	Rec. Drum Tracks
Mill Road Studio (046) 26 2215			
Judith Collins	Canticle	Chris Vine/J. Puskas	Corp. Demos
Judith Collins	Canticle	C.Vine/John Puskas	Panto' S'track
046	Chris Vine	C. Vine/John Puskas	DAT Back Tapes
Tania Rose	Tania Rose	Chris Vine	Album
Steve Leadbrook	Steve Leadbrook	Steve Leadbrook	Demo
Mirage Studios (02) 211 3711			
Marc Hunter	Marc Hunter	T. Misner	Album
R. Krupski	T. Misner/M.Kennedy	T. Misner	Album
Winterhouse	T. Misner/M.Kennedy	T. Misner	Album
Stranded Strangers	Jason de Wilde	Jason de Wilde	E.P.
Clover	Jason de Wilde	Jason de Wilde	E.P.
Paradise Studios Bill Field (02) 357 1599			
Trout Fishing in Quebec	Jan Goldsmith	Mark Roberts	48 Track A'log Mix. Album
Lonesome Boogie		Garry King	Demo
Serious Hit Music	Rafaël May	Dave Hemming/Brent Clark/ David Lumsdaine	TV Ads.
Orange Horse	Paul Crystie	Kevin Shirly	Demo
Jan Siedel/Tom Baker	Dave Sidel	Glen Phimister	Album
Jive Bombers	Peter Moran	Mark Roberts	Album
Powerhouse Studio Contact Craig Beck (02) 318 1220			
Meryl Leppard	L. Berger & D.Henderson	D.Henderson	32 Input Desk 24 Track A'log Album
Caligula	Band/M.Duffy	M. Duffy	Album
Scandilise	Band/J.Aldis	J. Darwish	Demos
State of Mind	Band	J. Darwish	Single
Keith Kirston	Keith Kirston	J. Darwish	Single
The Hammonds	Band/J.Hresc	J. Hresc	Single
R&R Recordings Contact Robert Zimola (02) 624 4484			
Winter 95 Fashion			16 Track
Collection	Peter Saunders	Robert Zimola	Corp.
Eye Cue Communications	P. Saunders	R. Zimola	Corp.
CJM	CJM	R.Zimola	Album
Toe to Toe	S.Thompson /R.Zimola	S.Thompson/R.Zimola	Demos
Chanteclair Farms	R.Zimola	R.Zimola	V/Overs
Moving Mannequins		R.Zimola	V/Overs
RockingHorse Studio Allan Devandra/Kim Reid (066)884131			
Hottentot Party	Ramesh Sathiah	Ramesh Sathiah	Album
Carmella		Jason Redlich/Mark Orenden	Single
Sony Music Studios Contact Ross Ahern (02) 332-0320			
Boxcar	Boxcar		24 Track A'log-Dig/Dig. Pro-Tools/Editing.
Culture Shock	Pee Wee Ferris	Adrian Bolland	Album Mix
You Am I	Wayne Connolly	Simon Tonx	Album Remix
Auto Haze	Wayne Connolly	Wayne Connolly	E.P. Mix
Des'ree	Wayne Connolly	Wayne Connolly	Album Mix
The Fauves	'Self'	Simon Tonx	Pre Prod.
	Wayne Connolly	Wayne Connolly	Album Mix
Sound Level Pty Ltd. Joe Breen (02) 552 3200			
Hail Mary	Paul Gannell	Paul Gannell	Live to DAT 24 Track ADAT Available
Neil Murray	Rob Barnham	Rob Barnham	Demo
Wolf Gang	Martin Carr	Paul Gannell	Demo
Peter Walsh	Rory Mackenzie	Rory Mackenzie	CD Single
Jacobs Choice	Rory Mackenzie	Rory Mackenzie	Demo
Exploding Daisies	Alan Smith	Fulvio Colaiacolo	Demo
Soundwarp (02) 419 3214			
The Lust	Tony McGarrell	Bill Syrratt	Album Tracks
Rubber	Soundwarp/Rubber	Bill Syrratt	Demos
King Leer	King Leer	Meredith Brooks	Mastering



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Studio Arts Productions Ed Lee (042) 849 128	Independent Recording Facility 16 Track
Blitz Justin Beasley	Demo
Claire Roberts Claire Roberts	Album
Erica's Jive Ed Lee/Erica's Jive	Album
Settlers Match Ed Lee/Settlers Match	Film S'track
Cheyenne Ed Lee/Cheyenne	Demo

Studio Shift (02) 398 4268			
Shift the Teli Nonda/Tom Kazas	Nonda/Tom Kazas	Album	
Jim Hatzis Jim/Tom Kazas	Tom Kazas	E.P.	
Gypsy Rose Tom Kazas	Nonda	Demos	

The Vault Studio Contact Michael Tame (02) 953 0332		2' 24 Track
Midnight Oil Midnight Oil	Brent Clark	Album.
Ghost Writers Brent Clark/Band	Brent Clark	Album

Trackdown P/L Contact Jeff Watson (02) 550 6890		24 Track/16 Track A-DAT/Pro Tools
Alistair Jones	Kirke Geoffrey	Film S'track
Ghost Writers Rob Hirst	Trent Clarke	Album Tracks
Maree Hawker	Michelle Barry	Demo
Flacco & The Sandman Mark Kennedy (JJJ)	Simon Leadley	Album
Marcia Hines Robin Smith	Tim Ryan	Album Comp. on Protocols
Blinky Bill TV Yoram Gross	Simon Leadley	2nd TV Series

Tracking Station Studios Contact Martin Cass (02) 281 8899		24 Track A'log
Fargone Beauties Band	Martin Cass	Album
Alan Caswell	Mal Shepherd	Demos
Swanee Dave Skinner	Martin Cass	Single
Redneck Mothers Steve Pomfrett	Steve Pomfrett	Album
Dance Dept. Anthony McKenzie	Anthony McKenzie	Live Show Tape
Dead Ringer Band Martin Cass	Martin Cass	Single

Troy Horse Studio Michael Lewis (02) 557 3129		24 Track
Magic Lunchbox John Enchalarda	Micky Levis	E.P.
Laughing Zebras Keith Salvat	Colin Wright/Vera Vlovsky	Doc.S'track
Bloodloop Beautiful The Vidler Team	John (Wedge) Rafferty	E.P.



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EX-TRACK

(continued)

they've come out of receivership, found a buyer, and have a new name - 'Eclipse Music Studios'. Paul Rich is no longer associated with the facility in any way whatsoever. Greg Simmons and Jodie Sharp are taking care of studio management, and both studios are heavily booked until September. For more details, call Eclipse on (02) 264 7734.

• **Studio Shift** Yasu!!!!, Nonda, that zany engineer from the Greek Islands, has opened his own 24-track studio in Randwick with a view of Centennial Park. Called 'Studio Shift', the studio features an Amek Angela 28 channel console and a Lyric 24-track two inch analogue multitrack recorder. Regular engineers include Nonda himself, and Tom Kazas. Give Nonda a call on (02) 398 4268.

- Caroline Grafton.

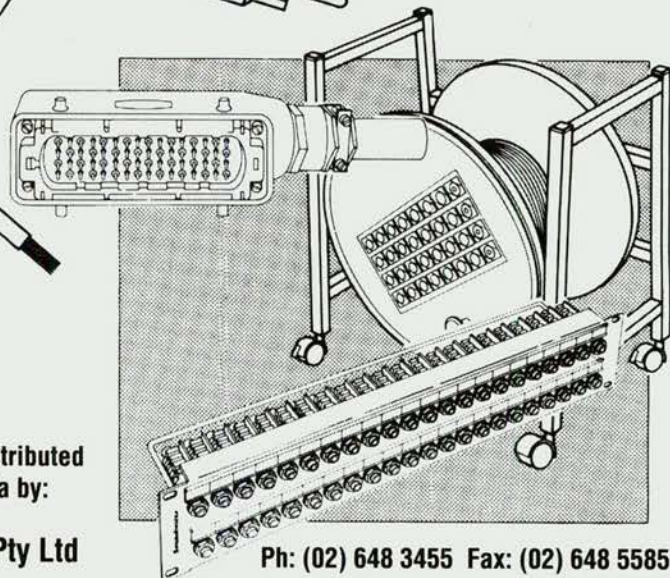
HOW TO LIST YOUR STUDIO:

1. Deadline is ALWAYS the 15th of the month before publication. We reserve to right to select suitable material. No cost!
 2. Mail or Fax the information to us, you do not need a specific form, but you do need to follow the format of the guide, which is obvious - have a look.
 3. We must limit listings to six or less separate artists.
 4. Please note your studio NAME, phone number, state and your contact details so we may check anything odd.
 5. If we have any doubts we will contact you around the 20th of the month. It's FREE!
 6. Questions? Verification? Call Elaine on (02) 876-3530 (BH).
- Send to: Connections, BASF Guide, PO Box 439, Epping 2121, or Fax: (02) 876-5715.**

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BASF NATIONAL TRACKING GUIDE

ARTIST PRODUCER ENGINEER PROJECT

World Recording Studios (03) 866 8643			
Girlfriend	Don Nadi/Paul Annison	Paul Annison	Remix
Real Life	Real Life	Don Nadi	Album
JUA Project Feature	Don Nadi/Paul Annison	Paul Annison	Album
Nova	John Vonahlen	Jewels Michael	Album
Boots - Collective	Don Nadi	Paul Annison	12"

Western Australia

Bonsai Recording Studio Tom Thorpe (09) 349 6029			24 Track
Andrew Brean	Tom Thorpe	Tom Thorpe	Demo
Praklash	Tom Thorpe	Tom Thorpe	Demo
Matt Williams & Rick Lovett			
	Tom Thorpe	Tom Thorpe	CD
PMFM Morning Crew	Tom Thorpe	Tom Thorpe	Jingles
Peter Herring	Tom Thorpe	Tom Thorpe	Demo

Planet Sound Studios Contact John Villani & Denise Preston (09) 382 2211			48/32/24 Track
Carlo Antoniolli	Carlo/Les Williams	Les Williams	Single
Novak Langer	Novak/John Villani	John Villani	Album
Ken Walther Prodn.	Ken Walther	Les Williams	'Red Rooster' Jingle
Rob Roose	J. Villani	John Villani	Album Tracking
Leslie Hartz	J. Villani	John Villani	Single Mix

Poons Head Contact Rob Grant (09) 339 4791			48 Track Music Studio
Yummy Fur	Rob Grant/Band	Rob Grant	Mastering
Danny Farrow	Rob Grant/Danny Farrow	Rob Grant	Album
John Bailey	Rob Grant/John Bailey	Rob Grant	Demo
Wayne's Crew	Rob Grant/Wayne's Crew	Rob Grant	Mastering
Circus Murders	Rob Grant/Band	Rob Grant	E.P.
Love Bites	Rob Grant/Phil Bennett	Rob Grant	Mastering

Tropo Sound Mick Connolly (09) 92 2394/018 938 724.			24 Track Digital Master
Bran Nue Dae	Steven Pigram	Brett Lyons	Demo
Dogs On The Bonnet	Johnny Rotten	Brett Lyons	Album
Magnolia Productions	Johnny Rotten		Radio Ads
GWN		Johnny Rotten	
Radio Ads			
Ross Karadada	Alan Pigram	Johnny Rotten	Demo Album

Witzend Recording Studio (09) 331 1818			
Lisa Pieri	Alan Dawson	Alan Dawson	Demo
Jim Cregan	Alan Dawson	Alan Dawson	Demo
Shaun McVicar	Alan Dawson	Alan Dawson	Album
Kerry St School	Alan Dawson	Alan Dawson	Contest
Such Is Life	Such Is Life/Alan Dawson	Alan Dawson	Demo Album

A.C.T.

Wonderland Studios (06) 241 1577			
Coloured Stone	Tony Boye'	Jon Wicks	Album
Alice Haines	Tony Boye'	Jon Wicks	'Tribal Woman' Album
CD Gilchrist	Tony Boye'	Tony Boye'	Cassingle
Blue Hairymen	Richard Nolan	Richard Nolan	Demo
John John Miller	Tony Boye'	Tony Boye'	Single (Demo)
Dwayne Lawrie & Corey Noll			
	Tony Boye'	Tony Boye'	Single (Demo)



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Splices

• **Studio Connections** have taken orders from Melbourne University for two pairs of Genelec 1031A studio monitors and one pair of Genelec 1037A. Post production houses Opusarium and Flint-Webster in Melbourne have purchased 1031As. Both houses use Lexicon Opus systems. *Details-Studio Connections, phone (03) 723-4300*

• **Fairlight** have appointed **GUVT** as their exclusive South Australian distributor and Soundcorp as their exclusive Victorian distributor..

• **Zoo Studios**, in the heart of London's advertising world, have installed **Fairlight's** MFX3 Digital Audio Workstation in their new post-production suite. *Call (02) 975-1211*

• **HBB Communications** of London have started shipping their PORTDAT PDR 1000 Professional DAT Recorders. They also announce the availability of their own HBB Bit Box which allows easy transfer of DAT recordings to CD-R.

• **Aphex Systems** delivered their 100,000th Aural Exciter for use on the 1993 MTV Music Awards telecast. Thom Wilson, the show mixer used a Model 104 Aural Exciter Type C², which incorporates the Big Bottom bass processor. *Call East Coast Audio (03) 428-9797*

• **Digidesign** have released Pro Tools™ version 2.5, a software upgrade to Pro Tools, the world's best selling multichannel audio workstation system. Also, the Digidesign TDM BUS is now available at authorised Digidesign dealers worldwide.

The Digidesign TDM bus is an open architecture 256-channel, 24-bit digital audio bus that extends Digidesign's popular Pro Tools multi-channel digital recording and editing system to include advanced digital routing, mixing, and patching capabilities.

Digidesign have also released a new audio interface - the Digidesign 882 I/O Audio

Interface for the Session 8 PC and Macintosh product lines as well as new configuration options for Session 8. Digidesign ADAT Interface is now available for Session 8 PC. *Details-ISM (03) 416-9688.*

• **T.C.Electronics** new M5000 software offers enhanced early reflections and sophisticated digital compression. *Call Amber Technology (02) 975-1211.*

• **Studer UK** have announced the release of "Extended Plug & Play" for the Dyaxis II Hard Disk Digital Editing System. Utilising a 1,3Gb Magneto-Optical Disk and DOLBY AC-2 data compression; Extended Plug & Play allows the operator to record in either a linear or compressed format. This provides up to sixteen hours recording from a single removable disk. *Call (02) 417-4700.*

• **DDA** have launched a new moving fader system for its DCM range of production consoles. 'MediaFile' results from a collaboration between Uptown Automation in Colorado and DDA's development staff in London. The system offers a SMPTE based mixing package which, as well as providing motorised automation of the channel fader, also allows control of 24 of the DCM's switch functions via a specially developed 'Universal Interface'. *Details: Syncrotech Systems Design (02) 417-5088.*

• **AMS Neve** recently had their first European showing of their OMF Interchange. *Details: Syncrotech Systems Design (02) 417-5088.*

• **Audio Kinetics** have completed the development of new ES.Lock software, designed to enable comprehensive external control of the Tascam DA 88 Digital Audio Cassette (Hi-8) system. The software enables users to achieve genuine multi-machine audio editing and tape synchronisation, effecting full integration of their DA 88s and avoiding the problems associated with time-coding chasing. *Syncrotech (02) 417-5088.*



LIGHTING

MONTHLY

DYNALITE SALES NOW \$1M INTO ASIA

SYDNEY ARCHITECTURAL DIMMING FIRM EXPORTS GROWING

The recent Singapore PALA trade show saw Australian dimming manufacturer Dyalnite announce sales for the year of over A\$1 million into Asia through Singapore distribution firm TeDeaum.

Dyalnite founder John Gunton has adopted an 'open policy' regarding access to the firms remote control technology. Dyalnite have developed a range that includes proprietary touch panels which can be custom configured to operate building and residence dim-

ming by zone or to preset levels.

The Dyalnite system operates on a proprietary control protocol, but can be interfaced with other systems, like Crestron and AMX. "Ours is an open network, not bound. It is easy to get in, and easy to get out, you just send ASCII strings, we're interoperative" said John Gunton.

Most of the projects Dyalnite

have worked on are subject to confidentiality agreements. The firm has recently customised a system for a well known European Monarch, with sales to Germany, France and Holland.

Energy management in building projects is a major area too, where the initial cost of a control system can be offset by energy savings.



WOTAN NOW OSRAM

OSRAM is one of the oldest internationally known tradenames, so it makes perfect sense for the lamp manufacturer to re-name its Australia arm as OSRAM Australia P/L.

The managing director of Osram Australia, Klaus Engelhard, commenced trading with the Wotan brand name ten years ago from the Siemens premises in Artmon (NSW). The business grew fast, and in February 1991 OSRAM GmbH decided to establish an office independent of Siemens. The Wotan office was situated at Pennant Hills in Sydney's north-west. These premises are now the HQ for Osram Australia.



The history of Osram is very interesting - it was created in 1906, slightly before the editor was born. Osram was given to GEC in the UK as retribution from World War 1. This gave GEC the rights to the Osram name in all commonwealth countries, so Osram in Germany needed another name to conduct business in Commonwealth countries. This was Wotan.

GEC's rights to the Osram name ceased in 1986, but continued in part here, until an agreement recently which has now allowed Osram to use the name here.

So thus the change! **OSRAM AUSTRALIA**, same phone number in Sydney as WOTAN: (02) 481-8399.

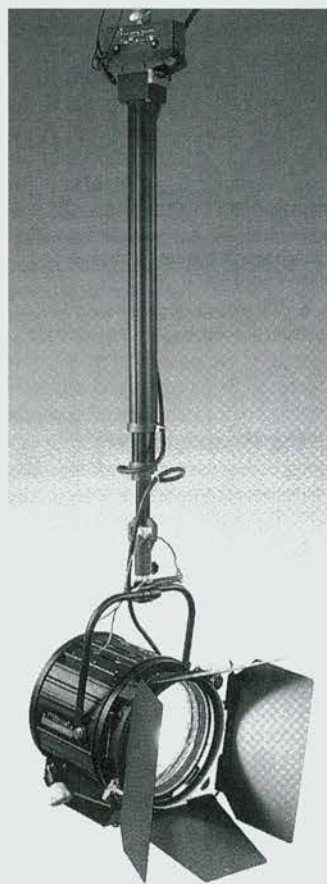
Workshops and Tours the focus ENTECH SET!

With 80 exhibitors - 33% of them lighting - confirmed at press time, (and many others negotiating for limited available space), the inaugural Connections ENTECH '94 trade show is firmly on the calendar for October 6 - 8. The show, to be held in the Sydney Exhibition Centre, is free to trade who can enter after walk-up registration.

A range of Workshops are available at \$10 each, and will be fully detailed in the Visitors Guide in the next issue of Connections.

Entech-nical tours of the Sydney Opera House and Channel 9 will also be available at \$20 (to cover coach transfers) and these are expected to sell quickly.

The Harbour Cruise on October 6th & Entech Awards dinner on October 7th are also selling fast, call (02) 876-1411 to book.



NEW Strand Pole

The Lightscope is suitable for fixed grids, track and beam grids, or use with barrel hoists. A choice of lifting capacity allows for 4.5kg - 9kg or 9kg - 18kg fixture weight.

Then there are two versions for length; either 2.2m or 3.4m extended length, and the spigot socket for the luminaire is 29mm.

Bytecraft are the Strand agents for Australia, call (03) 587-2555.



CDA intro new Architectural Dimming line

A new player in this market has surfaced in a Company called Intel Control, distributed by Coemar De Sisti Australia.

The feature list says Intel Control is capable of dimming most lamp types WITHOUT add-ons, and operates via direct PC control, again without add-ons.

Reliability is said to be enhanced due to the use of SCR semi-paks and thermal/magnetic circuit breakers. The range of dimmers had their International debut at

the recent Luminex '94 exhibition in Hong Kong which Peter Kemp attended and he says they were favourably accepted and orders were placed as a result of that show.

Coemar De Sisti Australia will handle distribution throughout Australia through a selected group, of dealer/wholesalers, and overseas distribution will be handled directly via Intel Control via a network of dealers which is currently being established. *Call (03) 467-8666 for more.*



CONFERENCE A HIT

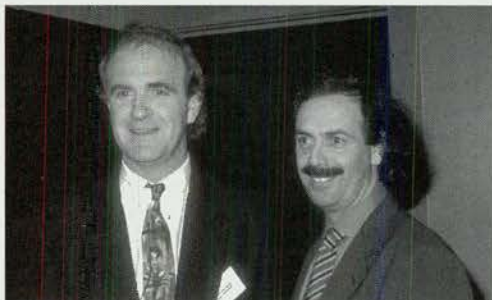
Show Technology Australia recently hosted a three day conference for dealers, with international guests from Clay Paky, Pulsar, JEM and GENI Electronics.

With international visitors in the region after the Pro Audio & Light Asia '94 Exhibition in Singapore, it made good sense to feature a national conference at that time. Interstate dealers were flown to and accommodated in Sydney and local dealers were able to enjoy similar hospitality. The itinerary included, cuisine in both Italian and Australian tradition, Pool (8-Ball) and Pinball competitions, Go-Kart Racing and of course copious amounts of alcohol. The revelling crew even managed to fit in a conference on the first day which commenced with the official Australian launch of Clay Paky's Super Scan Zoom as well as demonstrations of various JEM and Pulsar products, the Masterpiece con-

troller being a focal point. The presentations were followed by a talk-fest on everything from specifications to various market/practises.

Day two saw small groups of technicians from around the country in a hands-on training situation, covering lighting design and the incorporation of intelligent lighting, programming and controlling.

The finale of the event was the public launch including cocktails, with a brief presentation by Pio Nahum of Clay Paky (Italy) and a choreographed lightshow known as "The Talking Zoom Show" (as first seen in Rimini at SIB '94 Trade Exhibition) programmed by James Evans and Matthew Cohen of Show Technology.



Rod Salmon (Show Technology) and Pio Nahum (Clay Paky)

Other international guests included Andy Graves and Derrick Saunders of Pulsar, Jon Petts of JEM, Giovanni Zucchinali of Clay Paky (Italy) and Douglas Nelson of GENI Electronics.

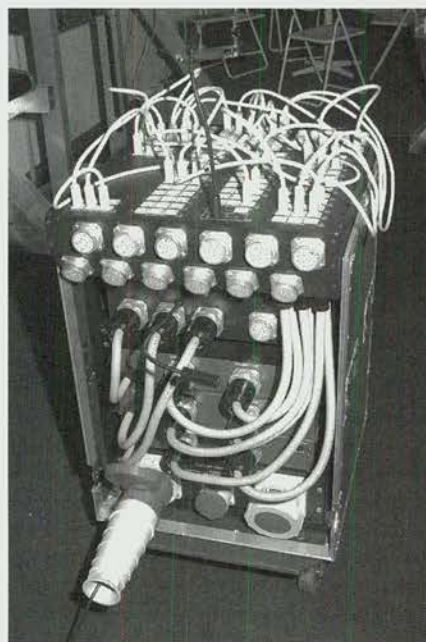
Show Technology retained the momentum, with the first of many training seminars on July 12. Technicians in training were able to take advantage of the overseas guests knowledge and expertise as well as local LX gurus Roger Barratt and Lance Douglass of Multiscan Software and the Show Technology staff. -C.G.

Bits

• **Selecon** helps light 'Christian Dior' - Leading Sydney lighting designer **Geoff Cobham** is reportedly very pleased with the results achieved in lighting the Christian Dior exhibition at Sydney's Powerhouse Museum, near Darling Harbour.

In a "dramatic" design using techniques learnt in dance lighting, Geoff used 60 Selecon Accent low voltage zoom profiles, 40 Accent spots (no lenses) and 40 demi spots (no transformer) to give shape and contrast to landmark Dior designs from the 1940's to Christian Dior in Australia today.

The ability to colour, gobo and dim the lux equipment, proved essential when faced with a 50 lux lighting limit. Worth a look!



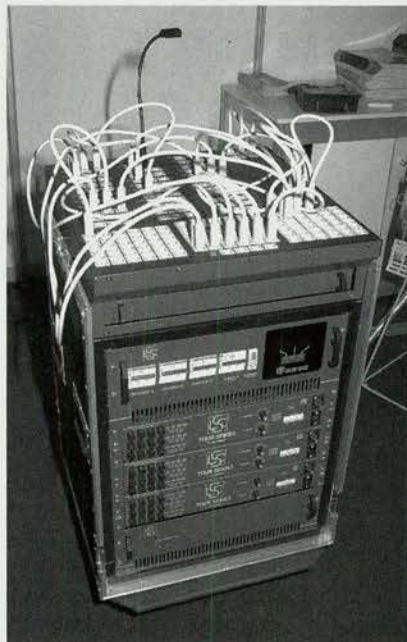
LSC DEBUT TOUR DIMMER

LSC Electronics were one of three Aussie lighting manufacturers exhibiting in Singapore at the Pro Audio & Lighting Asia trade show recently, and had the full Axiom range of lighting control consoles on display for the first time in the region.

In addition the firm released their latest touring rack, a 36 channel dimmer rack with hot patch system, configured to the needs of the European market. That market expects the hot patch on top of the rack, so LSC have done this, with 36 x 16 amp 2 pin sockets, and 72 outputs on 12 Socapex connectors.

The touring system includes a digital status monitor that reads input voltage and amperage, along with phase to neutral voltages, Maximum and minimum readings of status are preserved for later viewing, a neat idea, so you can PROVE to the act that the missed cue was due to the mains dipping under the power supply floor of the control desk or PC out front of house maybe? Neat.

More details from LSC on (03) 561-5255.



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Bits

• The Australian Labour Party purchased the new **Prolite 1.2K** fresnels and cyc floods for television work in the Perth Trades Hall Building from **Theatrecrafts**.

• ABC Buys Selecon: **Norma Hancock** of **3 Arts Services** reports assisting in the successful lighting of The Melbourne Symphony Orchestra at home in the new South Melbourne ABC building. 55 Minifresnels offered the compact size and punch required.

• **Selecon** offer two accessories allowing adaptation of any beam angle 1200W profile or the PC 6" and 7" for followspot use. Handles costing A\$39.60 fit into the yoke adjustment slot and the A\$360 4 colour magazine fits onto the standard front casting. Similar kit handles & changers are available for Selecon's 2000/2500W range. Check with your Selecon dealer.

• **Anytronics** (UK) have released a versatile 10 channel DMX512

strobe interface and economical Aurora 6 and Aurora 12, 2 preset analog output lighting desks.

Details: GUVT (02) 358-5022.

• **Light Processor** (UK) have produced a 24 channel DMX to analog demultiplexer, QDMUX, including back up scene store facilities. *Details: GUVT (02) 358-5022.*

• **High End Systems** (USA) announced Cyberlight CX and Cyberlight LCD controller at the recent Singapore show. Cyberlight CX compliments the Cyberlight and is essentially a Cyberlight fixture with the C,Y,M colour mixing and variable frost features removed and with manually positionable zoom rather than the fully remote controlled zoom function of Cyberlight. The Cyberlight LCD controller allows full control and programming of eight (8) Cyberlight fixtures, and outputs proprietary LWR protocol. *Details: GUVT (02) 358-5022.*



STRAND's new **GSX** console comes in 25 to 125 channels and runs with **GENIUS** operating software and has optional **Kaleidoscope** and **Communicue** extension software.

• **Software:** CDA say MacLux Pro has sold to a school in Adelaide, and Showcorp Productions of Sydney, Microlux 1000 to Rockhampton Performing Arts Centre and another ShowCAD system into Asia.

• Tasmania stocks up on De Sisti... **K W Mc Culloch** in Tasmania are continuing to push De Sisti product into the local television studio's with two orders coming through in June/July.

• **Peter Kemm** and **Richie Mickan** from CDA were responsible for the total programming of the Coemar stand at the Singapore show. Normally Coemar (Italy) would have Carl Dodds & John Lindsell program the show, the Asian debut for the new NAT range.

• **Leisure Lighting** an inexpensive range of British disco effects are now available, with a 12 months warranty & a full range of spares from CDA, (03) 467-8666.

ICON WARS

According to Light & Sound Design, their new Icon moving light system has over 800 fixtures now in service around the World. The system is represented here in Australia by Bytecraft, but in the Northworld the American and UK arms of the firm are locked in 'ICON WARS' over the number of fixtures each has allocated.

In Singapore I met Ian Coles and Peter Johns from the firm, who say they feel the market for Icon is by no means already saturated with Vari*Lite's. Peter estimates there are over 8,000 VL2



Peter Johns and Ian Coles from Light & Sound Design.

variants in the world today, so LSD have only a fraction of the market. In addition, Morpheus in the USA offer the Pan Command System, represented here by Concert Lighting Systems (CLS).

The rate of Icon production is now about 2 units per day, in the first year the firm built 650 units. "We designed the fixture first, but should have been and seen a patent attorney first. We had all kinds

of problems, which in some ways ended up producing better solutions. For example, we ended up having to run a cable to each fixture, rather than daisy chain to each fixture. Now that makes a more reliable system in case a cable goes faulty", said Peter.

"Icon has also helped LSD win more business," said Ian Coles, "like Rush, whose LD was so impressed he had to have Icons". Previously this act used C-Factor (a different lighting firm). When you consider LSD are perhaps the most active lighting production firm in Europe, you can see why they decided to make their own moving light system.

The Icon runs from the Icon Control Desk, which now will operate conventional DMX devices,

(continued)

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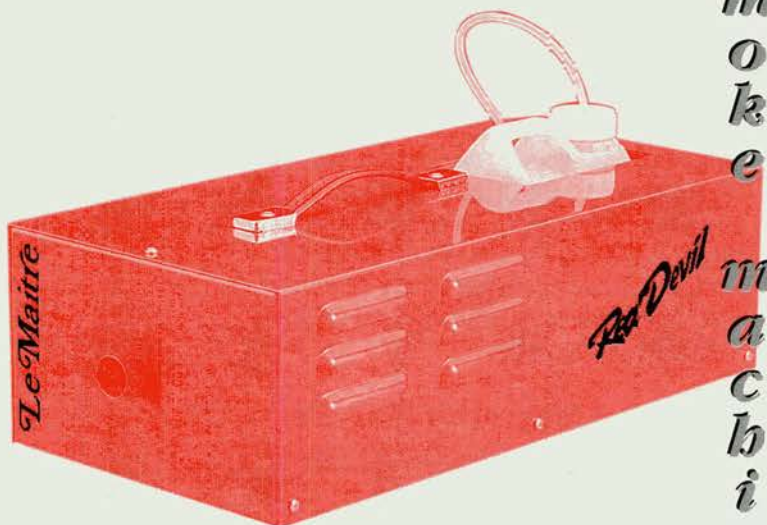
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Weight : 9kg (boxed)	Jack socket remote



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ICON LATEST (continued)

and indeed has the pseudo DMX protocol loaded which High End Systems use for the Intellabeam and Cyberlight. LSD has adopted an open-architecture approach, and many recent tours have seen Intellabeams and Cyberlights used with Icon - and indeed, Vari*Lite. Different strokes for different lighting designers, and of course an Icon is different to a Vari*Lite.

Like Vari*Lite, Icon is only available for rental. Asked if the project was on schedule regarding cost, Ian said that the T-Shirts were the most expensive part! Jokes aside, the project has taken longer than originally expected, and is still subject to some wrangling regarding old patents held by others.

The ability of the Icon Control Desk to run fixtures other than Icon means all colour scrollers, conventional lights, and any DMX device. In this regard it is only

matched by the Whole Hog console, which will drive any DMX device and also older Vari*Lite.

Moving light systems from Vari*Lite (who have a wide range of models on offer) and the LSD Icon are sophisticated robotic systems with fully moving light sources. Commercially available moving light systems such as the Intellabeam have a stationary lamp source, and a moving mirror head.

The cost of developing 'robotic type' systems is so high that few have tried, one notable is Altman in the USA, who offered the Altstar system a few years ago. Altstar is remarkable because Altman is probably the most cashed up and lucrative lighting firm in the world today.

The firm built an assembly plant for Altstar - and released the fixture with control consoles at LDI - but little has been heard since.

*Bytecraft for Icon (03) 587-2555.

PETER KEMP

Too many Trade Shows & Magazines ?

With recent show releases and the turn out of trade magazines at the recent Pro Audio & Light Asia show in Singapore surely one must question the necessity of so many trade shows and magazines.

The Singapore show had an area devoted purely to trade magazines, which included : Audio Media (UK), Disco Club & Leisure International (UK), Show Meeting (Italy), Lighting & Sound International (UK), Media Directories (The European Audio Review & Post Update), Disco & Dancing (Italy), E-Line Magazine (Singapore), Soundworks (Singapore), Sound & Video Contractor (USA), Lighting Dimensions (USA), TCI (USA), WDR/EDR (UK), and EARS Journal Asia. All of these magazines were trying hard to get people to sign up for subscriptions on the spot and many offered special show discounts for this.

I know that our company subscribes to many of the Lighting magazines, in order to keep totally up to date, however I must also say that the annual subscription costs for all the magazines we get amounts to quiet an extensive outlay of funds. The other point is that receiving all these magazines, then gives one the headache of trying to find the time to read all of them. In Australia we are lucky to have only one true magazine for the combined industry - Connections -but overseas you are inundated with possible choices, not to mention the problems for manufactures in deciding just which magazines one should spend their advertising budget on.

The magazines mentioned above are only a few of the publications available, as there are many additional specialists magazines catering for particular market segments ie: special effects, audio visual etc.

All I can suggest when considering subscribing to magazines is to take a long hard look at the contents on a number of issues and ask yourself will you benefit from the subscription and do you have the time to regularly read them. Also try to talk to somebody who is already subscribing to the magazine to see how punctual they are re. sending out issues etc. We had an experience with E-Line magazine, whereby we subscribed at the Singapore show in 93 and since have only received two issues since.

The other issue is the number of trade shows around the world each year. This basically has forced the major manufacturers too put on a full time crew purely for trade shows. And one must bear in mind that somebody has to pay for the costs of the shows hence it is incorporated in the costs of the products you all purchase. At the LDI show last year the major lighting manufacturers go together and decided that they would all limit the size of the stands (and hence their commitment and costs) to an agreed size for any trade shows, other than four selected International shows being: SIB Rimini (Italy), PLASA (UK), LDI (USA) & Pro Audio & Light Asia (Singapore). I am not sure if they have all stuck to this agreement so far this year, but such an agreement does indicate that even they are becoming disenchanted with the number of shows.

I have compiled a list of 40 shows I know of this year. I am sure that they are many more International show and local shows not included, one could be constantly travelling the world and attending trade shows - however I would hate to have to pick up the tab for this!

***Peter is the boss at Coemar DeSisti
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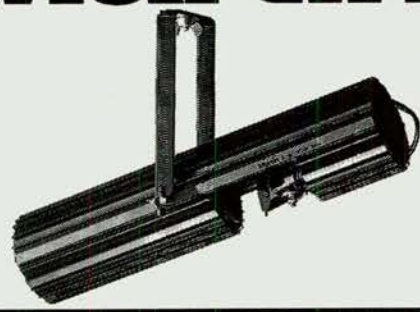
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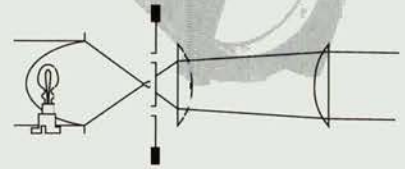
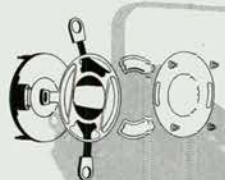
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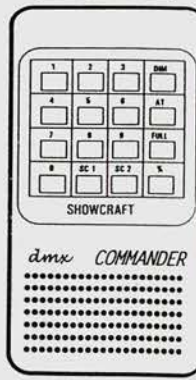
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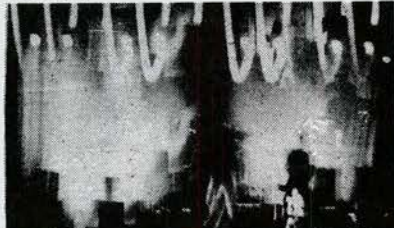
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Speakers EV SH1512ER, exc. boxes, with wheels on each, carpeted also stand mountable, good for live band or DJ. \$2400 015 331150 or (03) 314 6571

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Random Comment Duncan Fry

The CALL Of Nature

Our bodies are all regulated by unseen forces and rhythms of nature. We all have to listen when nature calls, and it's been my experience that she usually comes calling about halfway through the second set!

It's not so bad if you're the lighting guy or the sound engineer down there in the Front of House bunker - in an absolute emergency one of the audience can always babysit things while you zip off to strain the potatoes, but it's not as easy as that for the band playing away up there on the stage. In the excitement of the gig, with the adrenalin rushing through the body, all of a sudden they must regret having that couple of pre gig beers that are being metabolised through their system at amazing speed! I suppose punk bands back in the 70's could have just dropped their pants and had a quick leak on the audience, but that sort of thing is frowned upon by most pub managers these days.

There's really no option but to grin and bear it, since the band can hardly put their instruments down and wander off the stage.

Or can they?

Some years ago we were doing the sound for a group of Irish folksingers, who played beautiful sentimental tearjerking songs that the hopeless romantic expatriates in the audience could cry into their drinks to. They were talented musicians, very friendly and easy to get along with, and very keen on absorbing as much Australian culture as possible in the short time they were here.

And as far as they were concerned, Aussie culture consisted of copious amounts of Vitamin VB (that's Victoria Bitter for all you non-Victorians).

Jeez those guys could drink. Every one of them could put it away like there was no tomorrow!

I was sitting down with a couple of them before the show one night, and thought I'd get us all a drink. The waitress came over, I indicated the three of us and said to her "Three beers, thanks."

"Oi'll have the same," said one of them.

"Me too," said the other!

With all this intake of beer, it was a foregone conclusion that what went in would sooner or later have to come out.

How are they ever going to get through the gig, I wondered to myself, but I needn't have worried, because the boys had it all worked out.

There were six of them in the band, but as I watched the show I suddenly realised what was going on. Once the first song was over, there were only ever five of them on stage at the one time! One of them was always slipping away to splash the boots!

A song would finish, they'd all stand around waving their arms and bowing, and one of them would slip away unnoticed and make a dash for the toilets backstage. Then, having thoroughly watered the horses, he would stand

by the side of the stage until the song finished, usually sipping on a fresh stubby while he waited. During the applause at the end of the song he would slip back on stage while one of the others would do the same trick.

The audience never seemed to notice. I guess one bearded guy in a check shirt holding a guitar or banging a tambourine and singing maudlin ditties looks much the same as another.

At the end of the night they would invite family members, the support band, and various people from the audience up on stage with them. Then, when everyone was clapping and cheering, the missing band member would slip back on stage and no-one seemed to notice that there was one more person in the band.

It was a slick, well rehearsed trick. I was mightily impressed! •

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system that reads the rotation of the shaft, signalling the automatic activation of the LED Depth Indicators and "NO DIVER" Sign. The Leisure Pool is designed to be a shape complete with sand, Palm Trees and slides, essentially an oasis. The pool is a total of four hundred and twenty square meters including the PA/ speakers. Entering the main pool area the large steel beams draw your eyes slowly. At this moment you notice a long line of oversized bananas. It is supported by twenty-four Bose Panaray Speakers, which have been designed with the Aquatic Centre in mind, so perfectly do they marry. The pool has its own local control room containing key equipment such as Jands SR amplifiers, Yamaha equaliser's and Yamaha and Sabine Feedback Eliminators. The Master PA Control uses the Soundcraft Venue 16 channel console and Total Concept custom made Master/Slave Panel. Each of the three pools has "Sea Mic's", underwater microphones that are used in the recording of "songs". These allow the sound operator to raise the sound level under water without having to stick his head in the pool! This is particularly useful for events such as the Synchronised Swimming.

There are nine Audio Induction Loops in total making it a mammoth 10,000 watt Hearing aid system.
continued over

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see LIGHTING SECTION; from page 48

the movable floor in the Training Pool that allows the water depth to be raised for training purposes. Total Concept: custom made a

SONTEC VICTORIA BUSY

Touring Systems for Dept. of Defence - and the Salvation Army.

Sontec Australia is just a few months away from being accredited to the latest Q.A. requirements and they believe they will be the first communications company to achieve this.

In Victoria, Sontec have been commissioned by the Dept. of Defence to supply two large touring sound systems. These sound systems are made up of Bose speakers, A.R.X. amplifiers, Yamaha mixers/processors, Shure microphones with all the required sundries. The Salvation Army has jumped in on the act and have just purchased their first Bose Panaray system complete with Crown amplifiers and Soundcraft mixers.

EASTLANDS and HIGHPOINT shopping centres have just upgraded their sound systems using I.M.P. technology and Bose speakers while PARKMORE shopping centre is in the process of being retrofitted with a Ziton control panel and new speaker grid.

Sontec have struck a deal with the contractor for the Preston theatre complex and are supplying the speaker system (Bose) and the latest Yamaha M2000 40 channel mixer that the project requires.

All in all the run towards Xmas looks exciting again, say Sontec, with the usual "bread and butter" 100 volt line projects starting to take off in conjunction with their latest growth area, the A.E.I. customised music program.

Call Hillary Evans at Sontec- (03) 570-3777.

SPACE AGE FIRM OCCUPY STONE AGE BUILDING

... and renovate. 'Electra House' named.

Space Age Communications, a Melbourne based AV design and contracting company, purchased and occupied an historic building in Williamstown almost two years ago. Following substantial renovations, the building was recently named during a ceremony.

The Mayor of Williamstown, Cr James Farrell, officiated at the formal naming of "Electra House". He also presented the company with a certificate of congratulations from the local council.

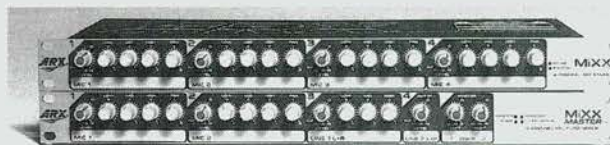
Managing Director Neil Langford established the company over seven years ago, having worked in the entertainment and audiovisual industry. He has a strong support staff offering a mix of construction, multi-media, technological and creative skills.

Space Age operates around Australia, and has recently commenced exporting its services and technology to the world.

Space Age Communications' current projects include lecture theatres for Peter MacCallum Cancer Institute and for Melbourne University, a state of the art display facility for Australian Associated Press (Sydney), a conference room for Goldman Sachs (Sydney) and three further facilities in Hong Kong.

For further information :

Call Neil Langford or Ley Gatter on 03.397 2544.



MIXX MIXERS

ARX have released the MIXX series of mixers based around their "open buss" product interface system. Open buss is an innovative interface (the firm says) which provides an open architecture mixing and zoning system, allowing an infinite number of modules to be interconnected in any combination.

The MIXX series consists of the 'MIXX' 4 channel Microphone/Line Mixer, and the 'MIXX Master' Mic/Line/Auxiliary master Mixer. Both are ideal for installation, recording and sound reinforcement applications.

Each model features low noise circuitry, comprehensive equalisation and inbuilt Mic Phantom power supply. The MIXX system flexibility is further enhanced as each unit may also be used as a stand alone Mic/Line mixer. *Contact ARX on (03) 555-7859.*

Huge New Venue

Sydney's largest registered club, **PANTHERS** at Penrith, will be extensively expanded, with construction of a very large Live Music facility alongside the existing building. The plans call for the existing Reactor One nightclub to become part of a monster food hall, and completion of the theatre space existing in the building.

Aquatic Centre (continued)

ing Impaired Loop. Amplifiers, equaliser and limiter provide the main componentry. For Paul Jervois, Total Concept's Chief Engineer on the project the major challenge lies in the testing and commissioning. Working into the early hours of the morning have become a way of life for Paul in order to meet the construction deadline. Recently Civil and Civic put on a "Thankyou Bash" for all those involved in the project. A small production was organised by Total Concept and Civil and Civic provided Celebrity races, Charity Raffle and Bar-B-Q and Beer. All in all it was a day to sit back, marvel and feel a touch pride at the spectacular site that lay before us.

SYDNEY 2000 OLYMPIC AQUATIC CENTRE PROJECT DIRECTORS:
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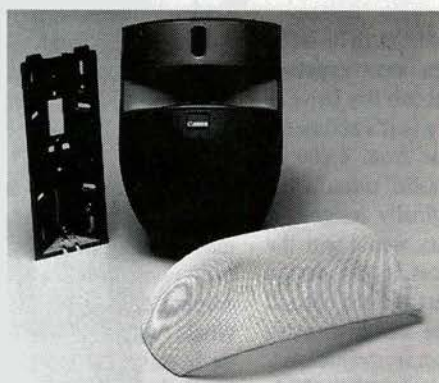
From Canon's 'blue-sky' R&D centre in the UK comes the Canon Audio V-100 foreground/background installation system. The V-100 concept resolves the myriad of installation speaker dilemmas, i.e. bracket, aesthetics, flexibility, dispersion etc. etc. Basically the V-100 speaker is a 90° segment with 90° dispersion. One segment fits flush into a corner, two segments (180°) sits flush on a wall, three segments (270°) sits flush around a 90° wall corner and four segments (360°) hangs in free air on a special bracket to provide 360° coverage.

For installation, the rear section of the segment, the bracket, is detached, wired (with or without 100v line transformer) and attached to the wall. The front section of the segment then slots into place and is held by two re-

tained nuts which also double as the speaker cable connections. A number of accessories are available for the V-100 including a full length plastic grill (which can be painted) and a sub-woofer.

The Canon V-100 has already been used in Sydney's premier shopping Mecca, the Queen Victoria Building. The V-100 was chosen for the entrance sections and centre core of the building because the delicate aesthetics of the building necessitated a virtually invisible speaker which offered excellent audio definition and the ability to cut through a high ambient sound level.

Canon Australia have appointed Horwood Australia as their exclusive agent for the V-100 system. Further information is available from **Horwood Australia Ph 718 8054, Suite 4/ 251 Canterbury Road, Canterbury NSW 2193.**



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The INKEL PA CORPORATION may be the subject of some tongue in cheek ribbing about their Korean to English user manuals, but at the end of the day they make some unique, good value products for contracting.

Just recently they released a series of rack mounted devices for commercial P.A., which include a tuner, cassette deck, multi CD player, pre-amp and 2 mono power amps.

The digital tuner costs \$509 (list) and occupies one rack space. Double cassette deck (2 r/u), 5 disc CD player (2 r/u) \$773, Pre amp/eq with six microphone inputs (1 r/u) \$510, Monitor panel (2 r/u) \$504, and the pair of amplifiers.

These offer either 120w or 240w output, or 22v at 4Ω, (model PA-9312) to 31v at 4Ω (model 9324). At the rear panel is a two stage high pass filter switch, to protect speakers from excessive low frequencies if desired. Input is via XLR, the gain and ground lift controls are on the rear, the amps also take DC24v. Cost: \$799 (120w) and \$1046 (240w).

Inkel have a massive range of contracting and PA audio, call Peter Hotson at Magna Systems for details. (02) 417-1111 or in NZ call 09 307-3901.

New Media Systems Pty Ltd recently completed a new presentation and video-conferencing suite of rooms for Corrs Chambers Westgarth, Solicitors, Sydney. The fit-out progressed so smoothly that on the day of handover the client was video-conferencing to Melbourne.

The brief required that virtually anything could be done in any room. It was decided to restrict the options to presentation technology, & the two multifunction rooms are separated by an operable wall. Each is fitted with video/data projection, a user rack, a lectern and PA.

Only one lectern was fitted with a touchpanel and that is where the headaches started. Anyone who has programmed a single touchpanel for use in two rooms with differing facilities will sympathise. How do you control the VCR in the next room's rack whilst not interfering with their presentation? We installed sensing on the lectern outlets and invented some basic rules. For example: the wireless controller will operate the room where the lectern is not, except if the operator has entered the utilities page on the touchpanel and manually selected what screen, in what room and from what rack.

A multi-screen video meeting room links to four other CCW offices via a dedicated 384Kbs megalink, & is also capable of dialled calls via ISDN. The PictureTel keypad, although required for dialled calls, is stored away and control of the system is handled by a remote.

The major audio component was an IRP System 41 modular system occupying three cardframes. The video system had to be designed from scratch. It was decided that to maintain signal integrity and to be compatible with most equipment, virtually all video switching and distribution was to be Y-C component. Special thanks must go to Presentation Engineering of Melbourne who designed and built to order the S-video converters, Y-C switchers and DA's.

The entire audio, video, lighting and video-

conference systems are controlled by one AMX Access system.

Project Managers : CRI Project Management
Architect : EGO Design. **Electrical:** Norman Disney Young. **Communications :** Delaney & Rose. **Mechanical:** TWA Consultants. **Acoustics:** Robert Fitzell Acoustics. **Audiovisual:** New Media Systems.

Austel Approve Gentner

PHONE HYBRIDS

Gentner Communications Corporation, a leader in audio for broadcasting and teleconferencing, has introduced five new telephone digital hybrids. Two of these units have been designed for the specific needs of the broadcaster and the others for boardroom use.

The G2500 and G3200 Superhybrids utilise DSP echo cancellation technology, originally designed for the demanding feedback control requirements of corporate boardrooms, plus Gentner's superior telephone audio quality developed for broadcasters' tight requirements.

No longer do you have to worry about special console outputs for a telephone hybrid, Gentner's Superhybrids digitally generate their own mix-minus feed for callers. This permits the use of normal "program" audio as a caller feed, even though the program contains the caller's own audio. Gentner's digitally adaptive Echo Canceller automatically removes caller audio from the program feed going down the telephone line. Feedback and annoying echo are eliminated, resulting in excellent telephone audio.

The G2500 and G3200 along with the teleconferencing models GT300, GT700 and T17200 are all fully AUSTEL approved.

For more info- call Production Audio Services, Ph. (02) 954 5100, (03) 852 0900.

Help Draft Standards

Standards Australia say they would like industry comments on proposed new standards, including several on Acoustics, (measuring loudness) DR 94254, and Electrical Installations, testing DR 94245. Comments close at the end of August, meantime get the draft standard by calling them on 1-800-029955. A small charge applies.

Gentner
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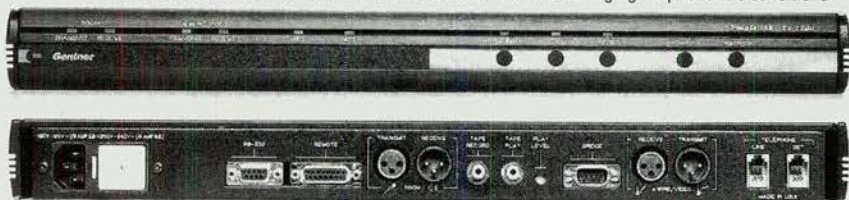
T17200

FEATURES:

- Two wire/telephone or four wire/video operation
- 192 millisecond echo cancellation span
- 7 kHz frequency response
- Bridge connection for multiple location conferencing
- RS-232 port for custom remote control systems
- 100% digital audio processing
- Completely full duplex operation
- Digital gain processing
- Privacy button for private conversations
- Sleek design for "in the room" or "rack installation"

BENEFITS:

- Integrates with most video conferencing systems for superior audio quality
- Optimum sound quality for audio teleconferencing
- Digitally eliminates acoustic echo for increased intelligibility
- Multiple location conference calling
- People at all locations can speak simultaneously without interruption
- Highly reliable operation and setup
- Maintains consistent audio levels within the room, even with changing telephone line conditions



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Write in Reader Service number: 123

A black and white photograph of Axl Rose singing into a microphone. He has long hair and a beard. The photo is tilted and has a white border. Overlaid on the photo is the name 'Axl Rose' in a large, stylized, red-outlined font.

Axl Rose



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PINK FLOYD

Tony Gottelier from Lighting & Sound International talks to the triumvirate of Brickman, Fisher and Williams in Dallas, and charts the triumph of Pink Floyd's 'Division Bell' tour. Buck Freeman reports for Connections from Detroit on the Turbo Flashlight Quadraphonic Sound system

TONY GOTTELIER: It may not be appreciated in Europe, but in the USA the status of a football locker room is second only in sanctity to the Oval Office. And the Dallas Cowboy's locker room at Texas Stadium (I always thought it was called the Cow Palace, but perhaps that's somewhere else), is possibly one of the most revered. For me Texan stadiums conjure up images of rodeos, clouds of swirling dust, and petrified, lassoed steers being wrestled to the ground by sliding leather-clad and leather-faced machos for whom three Weetbix is a mid-meal snack and quiche something to be fed to the crows. Of course, the football team is inhabited by these same guy's bigger brothers, 8'3" in their stocking feet, and twice the size in their battle dress. Instead of steers they wrestle with the giants on the opposite side of the field. At Texas Stadium, you can pay for a tour, the culmination of which is a visit to the Cowboy's sanctum, the locker room.

So there I was in Dallas, and nothing could be further from that stereotype. Spring flowers and Texas Blue Bonnets in the verges of the expressway, grey drizzle torrential rain, more grey drizzle (it could be Manchester in March), tornado warnings on the TV, high winds, turbulence, airports closed. And for me the additional obstacle of a tempestuous PR person whose sole aim seems to be to stop me seeing the show. God and the PR person in tandem seem a formidable obstacle. (The stage has been designed, uniquely, to be waterproof and non-slip, so it can't be rained off - can it? Can it?)

In the locker room at the Stadium, and not a cowboy in sight in any of the meanings of the word. Indeed the reverse: for this is the

temporary production office of Pink Floyd super-coach Robbie Williams and his team. Certainly the tallest man there, both physically and in concert industry stature, though even he cannot hold a candle to most of the team whose green room he occupies. Nevertheless, he is quite high enough off the deck to command

>continued over

PICTURES: With thanks to Lighting and Sound International for the film, Mark Fisher and Lewis Lee for the actual shots.



PINK FLOYD

respect from those he handles so efficiently - he has that air of certainty and the deep drawl to go with it. Williams is the Colonel of logistics, the master of organisation for a tour the scale of which beggars the imagination.

Three massive stage sets, the biggest ever, 60m wide by 22m deep by 23.5m high, containing 70 tons of steel, leapfrog across the continent in 33 trucks. It takes eight tour buses, a further 18 production, power and catering trucks and a crew of 161, requiring a pre-spend of \$4 million and running costs of \$25 million. 60 performances in 40 stadiums in the United States in 13 weeks, to say nothing of Europe to follow and a potential audience of 5m in over 100 performances culminating at Earls Court in October. The main arched staging system takes two to three days for each of the three rigging crews to set up, and the production team overlap only 24 hours before a show and rig the equipment: in fact, Williams says that this can be done in a total of only three and half days. It takes one day to dismantle and pack back into the same 11 trucks to be shipped off to the next gig but two.

All of this under control of boss Williams, who came into the business, as everybody seems to, by complete accident. He once worked for the seminal Krishna Lights, as several others now at the top of our industry had done back in the sixties. He then headed off to the relatively saner atmosphere of a PA company and, being in the right place at the right time, he was there when the band needed a PA roadie. "I did that for a while and when the band founded Britannia Row, I went there to help set it up and ended up running it for 10 or 12 years," Williams wearily told me just before the night's performance. He went on the road with the Floyd in '87 and when he came back after two and a half years, Britannia Row seemed to be able to survive without him, so Williams became a freelance production manager. Aside from Pink Floyd he also handles The Cure, Pet Shop Boys and plenty of special events.

When I remarked, pointing out the self-evident, that it was a mammoth feat of organisation, Robbie, a man of few but carefully measured words, responded with: "From my point of view, the hardest part was putting it together at the beginning and getting it through rehearsals to the stage where it could, in fact,

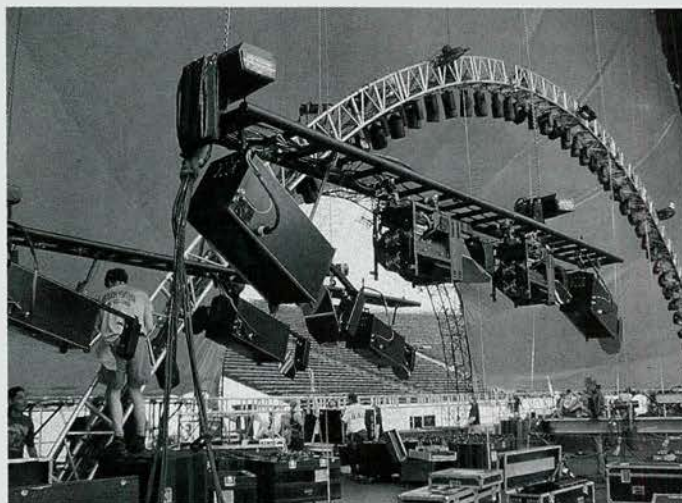
be toured."

So let's rewind to the beginning to see how that was achieved.

It had all started at LDI93 tradeshow in Orlando when all the key players in the technological development of the latest Floyd phenomenon turned up to finalise plans and to make the last decisions about equipment for the tour. Set designer Mark Fisher was spotted atop the Tomcat stand holding planning meetings with Williams, Richard Hartman, the production team's Mr Fixit and a Tomcat affiliate, Tomcat's Mitch Clark, StageCo's Hedwig de Meyer and others.

Meanwhile, the creative genius that is Marc Brickman was convincing himself that the Wholehog was actually the dog's testes in another part of the hall and networking with Brian Croft, Alan Thomson of Concert Productions and the Vari-Lite crew over his demanding requirements for their brand of magic lantern. (Who says trade shows are a waste of time!). There then followed a chance meeting with Brian Croft after dinner at the Peabody, and within days, my own partner Peter Wynne-Willson was also up to his armpits, at

>continued over page



Telescopes in midflight to the truss



Backstage during buildup

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SOUND OF THE FLOYD

By Buck Freeman

Ever wondered why Quadraphonic never took off in a big way? Pink Floyd still use the medium, and they use it well, because they use it for effects, not main musical output.

As any sound person knows, the arrival of music at the listeners ear at different times - ie: from different sources - makes for intelligibility problems, to the extent that today's serious PA systems have all the components time aligned to compensate for the slightly different positions they sit within their host cabinet. More on this later.

Serious PA watchers will know that delay stacks, or 'remote' towers set some distance from the main stage and PA system, are quite significantly time aligned by way of delay, so that the output from these distant sources is held back electronically, often up to .8 of a second, or 800ms, to allow the sound from the stage to reach the remote position. Remember that sound travels very slowly, more slowly even than the spell checker on a Mac Classic, indeed itself a datum for slowness!

The difference with Quad sound is that the remote pair of speaker systems face back towards the stage, and so the audience is somewhere in the middle. Try this sometime when you have a spare football oval, four high powered speakers, and about 2 miles of speaker wire. Run some music then walk around and listen to acoustic mayhem that makes the chaos theory become apparently simple.

Floyd have a Quad system that at the rear comprises three stacks, left/right and rear, and in many cases on the current 80 date tour, these are lugged into platform position over arena seats, an arduous task. The speaker system utilised on this tour is 100%

Four consoles are used at FOH, for a total number of 176 possible channel inputs

Turbosound, comprising the Flashlight/Floodlight system. (See sidebar). This is the system of choice at Britania Row, a mega large PA firm which originally was owned by Pink Floyd.

At the weirdo control tent (complete with VIP seating area, very important for record company lags and friends of the promoter, crew very rarely have many guests) you start to see the complexity of sound that delivers the Floyd trademark 'air-space' music with plenty of room for effects.

Two Yamaha PM 4000 consoles handle FOH mixing, with band engineer Andy Jackson in charge. He is assisted by Colin Norfield mixing the bass and drum channels. Another Yamaha console, a PM3000 handles the Quad effects, acting as a distribution console to a Midas XL-3 console which has been especially fitted with two joystick panners by Brit Row. This Quad console is mixed by Dave Lohr.

The main PA system is a traditional left/right stereo pair of towers. These look rather small compared to the stage, and each tower has 32 Flashlight mid/high cabinets flown from four motors. The Flashlights are hung 8 wide x 4 deep (*the diagrams in our main story show the original plan, 8 x 3. This plan also called for delay towers, which were deleted in favour of beefing up the main system. -ed*). TurboSound's Flashlight compatible subwoofers sit on the base deck of the tower, stacked tall. Being subwoofers they output virtually omnidirectionally below 120hz, whereas the Flashlight system is aimed in its array to hit the audience.

Turbo designed the Flashlight system as a 'high Q', tight dispersion system. The need for this is acute in the UK, where outdoor festivals are troubled by environmental noise restrictions which are not common in the USA. The attitude here in

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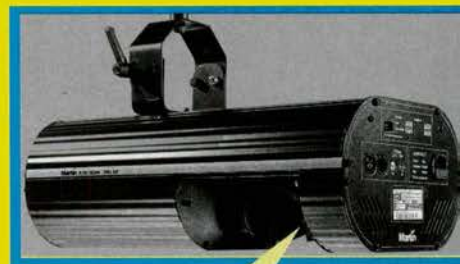
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GoTony Gottelier on Floyd

Brickman's request, in specials for the tour. The Floyd's original lighting designer of the sixties had finally returned to his alma mater, and joined the new creator for the nineties. Indeed, it now occurs to me that Peter would have been leaving the Floyd, just as Robbie Williams started as a PA roadie. So you could say that this is the inside story.

Of course, for Mark Fisher, flying solo for the first time in years, it started a great deal earlier. He and Marc Brickman had set out 'to redefine the stadium experience', as the tour has been headlined, back in the summer of '93 in fact. "The band delegated a great deal to Marc Brickman who became the show director, rather than just the lighting designer, so he was the one who came up with all the wacky ideas, and it was my job to make them work and deliver them into practicality. Therefore, Robbie Williams and I were often the realizers of Brickman's sometimes rather weird ideas," explained Fisher.

The process was generally one of Brickman trying to vocalise what he saw in his imagination, and Fisher going off to produce sketches and drawings and returning later to ask if, and sometimes to insinuate that, what had been depicted was actually what had been envisaged in that fertile brain. As Brickman was, in all humility, to tell me: "I am very lucky that people put up with me just being a catalyst. I can't draw, I am famous for napkins. Ultimately there are drawings somewhere but they are not from me, I never draw the props. It's all wrong really, I take all the credit and I am deeply grateful to them all for being so tolerant." In parallel, Robbie Williams and Fisher would be talking about how they would achieve, once Marc Brickman had said yes, what it was that he had in mind, and Fisher would produce drawings to show the band for their approval once it had been deemed feasible by Williams.

"It was a very free and profitable loop that produced these ideas. It worked very creatively

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SOUND OF THE FLOYD (continued)

the 'States is that the touring concert business brings revenue to arenas and towns, and noise restrictions would amount to restriction of trade, if you will. Your editor says you face noise restrictions down under, so the Flashlight might help out there.

There are a few Floodlight cabinets down front of the stage for nearfill. These have the

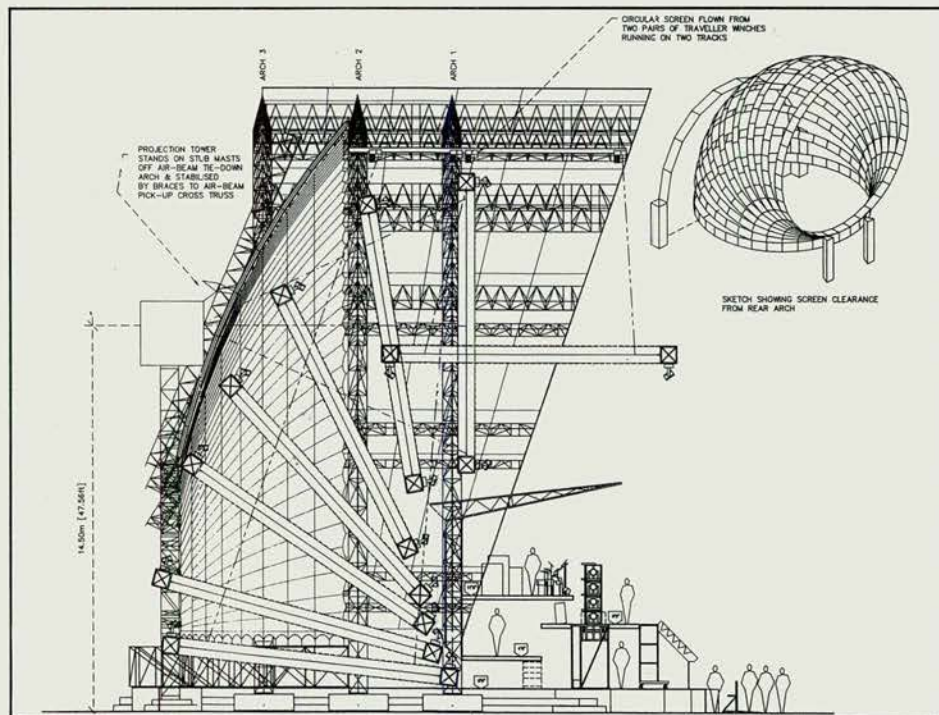
same characteristics and cabinet size as the Flashlight, but double the dispersion, at 50% wide.

Out at the three Quad rear stacks you find six Flashlight and six subwoofers each. These are stacked on wings 100' up the stadium terrace, lugged into position with amp racks beneath each. The amplifiers used are all BSS

EPS-760 and EPC-780, with TurboSound and BSS operating under the same corporate umbrella, and thus cooperating on developments these days.

The 'Quad' system rear positions are for effects only. No main 'real time' programme music is output there. The main left/right

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ROCKARD

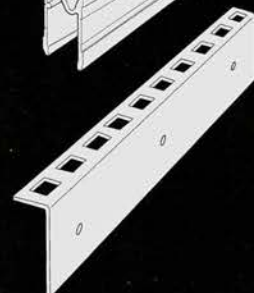
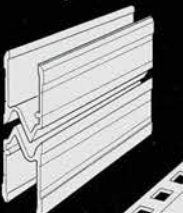
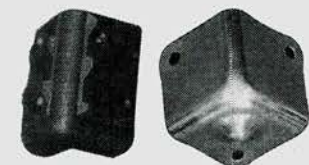
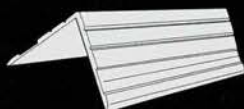
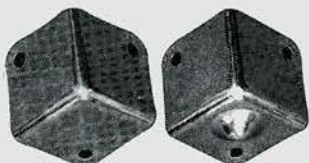
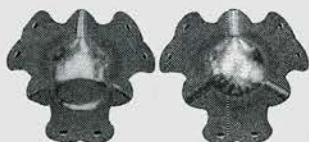
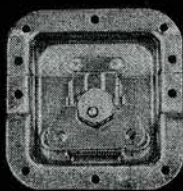
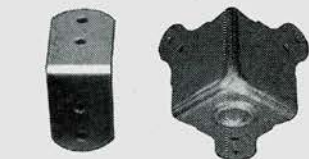
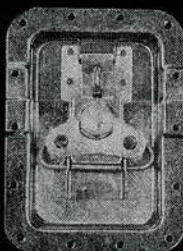
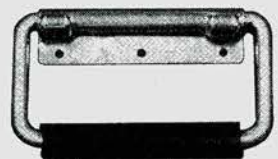
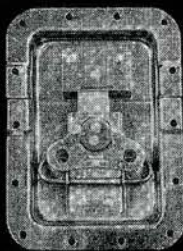
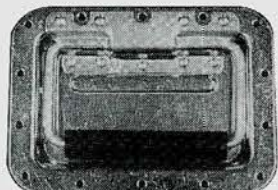
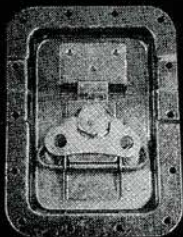
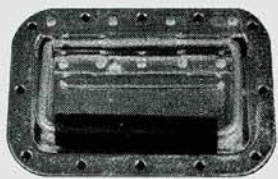
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Tony Gottelier on Floyd

because I find Brickman a very inspiring guy to work with. He is very volatile and provocative, but actually I get on well with people like that because they have a temperament which is in many ways the opposite to mine. Such individuals force you to do things you wouldn't necessarily do yourself in the usual way, and they make you think about things in ways you wouldn't normally, which is good. It means keeping an open mind and never saying something can't be done." Though he is quick to heap deserving praise on the progenitor, by this stage there was clearly a lot of Fisher's renowned ingenuity in these designs.

"You should never say 'no' to someone like Brickman, because it's incredibly destructive to the relationship. If something is impossible, you find a way to do it that isn't and persuade him that this was what he had in mind in the first place." The true arch that would span the front of the stage like a great unsupported bridge of a proscenium is cited as an example of an impossible realization by Fisher. The original idea was conspicuously impossible to do, indeed crazy, but through a process of proposal and counter-proposal, what resulted finally was something which entirely convinced Brickman that it fulfilled his dreams.

Fisher worked closely with Neil Thomas of engineers Atelier One, in the design of the stage structure, to find a solution to this problem. In the end it was typically the practical constraint of what was available in rental components from a supplier, in an erectable and demountable form, which won the day. Bearing in mind that everything would have to be made in triplicate, in order to deal with the geographical logistics, practicality was clearly essential. "StageCo came to us fairly early on with a proposal as to how to use their components to create the arch, and after looking at it we went with that," explained Fisher. Thenceforth, he simply kept a watching brief over the interaction between Atelier One and the Belgian StageCo's De Meyer. "Breaking the log jams when they occurred," is Fisher's delicate way of putting it.

In fact the designer seems to have rediscovered himself in a new light in the process or working in direct interaction with fabricators and consultants, rather than carrying out all the design in-house as had been the case for ten years previously. Given half a chance he will wax at length about the wonders of the modern technology which enabled him to communicate with like minds across the globe to implement even the most complete design. As an example he cites computer modelling which enabled everyone to see the entire stage in three-dimensions on the screen of a 55MHz486 PC, something which would have required a substantial mainframe and unaffordable software just a few years ago. "I no longer see a ponderous in-house design team as either necessary or desirable," the erudite architect told me. Indeed, he has thoroughly enjoyed the relationships he developed with kindred industry spirits, such as De Meyer, Charlie Kail and Mitch Clark, for all of whom he has the highest regard.

"The co-operation was so fantastic, it was more like a party most of the time, and the fact that we were all enjoying ourselves, more than anything else, was what made it all possible." It is a considerable valediction on the state of the industry that a man of Fisher's undoubted status and huge talent is happy to contemplate the freelance existence which, by its very nature, depends almost entirely on outside help. He is not a person whose temperament and professional training allows him to tread on ice without taking routine precautions, even though some would say that walking on water is not beyond him either. He takes risks, yes - huge risks with his own conceptual designs, but these are generally the risks associated with the territory, albeit uncharted, and one always feels that they are entirely contained under his control. He is

>continued over

SOUND OF THE FLOYD (continued)

stereo sources output the stage mix, and act as the front of the 'Quad' effects system. FOH engineer Andy Jackson was quoted thus in Audio Media magazine: "The main (front) PA is conceptually the front point of the quad system, even though physically it is exactly the same thing. The main PA is delayed so that the four points of the quad arrive at the centre of the stadium at the same time. If you've got an effect that's in the main PA and Quad simultaneously, it comes out of the main PA later than from the Quad stacks."

This was borne out during the show, and perhaps the most dramatic moment of all was the helicopter, which Quad engineer Dave Lohr panned around the Pontiac Silverdome to great effect. Then of course you can imagine some of the rest, like the cash registers in 'Money', and some of the effects from the house system were routed to Quad as well.

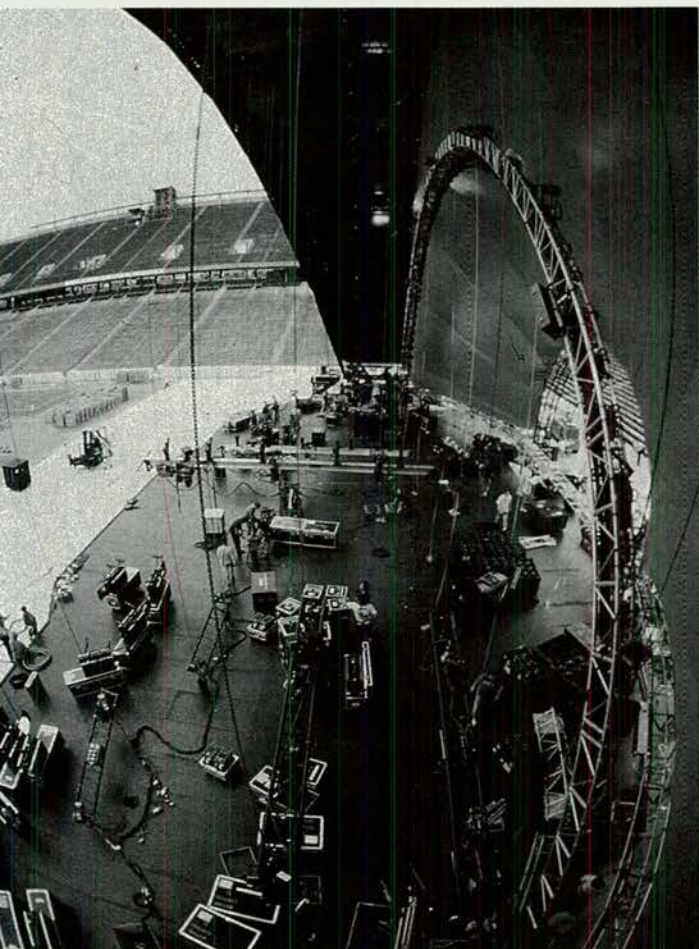
MONITORS: The Monitor System is run on two Midas XL-3 consoles, each with 40 inputs and up to 16 monitor sends. One console handles the vocals, keys and guitars, while the other does the two drum kits.

Monitor Engineer Seth Goldman has mixed for Pink Floyd since 1973, and has seen a lot of development in monitoring since. Today the band wear wireless in-ear monitors, supplemented with floor monitors. The percussionist has a three-way sidefill too, for some air movement. Seth is assisted by Alan Bradshaw.

Using in-ear monitors opens up some new horizons for players and engineers alike. Dave Gilmour has his own control over his vocal monitor level, courtesy of an external VCA control from the console channel. Aside from the obvious benefits of no feedback, the reduction in spurious on-stage sound levels from dozens of monitor wedges, sidefills and drumfills is dramatic.

Pink Floyd live sound great, the music has a lot of space that suits delays, reverbs and echos well. Best of all, the whole sound system fits into three 46' trailers, a lot of audio, servicing up to 60,000 people in some places, in a little transport space. The tour hits Europe in July, and the UK in August..... and no, I couldn't tell you if it will ever reach Australia.

-Buck Freeman.



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Tony Gottelier on Floyd

enormously self-assured and comfortable with his own abilities, which can be quite intimidating to others, though I am sure he doesn't realise it."

Of course in this case he was implementing someone else's conceptual designs and in such an imprecise creative process as that described, there are always going to be casualties. Some which occur later are more costly, others which are tipped out in the design process less so. Such was the scale of the injured list in the Floyd case, or 'hostages to impossibility' as Fisher likes to call them, that one item scrapped well before rehearsals was nothing less than a Brickman proposal to incorporate an Imax or Omnimax movie projection, neither of which were deemed bright enough for a screen of the huge scale intended. "My idea was to create a huge focus on the performance area," Brickman told me later. "To virtually dwarf the stadium, using the arch and the big screen technique to create an opening into another world." In the end, it was found that Telescan's new Telejector 6k HMI projectors outshone everything else on the planet and they were selected for still and animated large-frame slide projection, created by Four I's, as well as for partner Peter's liquid effects.

Here again there is an element of controversy. Those involved in the forward projections were apparently disappointed with the receptive quality of the material selected for the rear stage wall which served as the screen in place of a regular eye. According to Fisher it was especially made to look black when the lights are off, but sufficiently reflective otherwise. Nevertheless, the fabricators, Landrell Fabric Engineering, deserve considerable praise for their ingenious high-pressure, inflatable construction system which is virtually self-supporting with the help of water tanks as ballast.

Moving pictures were not out however, for one of the other main elements of the set was to be resurrected from the previous tour - a ten metre circular projection screen to be made this time by Tomcat. This was to be lifted and turned through 90 degrees from the floor of the stage to sit vertically above the heads of the band during the performance. Consisting

FLASHLIGHT/FLOODLIGHT EXPLAINED

The Flashlight/Floodlight cabinet is small, because it is loaded with small components. Low bass is handled by floor mounted subwoofers, and the Flashlight and Floodlight cabinets are flown. Within either you find a 12" woofer handling frequencies from 180Hz to 1.3kHz. Then a 6.5" paper cone driver (loudspeaker, rather than compression driver) handles mid-high range program from 1.3kHz to 8kHz. The 'horn' or high frequency section utilises a 1" throat compression driver, handling frequencies from 8kHz to 20kHz on a proprietary 'waveguide' horn.

The components are all unique to Turbosound, in the case of the woofer, this is mounted back in the cabinet with a horn loading arrangement that Turbo call 'Axehead', seen in the picture of the Floodlight here. The horn loading is essential to the role of the system, because in the case of Flashlight the vertical and horizontal dispersion is 'high Q', meaning very tight. Turbo say 25°, which enables the cabinet to 'squirt' sound to where it is pointed, thus the Flashlight moniker.

At the midrange the 6.5" paper cone driver is also set back in a high/mid 'Axehead' style device, and thus all three components are aligned the same - 'time aligned'. The midrange cone driver means the high frequency compression driver doesn't need to handle anything underneath 8kHz, whereas normally in most systems frequencies above 1.2kHz are sent to the compression driver. Because of the lesser function handled by the driver in the Flash/Floodlight, it can be smaller, thus it has a 1" throat vs. the usual 2", and so the driver itself is physically considerably smaller. The role of the midrange 6.5" cone driver is also important, Turbo

say it smooths the mid range frequencies whereas a traditional compression driver/horn assembly will tend to operate a little harsh in this area.

Floodlight has essentially the same loading, with a different Axehead horn loading design, so it has dispersion of 50° wide x 25° vertical. The idea is you can hang a bunch of Floodlight cabinets under the main Flashlight array, to cover near and front rows in a venue. Additionally the Floodlight is the cabinet of choice where smaller systems are typically used, as you could logically use as few as a pair for each side of a stereo system, or even a club system, when mated to a suitable subwoofer. The subwoofer Turbo specify for use with Flashlight and Floodlight has a 21" woofer with a whopping 6" voice coil.

The system relies on a dedicated controller, the LMS-660 Loudspeaker Management System, with system limiting and crossover functions handled onboard.

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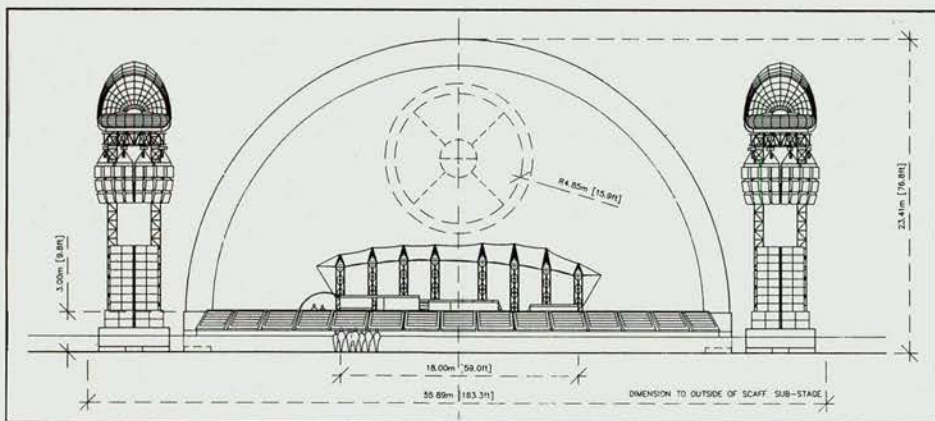
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of a ring of truss with a white, high transmission BP screen stretched across like a giant drum skin, surrounded by VL2Bs and VLAs, it was to swing up in front of a crow's nest projection platform, rear stage. There sits a Bran Ferren-designed 70mm, 10k Xenon, SMPTE-controlled movie projector of 6,000 foot reel capacity. With special imagery conceived by Storm Thorgusson, the photographic half of the late-lamented Hypnosis duo, this was to conjure up an almost three-dimensional tunnel in the set - a virtual porthole on an unreal world.

Fisher shares with Brickman similar feelings about the scale of a stadium experience, but with a slightly different conceptual interpretation - that everything should be large enough to fit visually, hence the largest touring stage ever. "This is the first stadium show I've done which doesn't need FOH video, and the reason is very simple. The scale of the performance-setting rendered it unnecessary. This is where I think Madonna and others who use CCT get it wrong. Instead of concentrating the eye where it should be, on the stage, they are distracted to the screen. It's like comparing the impact of a television with a cinema screen. "In Fisher's book, rightly in my opinion, a rock show should be a different experience from watching the television. Brickman puts it this way: "If you walk to the



very back row of the stadium, the stage looks even bigger than on a video screen. The energy must come forward and that is a very important part of a Floyd show. You should feel the scale and Mark Fisher really enabled me to achieve that."

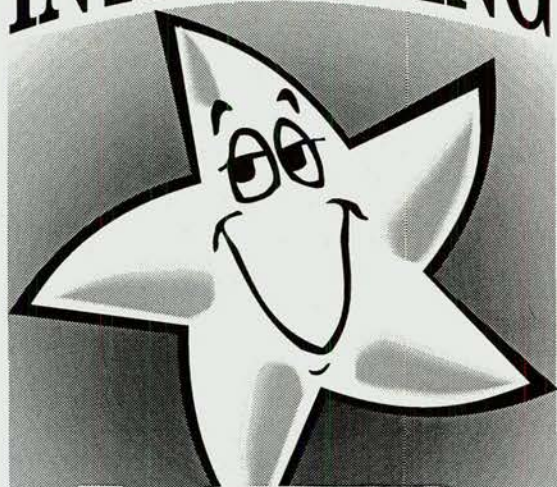
So, while Brickman was involved early on in shaping it all, he then went off to do other things while Fisher and Williams et al put it together - by the beginning of August it was all set. At this point Charlie Kail's Brilliant Stages swung into action and commenced the stage construction which occupied their entire premises for weeks. Probably the most 'interesting' aspects of this were the five rows of Periaktoi set into the stage apron. Before

you reach for your Ancient Greek dictionary, Periaktoi is the plural of the Greek word for what is best described as a Toblerone (actually I must be one of the few people on the planet who knows that, including Michael Caine.) So you see there's nothing new under the sun, the Athenians had rotating billboards years BC!

However, it won't surprise you to know that the Brickman/Fisher/Kail version is hardly antediluvian in either concept or execution, nor is it by any means trivial. No less than 15 carts, each containing five 2.4m long toblerones, each with a facet of eight individually-controllable, high intensity, ultra-narrow

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beam 26v Par 46 lamps, a big transformer and a system of 12 slip-rings, combine to make the overall effect - a total, on its own, of 600 lighting control channels, 75 dimmer packs and 900 slip-rings! And a programmer's hell, for the idea was that it should be able to operate as a matrix - in fact, as a virtual newscaster! Even the Wholehog might have turned its snout up at the prospect. The other faces are simply mirror black finished.

The control solution which presented itself, perhaps surprisingly in view of the rock industry's well known prejudice to anything which lacks manual faders, involved the maker of the PC-based rigging control system, Artistic License, being pressed into action. The motor control system they have provided is not trivial in itself. Though it controls a mere 25 driven items on the stage, unique software allows the rotating motors to synchronize their positions one to the other, an absolutely vital ingredient with moving machinery. When it came to the lighting requirement, Wayne Howell of AL, developed a system called Light Tramp, allowing programming from a geographical map on the screen. It enables, for example, the ability to type in a word which is transcribed in software and directly transmitted in DMX to the dimmers. 'Hello Dallas' and 'Teacher' being prime examples, the latter generating another of those giant gasps from the audience which heralded each of the big events of the show, as the band slogged through their infamous signature number.

Both the circular screen and the Periaktoi are carried-over concepts from the 1987/8 tour, as is the giant mirror ball of the finale - why bin your best stunts when you can make them bigger and better next time? Anyway, over the years they have acquired iconic value, but then so have the 'pigs', but that's yet another story!

Meanwhile, StageCo were erecting and re-erecting their structure to get the hang of it for the real thing. Concert Productions were appointed to supply the lighting technology with the Vari*Lites, and Britannia Row commissioned to deliver the sound.

So, fast forward again to March and rehearsals in the world's largest aircraft hangar in San Bernadino, California - so massive, that

the ground plans show huge planes just lying about all over the building. This, of course, is where it all comes together, or it doesn't, as the case may be. Here, Rocklite's enormous Oxford-built 50W Copper vapour laser will meet up with pyrotechnics by Pyrotek and Le Maitre, and four of the big JEM Roadies (smoke machines) which were specially modified with on-board DMX modules. Here the reveal mirror ball, being constructed by State-based Ethan Silva Associates will be mated to the fabulous ex-Hoffend Starlift, now improved and the proud property of Tomcat. Here Peter Willson's liquid light show will have its first real test on the Telejector 6k HMI projector in overhead mode. Here Ferren's movie projector will mate up for the first time with its back-projection porthole. The power hungry US-made Lightning Strikes which simulate the discharge of atmospheric electricity, will meet the UK-made WWG Daleks, a simulation special from a previous existence. Then there are the new Obie Xe-Scans: a combination of 2k Xenon compact source, a twenty-four colour scroller and a Telescan automated head, they are the French company's presence in the US, and will challenge the Gladiator III followspots in their own coliseum battle.

And, finally, it is here that most of the control equipment and their operators will handshake for the first time with the source equipment.

Organising the rehearsals was where Richard Hartman's Mr. Fixit role came into its own. Since moving to the States he had become a technical consultant with Tomcat, but when the Floyd tour came along he readily agreed to become the interface between the production team and the various makers in America.

According to Fisher, Hartman takes the role so seriously that makers are quaking in their shoes at the prospect of a progress visit from the tenacious ex-pat. In San Bernadino he acquired the official title of rehearsals project manager, organising the space, liaising with the Air Force and the Norton Air Base (I told you it was a military operation), co-ordinating

the vendors, and, unusually setting up an on-site workshop managed by skilled operatives. "Unlike my previous experience with Genesis and U2, where all urgent modifications were farmed out locally with all the hassle that involves, it proved invaluable," said Hartman. "We could build and modify what was needed in our own dedicated facility on the spot, it is something all future productions should consider."

This would also be where Carol Croft of Concert Productions, whom I grossly libelled in a previous article when I suggested, albeit in jest, that she was the subject of father-in-law's nepotism, proved her point by being swiftly adopted as Marc Brickman's assistant, which basically made her lighting director for the critical rehearsal and programming period. A great credit to her undoubted skills.

This was no small job either, with no less than six lighting desks - an Artisan under the masterly control of Oz Owen, the Wholehog, an Avolites desk, two Telescan Compulites, the Rocklite's laser desk, pyro control and the two PCs mentioned, plus duplicates.

This was also where the assembly parted company with another major

The over-the-top, rig-climbing cranes never quite made it to the top. Indeed, there were, apparently, some spectacularly unsuccessful attempts before Robbie Williams deemed the cranes one effect too many and sent them packing, blaming their late arrival on the scene.

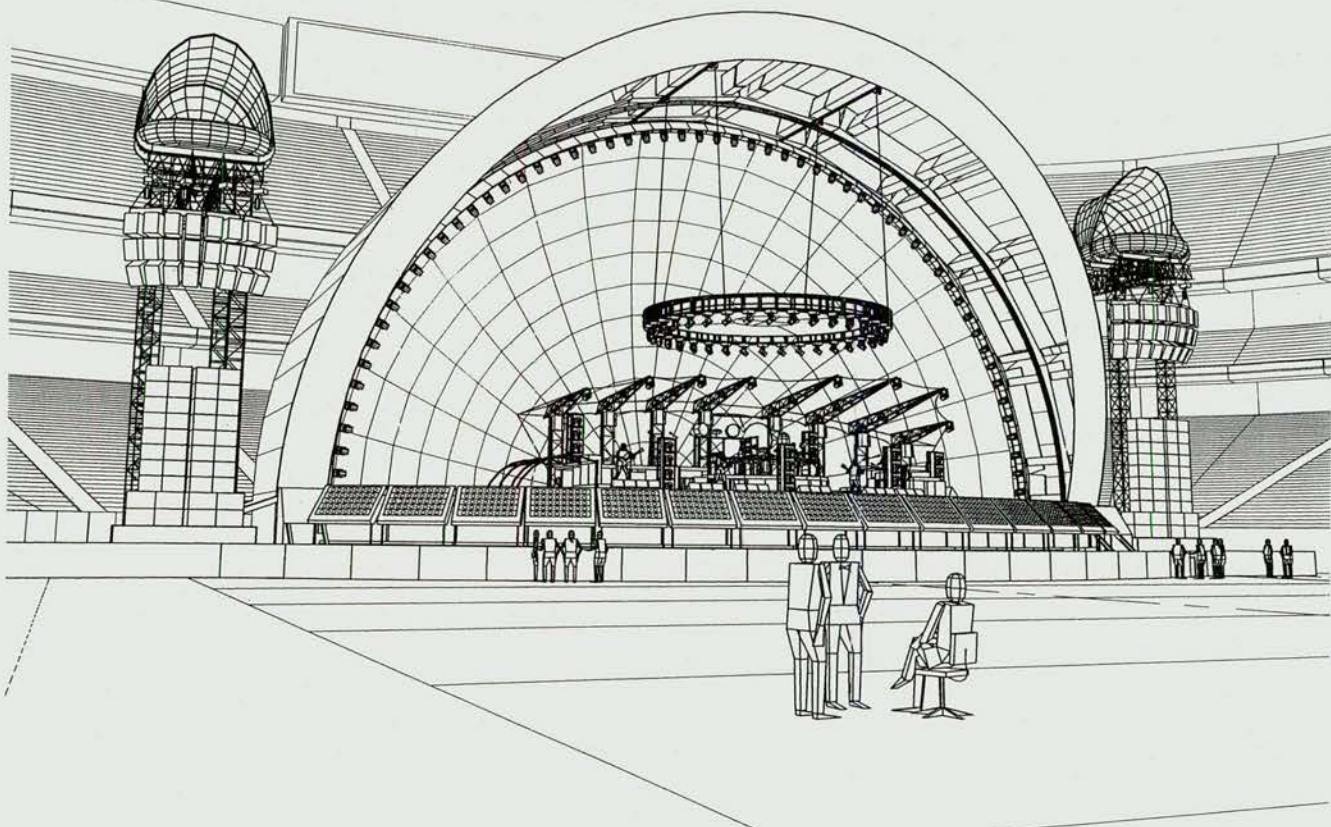
effect, not so far mentioned. While it is not generally productive to dwell on such things, this one is so much a part of the story of the tour that it would be in the order of censorship to gloss over it. This is the story of the over-the-top, rig-climbing cranes which never quite made it to the top. Indeed, there were, apparently, some spectacularly unsuccessful attempts before Robbie Williams deemed the cranes one effect too many and sent them packing, blaming their late arrival on the scene. "I personally think we tried to take on slightly more than we needed to, and the late appearance of these large pieces in rehearsal, meant that by the time they arrived we had already got a show. So when they didn't work out it wasn't the end of the world when we left them behind." Mark Fisher concurs. "People are

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quick to point out the cost of such a failure, but the fact is that scrapping the cranes saved about six times their value in on-costs. There is no doubt that given more time, they were going to be a very spectacular item indeed." Apparently, due to other delivery problems, Brickman had been forced to get on and programme that part of the show without them, and it went so well that by the time they arrived there was really no room for them.

"I marvel at the extraordinary generosity of the crew and the band, who could've widely canvassed, had they wanted to, the biggest design failure since the collapse of the Tower of Babel," Fisher confesses. "As it was, there was a slight rueful eyebrow raising and nothing more. So, once you get over the pride thing of having been shown you were wrong,

it's not too bad really. It was a brave call, made by Robbie and Steve O'Rourke when the emotional pressure to carry on was huge." Fisher sees it as a fine example of how uncertain the craft of creating these large shows really is.

Actually, it seemed to me, when I finally saw the show in very select company indeed, that there was barely room for anything else. One spectacular stunt followed the other, until the crowd must have wondered where the next surprise was coming from. The wind-up starts long before the show begins, and the first big effect of the evening is the live liquid light show which covers the entire stage. It is an effect rarely seen since the Sixties when an overhead projector sufficed, now we were experiencing the same effect on a 6k HMI projector. In the vernacular of the period, and

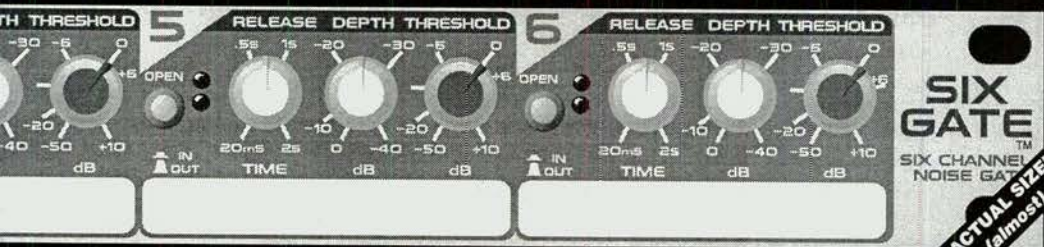
though I say it of a production of my own firm, it was a mind-blast. It is also Brickman's favourite effect, he told me later. "A link with the past, just like Floyd's other icons. And the same goes for the Daleks, I just love you guys!" One 'I love you guys' from Brickman is worth a million words from others, and this is why he can be so disarming.

The four Daleks for which Peter Willson and David Morrell were also responsible, which produce disorientating, visible beat oscillations from a 4k HMI source with special giant colour generator, produced for WWG by High End Systems, did suffer somewhat for the lack lustre in the backdrop, but nevertheless were pretty impressive in their chromatic solarizations.

>continued

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Tony Gottelier on Floyd

One very nice touch in the set design which becomes apparent in the first half, is the tented clear vinyl canopy stretched above the band like an Eastern potentate's sun shade, though in this case it provides protection from a different element. It also, whether by design or accident it doesn't matter, creates a lovely collector of colour from the lights; presumably Vari*Lite VL5s are used for this purpose. The first half continues to build with effect after effect used, then thrown away - Brickman's great skill as a lighting designer, according to Fisher. We see the big format front projections, and some crackling effects, startling colours and saturated hues from the Copper laser. The culmination is a great explosion of pyro and the emergence of the 'pigs', actually more like wild boar, from their pens atop the two PA towers. Yes the pigs are there again. "We sat around like a bunch of Hampstead intellectuals agonising over whether or not to have the pigs and people were generally not in favour. And then three or four days before the end of rehearsals in San Bernadino, suddenly everyone is saying, 'we have got to have the pigs'," Fisher recalls.

Brickman is gesticulating throughout, just like an orchestral conductor. "I am not really directing so much as timing; everybody knows what they have to do, but timing is paramount." He is contracted to be present at every performance.

The rain held off the first night in Dallas, but for the second it was not so kind. The open stadium, so that God can keep an eye on his favourite team (Floyd are obviously on the wrong wavelength), erupted with a major storm during the interval and beyond. Somehow, it just seemed like another stunt; nobody moved and the show carried on virtually seamlessly, a credit to current technology and the design of the stage. Earlier in Houston they had not

been so lucky and a performance was abandoned.

After the interval, the circular screen and some truly beautiful Vari*Lite work, courtesy of Oz Owen, the 150 VL5s, 90 VL4s and 16VL2Bs came into their own. This was also movie time, and more, and different front projections, squidged liquids, the Periaktoi in 'Just another Brick in The Wall', more and better laser, more and better fireworks and then, just when you thought you were safe, something strange stirred in the middle of the auditorium.

The front of house mixing ensemble, a twentieth century miniature bedouin tented-city cascading from level to level, like a vast grey grub lying in the centre of the stadium, also houses a VIP viewing area and the Telejector projection loft. If you studied it from a helicopter you might wonder what the large covered protrusion at the rear was for, otherwise you probably wouldn't even notice it. Then imperceptibly, the roof concertina'd back and, when fully open triggered another vertical movement as the wonderfully engineered and conceived Starlift started to slowly unfold, eventually revealing the world's largest mirror ball. Five metres across, it rises to a height of 20 metres, and gently starts to turn. Now with the Gladiators focused on the surface, the effect that originally inspired a thousand discos in the sixties and seventies, simply turned the stadium into a vast revolving carousel, a swirling galaxy of light of a scale so vast as to reinvent the original illusion from scratch. To say that people were stunned is an understatement: 40,000 jaws dropped as one and the combined sound of intake of breath was followed swiftly by roars of approval, especially when operator Elizabeth King stops the revolve, to achieve a brief rocking motion, the effect of which is amplified a million times over the distance to the eye, before starting it up again. And all achieved without the help of

recreational pharmaceuticals! (Even Fisher was knocked back by this last move: "I really thought it had broken," he told me.) There's more - like the fast playback of a flower growing, budding, blooming, the ball slowly unfurls and, as the limes fade out, a vast 14k HMI bursts forth from the core.

Wow! At my first viewing, on best advice, I retired to the terraces to witness the explosion and was suitably amazed, but on the second I was in the projection booth immediately in front of the stored device. There it sits like a vast silver spider all squashed flat, it has to close-up first as it lifts. The experience from close quarters was quite something; undeniably a close encounter of the weirdest kind. I never thought that I would ever again be amazed by a mirror ball, but I tell you the earth definitely moved for me.

When I asked the normally febrile Brickman to sum it all up sitting in the canteen (catered appropriately by Eat Your Hearts Out) after the show, he seemed to be suffering once again from a characteristic melancholy, generously decrying what he sees as his inadequate skills in favour of his crew. "My crew are incredible, especially Mike Owen who is a genius. I can't even begin to understand what he does or how he does it. I really had wonderful support and I was allowed to do exactly what I wanted by the band, nobody else gives me that amount of freedom, or that amount of total creative control, and that really helped me to make it so hot. As I said before with the production process, I really don't feel that I do a lot of work and I really do sometimes feel very guilty about that. These guys put up the show every day, they take it down and I just cruise in and cruise out again. I sometimes have a hard time with that, but you know, if I weren't the catalyst, it wouldn't be happening would it? And without the music none of us would be there. I love those guys, and I just want to say thank you."

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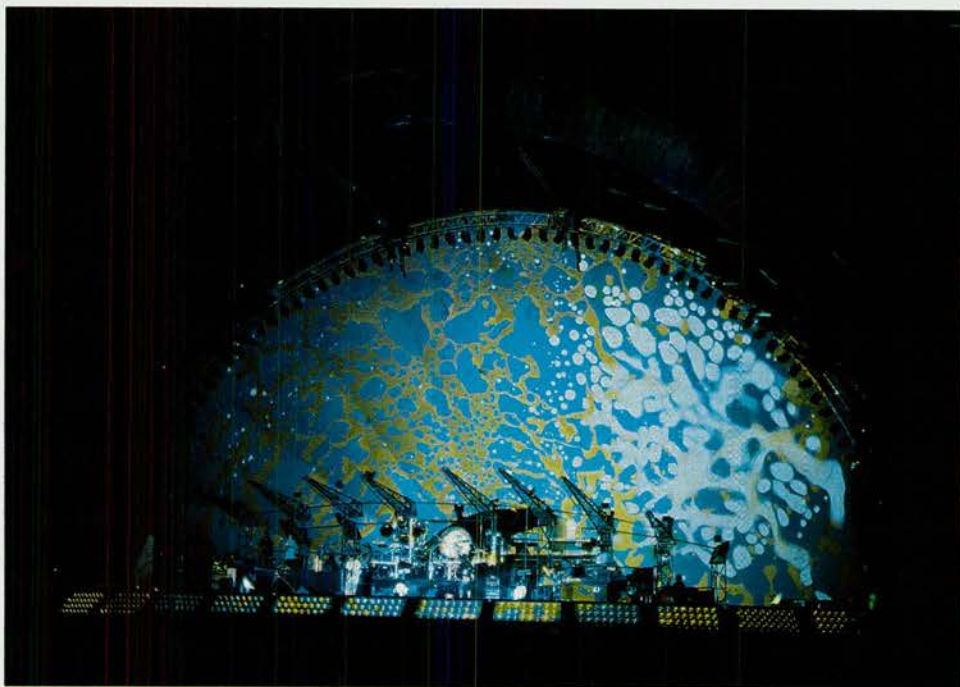


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So there you have it, though as those other great dinosaurs of Rock also travelling this year might have it, 'this could be the last time' with all the individuals involved in these big stadium productions staring the big five-zero in the face, or even glancing wistfully back at it in some cases. Sad to think that nothing quite like it may come this way again, though I rely on Prince and possibly Madonna to correct that imbalance. It is a rare occasion these days that two such great bands as the Rolling Stones and the Floyd are on the road in the same time frame, so at least we have the opportunity to wallow in nostalgia and consider the 'might have beens'. Others, however, are already talking 'has beens'.

When I arrived in Dallas I read the following piece in the Dallas Observer by a cynical journalist, who had clearly either received the treatment from the PR lady, or been sent completely the wrong press pack. In reference to 'The Floyd tour will totally redefine the stadium experience', he wrote: "Don't they mean, attach strings to the stiffened corpse and make it dance for about two hours? From a strictly egalitarian point of view, the spaced out, post-New Age sound featured on the Pink Floyd's latest tour offers hundreds of thousands of blue-collar hotheads and acid freaks the chance to escape the quiet desperation of their lives, and perhaps feel that they're tuning into a



philosophical plane higher than commercial Rock-n-Roll usually offers. After all, getting wrecked and watching 'The Wall' was a favourite pastime of teenagers not so long ago." And he goes on to describe Dave Gilmour as a "wishy-washy front man, echoing the style,

but not the substance of his glory days" and condemning stadium rock for "its sheer bombast, and emphasis on spectacle over sound" and so on, and so on.

Dear oh dear. I can only say that there were

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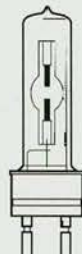
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The Stones will be another great Fisher production starting in Washington at the beginning of August, and these two productions under his design direction will have put down a huge marker for others to follow, if others there will be. Fisher is not optimistic either, heralding the inevitable decline of the great stadium show as we know it, so has more cause than most to ponder what came after the demise of the dinosaurs. Is he considering new, more fertile pastures on which to apply his copious talents? He is keeping his own council, but whatever he has in mind, it will surely be something quite extraordinary. Watch this space.

• Reprinted from *Lighting & Sound International* with thanks from *Connections*.

Pink Floyd World Tour 1994

Other Production Credits:

Structural engineer:
Neil Thomas (Atelier One)
Rehearsals project manager:
Richard Hartman
Rehearsal lighting assistant: Carol Croft
Production manager: Dave Russell
Head rigger: Brent Anderson
Head of backline: Phil Taylor
Head carpenter: Greg Wilson

Lighting crew:

Lighting stage manager: Bill Martin
Chief electrician: Pete Wills
Telescan desk: Gilbert Assam
Telejector desk: Olivier Paton
Vari*Lite Artisan: Mike Owen
Wholenog: Gareth Williams
Rocklite desk: Warren Toll
Queen of liquids: Laurence Duhamel
Queen of mirrorball: Elizabeth King

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- Integral power factor correction
- Break-resistant mirror
- MSR lamp technology improves output to age ratio with exceptional color stability throughout life

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- Integral power factor correction
- MSR lamp technology improves output to age ratio with exceptional color stability throughout life
- Selectable LWR and DMX-512 protocol

Distributed By:



"The Science of Lighting"

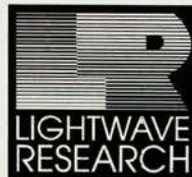
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Due to our policy of continuous improvement, all specifications are subject to change without notice • Some features have been omitted due to available space. Trackspot, Cyberlight and Intellabeam are engineered and manufactured in the U.S.A.

Write in Reader Service number: 111

MUSIC MI NEWS & UPDATE

Short Bits

AUSMUSIC host the Australian Music Education Week from August 15 - 21, which will feature a variety of promotions across the land. Aside from the CAMPUS '94 tour, the month has industry workshops at the Powerhouse Museum, (with heavy support from Roland) songwriting competitions, and a lot more.

Contact your nearest AUSMUSIC for more data.

MUSICAL INFANTS:

News that should gladden the hearts of music retailers everywhere ... the Music & Science Information Computer Archive in the USA has proven, using science, that music is not a cultural add-on, rather it is a biological imperative!

Yup, they delve into deep, deep theory at events like the 9th International Conference in Infant Studies (Paris, June) to prove the musical ability of the average foetus. Why, Monkeys have musical ability too, they've found, so the Musical Infant not only exists, it is, in fact, the Normal Human Infant! Tell that to your kid next time the brat throws the flute down in a huff!

QUEENSLAND is the target of the Australian Music Association's pilot campaign to double the number of players in Australia. With \$50,000 put upfront by the AMA, the local retailers and distributors have pledged a similar amount, say the AMA, to help fund a PR push. This will be via an animated feature advert to be aired on TV through Community Service Announcements, tagged 'Music Is Life - Be A Player'.

The advert will carry a 0055 number, and be tracked by the AMA. If the campaign works, it will be run nationwide.

Music Industry Organisations Under Review Spotlight

AUSMUSIC, Export Music Australia and MIAC

Government funded music organisations are under review, with a team from Coopers & Lybrand appointed by the Dept. of Industry, Science and Technology, to report on their roles and operations. The review team has a music adviser, Catherine Brown-Watt, who is general manager of Australian Music Centre, a partially Arts Council funded entity in the ACT.

The organisations under scrutiny are the Music Industry Advisory Council, AUSMUSIC, and Export Music Australia.

According to D.I.S.T. spokesper-

son John Mikler, the report is due by October 14, and will examine all aspects of the organisations. It may recommend extra funding, or at the other end of the spectrum rationalisation.

The terms of reference are quite broad, but Mr. Mikler stressed that the review team will consult with the industry. The inclusion of Ms. Brown-Watt in the review team was a decisive factor in Coopers winning the review bid, he said, due to her arms length perspective.

Stand by for more on this!

MELBOURNE MUSIC SHOW SET TO SIZZLE, A.M.A. HOT TO PROMOTE

LATE OCTOBER EVENT INCLUDES TRADE DAY

The 1994 Melbourne Music Expo will be held at the Melbourne Sports and Entertainment Centre from Saturday October 22nd to Monday October 24th, with major MI participants already signed up.

The show is times for Dealers to do their Christmas shopping, and will feature a strong public promotion aspect, namely the benefits of playing music and the edu-

cational opportunities which exist in the community.

Music Educators on various instruments and plenty of big names will be on hand - Melbourne has not hosted a music show since 1991, and the AMA will go gangbusters to promote the event to the public. This will include FM radio advertising and music press.

Details- call (03) 534-0144.

Music Entertainment Technology Multimedia Conference

2 day event covers business and technology in September

The Music Entertainment Technology Multimedia Business Affairs conference offers two full days of hyper activity, promoted by Phil Tripp of Immedia PR.

For \$250 (or \$150/1 day) you get the Minister for the Arts & Communications heading a gaggle of industry types on topics like the Information/Entertainment Superhighway, making new entertainment media, and exporting.

Tripp has assembled a cast of speakers across the recording and management side of the music biz, with internationals including Peter Jamieson from BMG Kong Kong, and a host of o/s magazine editors. A powerful cartel indeed!

The conference will be held in the ABC Centre, Sydney, on Saturday 3 and Sunday 4 September. Call Immedia on (02) 212-6677 for more info or to book your spot.

THE MUSIC NETWORK A NEW WEEKLY

Australia lacked a weekly magazine catering to the recording and radio biz, so the hole has been filled by an ambitious publication called The Music Network.

Available by subscription (\$130/6 months) the weekly comprises a four colour cover, and is usually about 32 pages in content.

The publication has comprehensive weekly charts, including a new Buzz Plays chart that are the songs that are vibing the industry because they're starting to work for radio. Accurate play charts and retail forecasts are the promise, and to facilitate this the publication has two retail and radio liaison crew, Danny Keenan and Christine Kane.

The Senior Editors are Anthony O'Grady and John Woodruff, themselves somewhat experienced within the Australian music trade.

The Music Network is produced on a desktop publishing system, which allows the magazine to be output at the last possible moment, excluding the four colour cover sheet. The downside of this is that the resolution of the laser printer used is not quite capable of full halftones (greys) - however this does not seem to inhibit advertisers, who run at a ratio of about 25%.

Contact The Music Network at 74 Foveaux Street, Surry Hills NSW 2010, or call (02) 211-4355, fax (02) 281-7199.

**KEEP OCTOBER 6 - 8
free for
ENTECH '94 tradeshow!**

Virtual Amusement War - bad news for M.I. Industry

Just before presstime came the announcement of a major assault on the youth leisure dollar by two competing consortiums, who promise to spend hundreds of millions of dollars in pursuit of their objectives.

Whilst patrons of this magazine reading the Contracting pages stand to make considerable profits aiding and abetting the consortiums, the long term outlook is not good for the music take-up rate. This is said to be below that of other developed nations here in Australia, where as

few as just 7% of the population play a musical instrument.

The consortiums planning these super 'out of home' entertainment complexes are Village Nine Leisure, -vs- Sega Ozisoft. The Village Nine team plan at least 20 complexes, known as 'Intencity', many of which will be located next to a Village Cinema Complex, and again many in Westfield shopping centres.

Ozisoft say they are looking at six monster arcades of up to 15,000 square metres, and 20 smaller sites of up to 3,500 sq.m.

DRUMMERS (again)

Who says drummers are dumb? Their very own magazine 'Skin full' (a state of being?) reports that there are some **Simple Tips** relating to **Health & The Drummer**. In particular, the report states - and this is a direct quote ready for this

"Breathing is very important as it is needed for virtually everything you do in your life. Oxygen is the most important element of health."

So now YOU know this too!
(Thanks to Jen Temm for this!)

Mi products

• **ROLAND** say the new BOSS RV-3 Digital Reverb/Delay pedal has up to 2000 milliseconds of delay - a boon for guitarists looking for some space. In addition, this \$349 item packs four Reverb programmes and four Delay + Reverb possibilities too!

• The **MARTIN** Guitar Company have the most persistent publicist of them all, Max Kay, who keeps sending us stuff. So here goes: The D-1R acoustic guitar as a cantilevered bracing system,™ pending.

• **PASSPORT DESIGNS** music education software will be distributed by Intellware here. Call Intellware (08) 271-9662.

• **DIGITECH's** new MC2 MIDI continuous controller pedal lets you get more from rack mounted signal processors because you can operate function on CC editable processors. Two knobs give the choice of 16 different MIDI channels and the first 16 CC controllers. The projected retail is \$399. Distributed by CMI (03) 315-2244.

• **ENERGIZER LITHIUM** is a battery lasting three times longer than any other, 2 x AA cost \$10, say Eveready.

• **MINIFLEX** microphones are selling well since intro last year, with acoustic players appreciating the sound and size, say importers Damien Gerard Sound Studios. Call them for more: (02) 692-9915

ARIA ON THE BOOTLEG WARPATH

Late 1993 saw a flood of bootlegs hit the Australian market due to a 'protection gap' in our Copyright Act, say ARIA.

In short this is a huge problem causing immense damage to both local record labels and Australia's international reputation demanding immediate remedial action.

The 'so-called "protection gap", which was unintended could be effectively closed by a simple amendment to the Copyright Act. ARIA has provided draft legislation to assist the Government in this regard.

Plugging the loophole must occur urgently for four primary reasons.

• First the loophole's calculated, upfront, robust exploitation, in the manner now seen in the market place, was never intended by the

Government.

• Second, the GATT/TRIPS agreement, in December 1993, requires member nations to prohibit the making of unauthorised recorded performances.

• Thirdly, the export of this product is grossly damaging to our trade reputation, particularly when Australia is attempting to get Asian companies to strengthen their own copyright laws.

• And fourthly, to allow bootlegs to free-ride is completely inequitable and repugnant to investment policy.

Given the bootleggers' aggressive and calculated approach to profiting from the loophole, it may not be a surprise to learn some bootleg operators are so keen to maintain their easy unimpeded cash-flow that they embarked on

a campaign to maintain the loophole as long as possible. Clearly this is not supportable and ARIA is confident that the Government will pass the necessary legislation. It must do so in any event to comply with GATT/TRIPS which requires member countries to prohibit bootlegs.

The inequity of the situation was recently summed-up accurately by ACT parliamentarian, Mr Gary Humphries, MLA, who called for the prohibition of bootlegs under ACT Fair Trading Legislation.

Mr Humphries said that "These rip-offs are a cheap degradation of the works of original artists".

He also said that bootleggers, "had a hide to claim copyright and manufacturers rights in (their) CDs".

(Reprinted from the ARIA report.)

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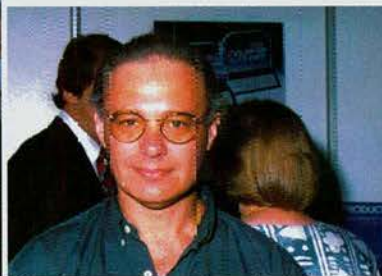
Winners of the 1993 National Insurance Brokers Association

"INSURANCE BROKER OF THE YEAR"

SINGAPORE PEOPLE



From left Jeremy Collins, a dragon, Graham Eales & Simon Garrett from Selecon NZ at Pro Light and Sound Asia '94, in Singapore.



Electric Factory boss Sperry Gruppetta in Singapore, looking at a new line we hear...



Jands audio guru Peter Twartz, chatting with AR Audio Engineering Sales manager Steve Bray at Singapore.



Ian Woodhouse (Horwood) Sean Kerrigan (Soundcorp) & Steve Abigail, MI king.



Stephen Draper and Neale Mace of Entertainment Installations, at Singapore.



Our pals Paula Millstone and Denise T from LDI mag & tradeshow, in Reno



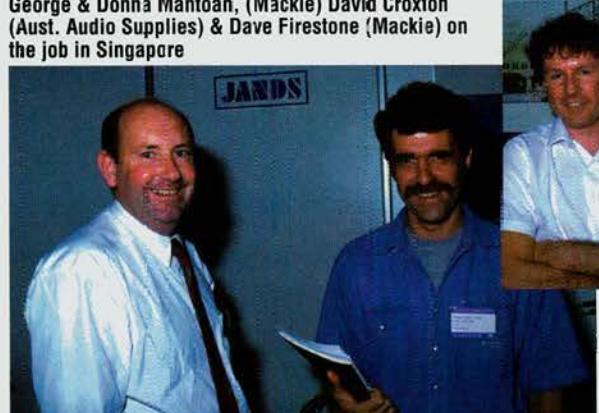
George & Donna Mantoan, (Mackie) David Croxton (Aust. Audio Supplies) & Dave Firestone (Mackie) on the job in Singapore



Richie Mickan and Peter Kemp at the Coemar display in the oh, sc. LOUD hall



Alan Gregory (LSC) with Pat Cahill from Theatrecraft P

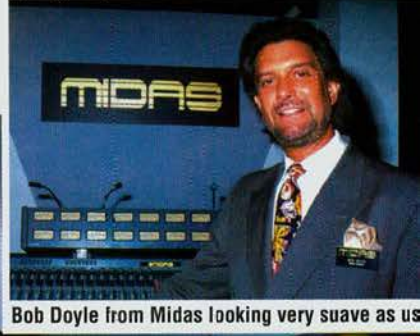


Those Park boys from ARX, David & Colin

Jands boss Paul Mulholland caught negotiating with a Club Med technical type person, who was out shopping for goods



New Renkus Heinz sales manager Robert Lingfield at Singapore.



Bob Doyle from Midas looking very suave as us



Hayden Brennan, Andrew Sherar from Lightmoves PES, John Gunton (Dynalite boss), and Jonathan Ciddor (Lightmoves Technologies boss)



Scott Lucas from Alcatel demonstrates the no-solder XLR in Singapore to an interested mob, sick of soldering every day!

The METRO Profile

For over 20 years Sam and George Frantzeskos have been well known and respected - their names are synonymous with many of the finest nightclubs and hospitality establishments in Melbourne and, in more recent years, The Metro Nightclub.

Sam and George typify quality and success in an industry that has often been seen by many as a "cash and carry" industry - when the clientele is most often not the number 1 priority.

In 1987 The Frantzeskos brothers conceptualised Melbourne's landmark nightclub "The Metro" and with the help of Jamie Nasser, Peter Mitropoulos and Mark Udorovic developed the nightclub as a joint venture. The partnership lasted until November 1992. Sam and George sold to their partners in order to concentrate on their other interests and for a short term take a "rest" from night clubbing, a lifestyle which they had encompassed for over 20 years.

The time away allowed them to go back to the Grainstore Tavern, a business that they have owned for 14 years. They were successful in qualifying for a gaming license and renovated the three floors to house the pokies operation, a restaurant by day and band room/disco by night.

George became even more actively involved in a number of important committees representing the hospitality industry. He is also President of the *Nightclub Owners Association*, and has been pro-active with these committees improving the night-club industry by self regulation and close liaison with police and local government.

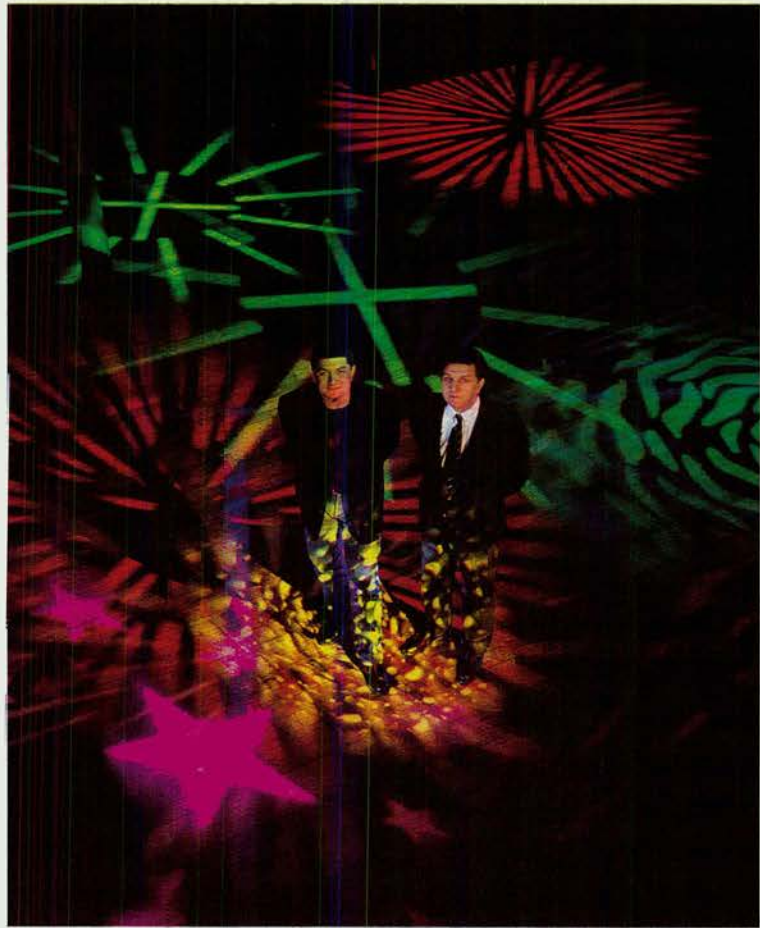
In 1990 George sat on the committee of the *West End Forum Project* which represented the Nightclub Industry. This initiative was established on conjunction with the Melbourne City Council and the Ministry of Police and Emergency Services and has won a Federal Government Award.

In 1993, George was appointed on the Committee of the Victorian Community Council Against Violence. The committee reports to the Attorney General and Minister of Police Emergency Services and Corrections.

Sam has been busy assisting partner Peter Hoyland with H.I.T. Management, an artist management company whose client list includes Band - *Southern Sons*, Producer - *David Hirschfelder*, Flautist - *Jane Rutter*, Opera Singer - *David Hobson*, Contemporary Singer - *Andrew Grant* and his band and Songwriter/Producer - *Peter Bowman*.

The H.I.T. Management office has also moved back to the Metro in order that Sam and George continue their association with Peter Hoyland.

Over the last few months Sam and George



have been renovating the Metro with the assistance of award winning architects Roger Wood and Randal Marsh. One of the most significant and improvements at the Metro is the installation of an **Icon Lighting System** and the sound system has been upgraded and repositioned.

Whilst being the biggest nightclub in the Southern Hemisphere the Metro Nightclub operates on the basis of small family personalised approach.

Sam and George are delighted to be back home at the Metro and are very excited about their plans and the future of Melbourne's most notable nightclub.

Venue:

Metro Palace Pty Ltd T/As "The Melbourne Metro" **Phone:** (03) 663 4288

Address:

20-30 Bourke Street Melbourne VIC 3000

Owner/Managers:

Sam & George Frantzeskos

Venue Booker:

Sam Frantzeskos

Lighting Design:

Dion Wicks & Tony Donnelly

Lighting Operator:

Dion Wicks

Sound Design:

Warehouse Sound

Sound Operator:

Various as per rostered DJ, Acts etc.

Laser Design:

Lightmoves Professional Entertainment Services P/L (Melbourne)

Laser Operator:

Dion Wicks & Neil Baxter

Video Design:

Cameron Video Systems

Video Operator:

Craig Heusten

Decor/Interior Design:

Wood/Marsh Architects

Entertainment:

DJ's, Cover Bands and Headline Australian & International Bands feature regularly.

Theme Nights: The Metro currently runs 3 nights per week each with very distinctive themes.

VELVET - Thursday nights, targeted to students and priced accordingly. Commercial music format upstairs and will regularly feature live bands.

JOY - Fridays, 9.00pm to 9.00am. "Happy to House", hits FM style night and changing at 4.00am to the more eclectic sounds of 'trance', 'house' and 'techno'. A full breakfast is served from 3.00am and the Metro's "Absolut" Bloody Mary's are a must. There will be theatrical performances, techno go-go dancers and periodical touring international acts.

31 FLAVOURS - Saturdays - Funkier sounds in the main room with a 'live' band in the Gods Bar, 4 of Australia's leading Funk DJ's - Craig G, Wayne Fernandez, Bobby Love and Michael Perry in the Main Room.

SENSATION - Sundays - once a month, organised by and for overseas students.

As always live local and international acts, DJ's and guests will be the Metro's speciality.

Typical Door Charge: \$5 - \$10.

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THE PA PAGE

It was WRONG

At Connections we strive to get it right, sometimes we screw up and get it wrong by accident. When this occurs we take immediate action to broadcast our mistake and set things straight.

The policy means we take the egg direct on the face, we have a pile of instances here on file of mistakes in other technical magazines that are not acknowledged later on, presumably to avoid damaging the publishers ego. This publisher has had his ego cancelled when he had his scruples removed, so here goes:

After last issue hit the streets Jim at **NOVA HIRE** in Melbourne was kind enough to point out the circuit diagram for the Do It Yourself crossover on this page **Would Not Work**.

Jim did, in fact, surmise that it may operate in such a manner that its designed purpose may be negated entirely. This is **NOT** good at all.

We sincerely apologise to anyone who took the time to build the thing, and hope that rectifying the circuit to the **CORRECT** components doesn't

cause too much inconvenience.

Jim has run a FilterCAD model to support his contention that our circuit was flawed, so we will accede to his superior knowledge.

Furthermore, NOVA have offered to vet anything like this in the future, so we will gladly take them up on this offer, in order to present you with 100% correct and factual material.

The deadline regime at Connections is very tight. We start to lay out the magazine on the evening of the 15th of the month, and are finished late on the 25th. That ten day cycle includes a lot of the writing as well, because between the 26th and about the 4th of the next month we are deep in admin, subscription, reader service and distribution matters.

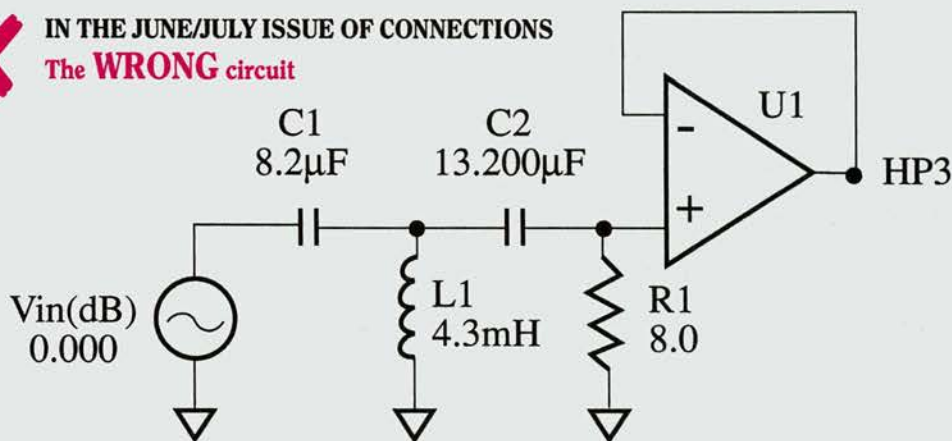
The period between the 5th and 15th is when we can operate like normal people and think about the next issue. A relentless and unwieldy grind, self inflicted for sure, but made more complicated by the approach of our ENTECH '94 trade show, opening at the Sydney Exhibition Centre on October 6th.

- Julius Grafton.

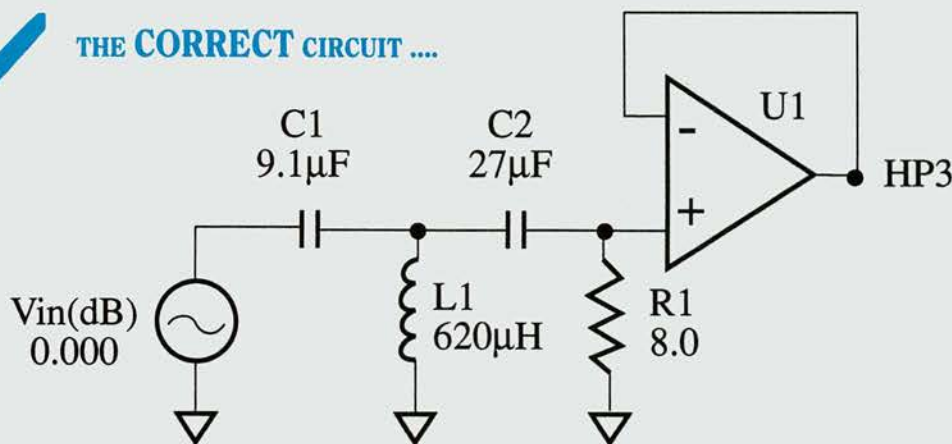


IN THE JUNE/JULY ISSUE OF CONNECTIONS

The **WRONG** circuit



THE **CORRECT** CIRCUIT



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