

# Channels

Free

The professional Sound and Lighting magazine

No. 5. 15th June 1991

## Buddy!

### The technology behind the legend

#### The Sound of Buddy:

The audience love it. A three hour show, Buddy seemed to be over in a flash, after Doug Parkinson as the Big Bopper got everyone on their feet. How a show can appeal to kids and octogenarians alike is almost beyond belief, but this one does.

Integral to the success of the show is the authenticity of the music, the set design, and the seamless production. A paradox presents itself very early in a production like this, being an authentic reproduction of the music of an era, using 1990's production techniques. Indeed, the audience would probably baulk in amazement at the technology behind the scenes.

The old style Shure SH55 microphones are the only visible clue that a P.A. system is in use, and to



most people the sound design probably stopped right there. The "naturalness" of what was going on probably leads the audience to believe music used to sound this good, that in the old days of the buddy era, the late 1950's, all you needed was a double bass, a little guitar amp,

and a mic. Indeed, very early in the production came the first real test of the sound design and the engineer. Buddy picked up his acoustic guitar and gently strummed the first chord. At that moment I expected my ears to lock onto the left side P.A. stack, but instead, engineer Greg Rosman cunningly waited

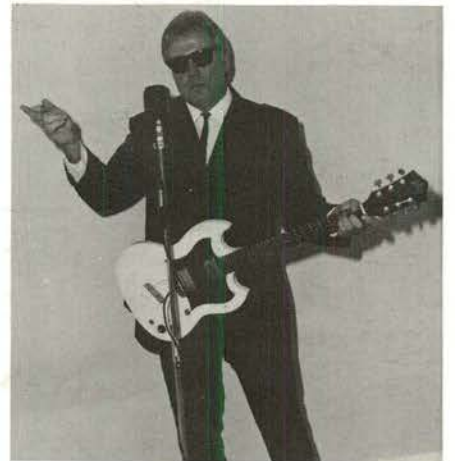
(continued page 8)

**Buddy Lighting:**  
Roger Barratt on design. Page 9.

## Smithy

### Almost a legend

The guy that invented selling sound and lighting equipment second hand is back, except he didn't really go away. "There's no confusion in my mind", he told us. Several years ago, he sold *Smithy's* and spent some time out of the limelight. He didn't stop playing, though, and he was a very visible part of *The Swinging Sixties* show. Now, he prefers to be known as Deek Rivers, playing with the Bandits.



"This is all I know. I'm not out to run *Smithy's* off the map, they're doing OK anyway. Today prices are based on the J600, which sells for \$550 here or \$600 in Melbourne. Brisbane is Yamaha city." Jands and JBL are his mainstay, consistently holding value.

## HAMMERTIME

We review the king rapper. Page 10.

Pic: Branco Garca

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## A1 Audio partnership split

The Sydney based production company, A1 Audio, recently announced the sale of up to half of its assets, including the Turbosound arena system. Approached for comment, director Chris Kennedy wouldn't be drawn, and stated he would prefer not to comment. A source close to the company has confirmed the sale is to

fund the buyout of partner Lindsay Hall, which would leave Chris Kennedy with control. The partnership split is said to be amicable, although it is understood Hall will take some equipment with him when he leaves, as he intends servicing some of his older customers. Kennedy is understood to be keen to continue A1.

## AUDIO CABLES AND ASSEMBLIES

### *Neglex Quad Microphone Cable*

Neglex quad cables have been developed for the highest quality recording applications where maximum audio definition is critical. The balanced quad structure delivers sonic accuracy and cancels electromagnetic induction. XLPE cross linked polyethylene insulation offers excellent electrical characteristics which remaining super flexible. Available in three diameters and nine colours.



### *Multicore Microphone Cable*

Multicore microphone cables from 2 to 48 audio pairs, each pair individually shielded, with drain wire, insulated, and printed with channel number for easy identification. XLPE cross linked polyethylene insulation will not shrink back during soldering. Rugged yet flexible construction offers a compact and super flexible cable, even at temperatures down to -20 degrees C.



### *High Definition Studio Speaker Cable*

Designed to deliver maximum performance from state-of-the-art tri-amp systems, this cable offers true audiophile performance for accurate sound transmission and transparent audio response. Each conductor features 224 strands of Neglex oxygen free copper with colour coded PVC insulation, with a tough overall matte black superflexible sheath. Available with 4, 6, or 8 conductors.



### *Bantam Patch Cords*

Professional bantam patch cords, the first high definition audio cables designed specifically for recording studios and broadcasters. Superflexible quad balanced Neglex oxygen free cable moulded to a durable nickel plated tip/ring/sleeve connector. Interchangeable colour coding rings allow easy identification. Choice of four jacket colours and seven lengths from 30 cm to 180 cm.



### *MIDI Synchro Cables*

Specially designed for use in MIDI communications systems, MIDI Synchro Cables feature one piece custom moulded 5 pin DIN connectors. A specially designed superflexible cable provides one twisted pair for data and two additional conductors for tape synchronisation signals. Interchangeable colour coded rings allow easy identification. Available in seven lengths from 45 cm to 9.1 m.



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Head Office  
19 - 25 Marsden Street,  
Camperdown NSW 2050  
Phone: (02) 550 5488  
Fax: (02) 517 1946

#### MELBOURNE

26 Hall Street,  
East Hawthorn VIC 3123  
Phone: (03) 822 3386  
Fax: (03) 822 9519

#### BRISBANE

82 Arthur Street,  
Fortitude Valley QLD 4006  
Phone: (07) 358 5022  
Fax: (07) 358 4969

#### ADELAIDE

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Phone: (08) 363 0454  
Fax: (08) 363 1402

#### PERTH

100B Burswood Road,  
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Phone: (09) 362 2627  
Fax: (09) 472 3322

# AUX 1

## The people column

Fear and loathing on the road ... we thought this sort of thing stopped happening years ago, but apparently not. The Angels tour manager copped a broken jaw in a disagreement with a member of the Stray Cat's crew recently. The incident occurred at a Gold Coast venue, and legal manoeuvring is underway.

Speaking of innuendo, John Goldsmith, the famous Perth Aviator (and owner of Kosmic) has just become a Father again. Jands Projects Director, Peter Grisard also a new dad. Phil Burkinshaw (Gun for Hire) had his gun loaded recently and is awaiting the birth of his apprentice. Phil recently was hard at it! Kicking butts on the Myer Fashion Parade tour for Too Faze Lighting.

Where is John Busst, the infamous one? The head of Court Acoustics Australia (no connection with Court Acoustics U.K.) has dropped out of sight. Those with long memories may recall a Sydney company, Apel Audio investing in a large Court System in 1983. They changed into the Touring Plant, then in a major upheaval the assets were acquired by Court Australia, which was based on the Gold Coast. Rumour has John in L.A.

Funny, during a recent court case in Melbourne, Consultant psychiatrist, Dr. Keith Adey said only a dozen cases of the rare psychiatric condition Psuedologia Fastastica had been reported in the world in the past 30 years. Sufferers had several features in common:

- Telling false stories built on a matrix of truth,
  - Sticking to the stories until confronted by truth and then not clinging to the delusion,
  - Telling the stories for personal esteem and self importance, not profit.
- The good Doctor obviously doesn't practice to a Rock Industry clientele.

Top End Sound headed by Colin West from the North have the distinction of having in current hire stock JM 5, 6, 7 & 8 consoles. Just found that interesting. Speaking of Top End, former adviser and consultant Howard Page the famous guru of soundmen, the Audio Apostle, is currently Senior Vice President, System Engineering at Showco in Dallas Texas. He apparently loves Texas, and his job includes breaking in new tours using the Showco Prism system, a composite JBL based rig. Showco are one of the top 5 audio companies in the US, and their client list includes Phil Collins, Aerosmith and the Rolling Stones.

DSA Concert Systems of Brisbane faxed us recently, to announce that it is still operational, "even though the internal directors dispute made it at one point look like it would fold. Don't believe all the rumours flying around", the missive continued, "It's just a smear campaign. David De Witt has bought all the shares and is now in full control, as it should be. Severe cost cutting has resulted in a boon for the customer with hire rates very, very competitive." David was the star of a very colourful story Bruce Harvey used to enjoy telling, something about an orchestral recital in Brisbane Town Hall during 1973 that went horribly wrong. Apparently, if this story is to be believed, David's Lighting Company at the time manufactured a unique baton for the conductor, from a 4' fluoro tube. Unused to such a device, the now octogenarian conductor was slightly nervous, sweat permeating the insulating tape at one end of the tube. The rest you can well imagine.

Keep it coming..... send it to us by mail, fax; (02) 517-1045 or phone us!

## INSERT POINT

The implications of the recent collapse of the Australian Elizabethan Theatre Trust have been run through the media, and a sorry mess it is indeed. What hasn't been canvassed in the media is the role the AETT has played in the stage lighting hire business in Sydney over the past two decades. The AETT has conducted a rental operation consisting of a respectable number of lanterns and ancillary equipment, operating on a commercial basis. While the equipment mostly originated from the old Elizabethan Theatre, and of late could best be described as ancient, the AETT nevertheless did compete with private enterprise. At its competitive best, in the late 1970's, the AETT operated a predatory price structure that could win work at any cost. A school or theatre company would obtain a quote from Barratt Lighting or Strand, the AETT would better it. Working from premises fully owned, with external funding making it easy to undercut anyone, the AETT's Hire Division was a major thorn in the side of the industry.

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P.O. Box 171, St. Peters 2044 N.S.W.  
Fax: (02) 517-1045.

Contributions are welcomed!

Phone enquiries to the editor,

Mon & Tue: (02) 516-3622 or

Wed - Fri: (063) 375-354

Editor: Julius Grafton.

Computer help: David Mulholland.

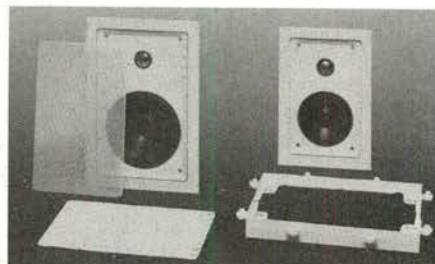
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## News

### JBL put quality into the wall



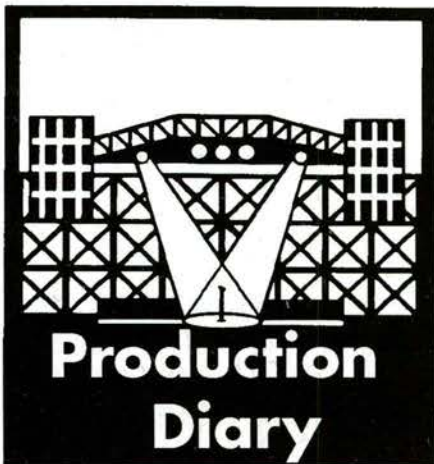
In another step towards satisfying growing consumer awareness of just what sounds good, JBL have released the 8305 and the 8306 2 way flush mount wall loudspeaker systems. The systems are rated at 40 watts and 50 watts respectively, with the 8305 having response of 55Hz to 20kHz, and the 8306 35Hz to 20kHz. Sizes: 8305 - 274mm tall x 184mm wide, with depth being 67mm. 8306 - 324mm tall x 222mm wide, depth 83mm. The mounting frames can accommodate several different wall thicknesses, and horizontal or vertical orientation.

### CONTRACT WATCH

Greater Union Village Technology has won contracts for the supply of six Xebex followspots to the Sydney Opera House, a Jands Instinct 60 lighting console to Monash University in Frankston Victoria, and a Jands ESP 24 to Mt. Gambia P.A.C. In South Australia. In Melbourne, G.U.V.T. has a contract to supply a Jands ESP 24, digital dimmers, and Powersaver Auditorium dimmers to Koo Wee Rup Secondary College.

JANDS Contracting Division has been awarded a contract for \$130,000 to supply and install a complete background music and paging system, and a new auditorium sound system at the Vic Edmonson V.C. Memorial Club in Liverpool. The installation will feature JBL Soundpower 4726, a Soundcraft SPIRIT 16 channel mixer and Jands amplifiers. The background music system will comprise customised zone switching facilities with 100mm & 200mm roof loudspeakers.

KRIX Loudspeaker Engineers Pty Ltd announced they had won a contract to supply monitors to the new ABC Radio complex at Ultimo, Sydney. KRIX have made a name for themselves installing Infinite Baffle Loudspeaker Systems for all the major exhibitors, which almost exclusively use JBL product.



## Production Spotlight

# Wendy Matthews and her band

We visit the Wild West. Well, Bathurst Leagues Club. Easter Thursday 28th March 1991.

Steve Winwood: toured using Jands Production Services. Sound system: 48 x Clair Bros. S4, with 2 x Yamaha PM 3000/40 mixing consoles out front. Foldback was mixed from a Ramsa 40/18 WRS 840 console, with a Yamaha 2408 as well. Monitor wedges were 8 x SLP, with 4 x TMS 3 for sidefill and 2 x R3 for drumfill. Lightrig comprised 281 Par 64, 2 x CCT Silhouette 30, 26 x Leko's and 4 Duets, driven by a Celco Gold 90ch console. Effects included: 62 colour changers, 3 Le-Maitre smoke machines and 2 RDS projectors. Dimming was achieved using 4 x 36 way racks, and a new Jands 48 way prototype rack.

M.C. Hammer: (See review on Page 10) aside from the lighting items mentioned in the review, this show was partially duplicated because it ran in Melbourne on the night before. The can count for the two systems was 1048 Par 64's. Jands still had plenty left. 24 Vari\*Lite VL2b's were used.

The Divinyls: on tour now, with Jands Production Services. Sound system: 16 TMS 3 (Turbosound) and 8 sub-low cabinets. Jands 920 amplifiers. FOH mixing console is a Yamaha PM 2000/32 with a Yamaha 916 as well. 2 x Yamaha 2408 foldback desks drive 14 SLP wedges, 2 x DLP & 2 x sidefills. Lighting consists of 96 x Par 64, 8 x Par 36, 14 x Profiles and 3 x groundrows. 1 x Martin Junior fooger, 2 x Kodak projectors, 14 colour changers and 2 x strobes complete what is a substantial lightrig. 2 x Celco consoles control it, a 60 and a 90 way, running to Jands dimmer racks.

INXS: the tour of the year will (hopefully) be featured in the next issue of Channels. The lightrig consists of 144 Par 64, 14 x 5k lanterns, 10 x Par 36, with 4 x HTI 400 followspots. 5 smoke machines (1 x Martin Jr and 4 x Le-Maitre) are assisted by 12 wind machines. L.S.D. have provided the control desk, which drives 3 x 36 way and 3 x 5k dimmer racks. 41 Vari\*Lite VL2b and 16 VL4 makeup the moving light component.

Wendy Matthews, with her new 5 piece band, kicked off her first solo tour away from the prying eyes of the industry at Bathurst Leagues Club. Despite the venue being not counted as this writer's favourite place, Channels was there.

Blackfoot had the mix sounding just right, making it look effortless. Jim keeps it tight, using four Beyer 201 mic's around the cymbals rather than just a pair of overheads. Kick drum had my favourite, a Beyer M88, and Sennhiesler MD 421's on Mark Meyers



Interviewed by Lenorie Nicklin in the Bulletin a few days earlier, Wendy expressed reservations about opening in Bathurst. "We don't do heavy rock and roll. I'm afraid we'll be dead meat." Well, the room was full, and the bush pigs loved it. The cockies son's weren't so sure though, but after a few "get it all off's", they sunk slowly into their jugs of New.

Funny enough, last time we visited Bathurst Leagues was to see the Angels, at the start of their first tour last year. By equal co-incidence, they used Revolver production, as did Wendy Matthews. The Angels crew lugged the entire semi load up the stairs, then tested the P.A. by seeing if would break. It didn't. We left. I digress.

The Club has had a big refit since then, and today has a new stage at the end of the room, rather than in the middle on the side. Much better, but appallingly the management haven't put in spotbars, so they can expect damage to the new false ceiling in due course. Some people won't listen, especially as the Central West's resident sound & lighting guru, Alan Brown, took the effort to advise Club Management prior to renovation.

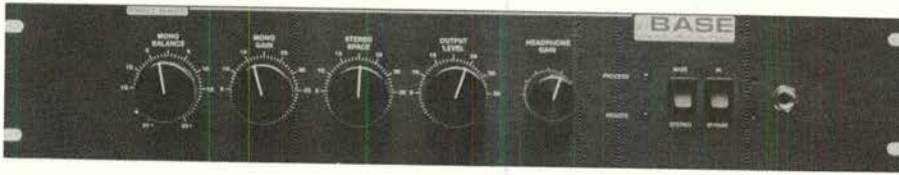
Back to Wendy M, and what a great way to start a tour! Soundman Jim

rack and floor tom's.

Aside from the kit, other inputs were for Amanda Brown who plays violin (line), acoustic guitar (line), and oboe (mic). Then, bass line, guitar, 2 keyboards and backup vocals. The mix was done on a Soundcraft 800B console, running stereo through a Klark Tekniks DN 360 third octave equaliser to a pair of BSS 360 crossovers with output limiters. Amplification was Revolver's own Showcraft 1400 amplifiers, and speaker stacks standard Revolver/Martin/JBL.

Lighting was basic but effective, 24 Par 64 providing front and rear quarter colour washes, with 6 x Leko as specials. The lighting operator used a Jands Aurora 48 channel board, and seemed to enjoy himself. Foldback was mixed on a Soundcraft 400B/24 channel, and certainly benefited from a very sensibly restrained stage level. At a position just 2m in front of the stage, and unable to hear the main stacks, the stage balance was just right - a rare situation, and one that makes everything a lot better for crew and audience alike.

PRODUCTION DIARY LISTINGS:  
Fax to Julius, (02) 517-1045.



# First Base

BASE is a spatial manipulation device currently taking the U.S. by storm, having been used in the making of several top grossing movies like Star Trek V, Back to the Future (2 & 3), Halloween 5 and many more.

Not confined to movie audio, the BASE processor is being installed in every major "showroom" in Las Vegas, like the Pink Flamingo, Hilton, and the Mirage. Mastering suites across the U.S. are rushing Gamma Electronics Systems Inc (interesting name) for their BASE unit.

BASE is an acronym for Bedini Audio Spacial Environment, and was created by a guy called John Bedini, whose stated purpose was to recreate the stereo headphone listening experience through open-air speakers. To quote his material; "to understand the BASE process, one must understand how the brain perceives sound. All sound emanates in mono from a single source, which the brain receives in a binaural manner through two ears."

You still with us? Well, "This binaural reception of monaural information allows the brain to compute the location and distance (the dimension) of sound. It does so by calculating the difference in arrival time and intensity level of sound at each ear. These comparison calculations leave the listener with their personal audible range and the ability to locate sounds in space."

"Mr. Bedini realised that stereo is an unnatural "spread" of sound that creates a flat image with a very narrow "sweet spot" (the prime listening area). Somehow, stereo was not giving the brain adequate information to perform its usual calculations. Since the brain processes sound binaurally through two ears, and as much as 70% of all sounds are duplicated through stereo speakers, the brain's comparison and cancellation process is doubled with stereo. This results in loss of information and an unrealistic sound image."

"BASE corrects this by recognising common signals and delivering them to the brain as binaral signals. Thus, the brain perceives material processed in BASE as it was intended to be heard, resulting in a listening experience more true to life than stereo".

Needless to say, the proof is in the hearing, and we will endeavour to hear a BASE unit soon. For more information, contact the Importers, G.U.V.T. on (03) 822 3386.

## 4:1 design studio

**This new pre-production facility saves time, money ... and embarrassment!**

Patrick Woodroffe, Lighting designer for artists like the Rolling Stones, Tina Turner and Bryan Ferry, has built a quarter scale studio, Four to One: Scale Design, for tour pre-production. Steve Winwood's recent tour here in Australia was pre-produced there.

Rock In Rio, the 9 day event to end all others was also pre-produced at 4:1.

Woodroffe designed Rock In Rio, built the whole stage in miniature, then invited every artists L.D. to London for a runthrough. Given the event featured every act available for tour at the time, it was some organisational achievement.

The quarter scale studio is complete with full scale control like a Vari\*lite Artisan™ console, a 90 ch Celco Gold board, Jands Instinct 48, and a Colourmag controller. The lanterns are Thomas Mini Par Cans, (run low voltage), cyc lighting, projection and mini profile spots all replicate the real thing, 18" tall Mannequins dressed in the bands clothes even complete the picture.

A complete stock of miniature stage risers, stairs and ramps, musical equipment such as drums, keyboards and amplifiers are all made to scale. There is a full set of backdrops, floor coverings and a projection surface, even quarter scale followspots with operators. A scale truss with flying facilities, fog and smoke machines, strobe lights and even miniature hand scrolling gel changers complete the reality.

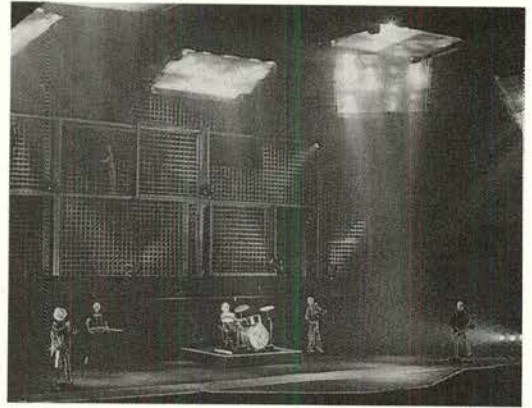
Sound reproduction comes from a Turbo System, with tape deck and equalisation, there is a video system for recording the lighting looks for further analysis.

A recent report in Lighting + Sound International highlights the usefulness of such a studio, when AC/DC utilised the facility before their current world tour. "The capital cost of a system like AC/DC's is probably a million pounds and we're representing it with something that cost a fraction of that", said Woodroffe.

"It's a completely custom-built lighting system with these big moving pods stuffed full of Par cans. We're representing them with ACL Molefays as it gives exactly the same look. We've

had cyc lights made up and there are VL4's all over the stage set as well as floor lighting, effects projectors and on-stage follow spots. The real impression is very close to the real thing."

"With AC/DC we re-rigged two of the pods at different angles and we (LD Charlie Wilson and Woodroffe) real-



ised that the ring of Aircraft lights around the main grid didn't focus when we had the pods in their high position. It was a simple solution to pick up the phone and say can you put all those lights on two foot hangers, whereas during rehearsals it would have been a disaster, losing a day's rehearsal as a result."

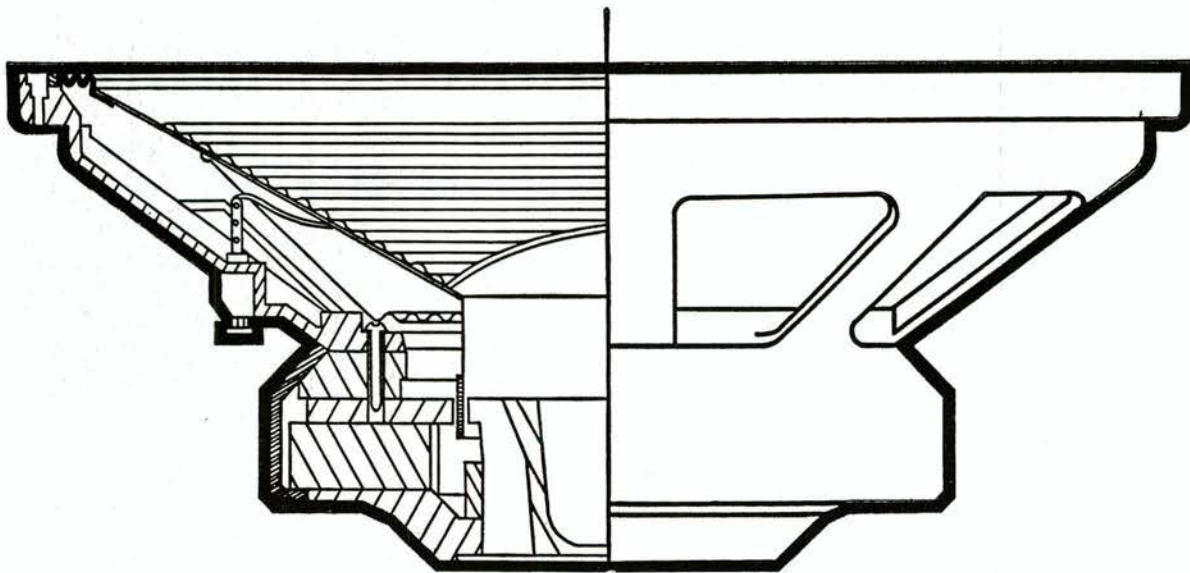
The facility allows a whole performance to be pre-run and programmed before the real production rehearsals start, which can save serious money. Save your cues on disc, and you have a walk up start. Contact the studio on (U.K.) 071 498 7127.

## CCT Lighting (U.K.) in receivership

CCT Theatre Lighting (U.K.) was placed in administrative receivership during February, with joint administrative receivers, G. Baker and A. R. Bloom stating the business would continue on a going concern basis. CCT has been trading for 25 years.

A representative of the receivers was quoted during March as saying: "We've had a very good response to our advertising and now taking people round. Hopefully a buyer (for the company) will be found soon." Don Hindle of CCT said "After 22 years I'm very sad at this situation, particularly for our customers and suppliers."

Jands Electronics, Importers of CCT luminaires here in Australia, are not unduly alarmed at the situation. "It's business as usual", according to Sales Director Paul Mulholland. Lighting Products Manager Michael Tanner noted that during last year a number of OEM suppliers to CCT (such as Wilkes Iris Diaphragms Co Ltd of Sussex) started advertising their products direct. Tanner does not expect product and parts availability to become a problem on current indications. We'll keep you posted.



# 2226

The only number to remember.

Except of course for 2206 and 2241. Why? Because these are the new wave in professional loudspeaker design. **More power:** try 600 watts, AES continuous pink noise power capacity. Put another way, that's 2400 watts peak power, or three times more power than the models they replace. **Less weight:** like about 25% less than previous JBL models. **More excursion:** try double that of previous models.

How did JBL do it? To produce more power handling while reducing power compression, JBL engineers have created a unique direct voice-coil to-air heat dissipation method called Vented Gap Cooling. This process pumps air through the magnetic gap and directly over and around the voice coil to provide immediate heat transfer and reduction in operating temperature.

Move your system into the future with JBL Professional Series Loudspeakers. Today. From around \$589 recommended retail including sales tax.

Model	Size	Power	Sensitivity	Response
2206	12" (300mm)	600w	95dB	45Hz-3.5kHz
2226	15" (380mm)	600w	97dB	30Hz-2.5kHz
2241	18" (460mm)	600w	98dB	30Hz-3kHz



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## LETTERS MISSILES FAXES

### Dim witted

We read with interest the column "Bangs & Flashes" in Channels No. 3 by Mr. James Reid and his mention of our Company.

It is sad to hear that such an informed person as Mr. Reid knows all the ins and outs of Getlit, Lightmoves Pty Ltd and Lightmoves Technologies (NSW) Pty Ltd and the pricing structures of these companies but didn't know our telephone number. It is 560-0000, which almost everyone in the industry knows and rings very regularly. It was chosen back when "troggs" were slow and the Hume Highway was long, so that even the most dim witted didn't have to write it down. - Back to the letter.

Had our friend James remembered the magical number, or even easier, let his fingers do the walking, he would have found on the end of the telephone a team of highly competent service personnel who would have solved his problems and hushed the howls of the spewing management.

Surely this is an excellent example of where professional service is needed, not just "The man, his van and trusty mobile phone".

Whilst we recognise that this Journal only exists to promote Jands to its dealers, and for some obscure reason our money is not needed in their bank account (although the bank manager may think otherwise these days), have some courage and print this letter of reply.

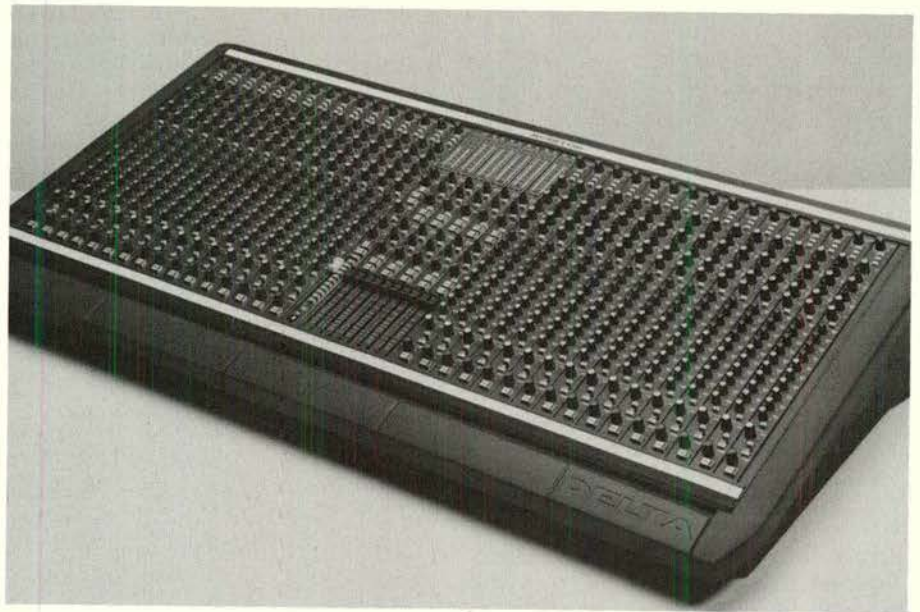
-Lightmoves Technologies (NSW) P/L,  
Jonathan Ciddor, Managing Director.

▲ Having re-read James' item, I thought Jonathon's letter shouldn't go without some comment. James wrote in Issue 4 about his perception that there is or was a lack of service provided by those people who import moving effects lighting, or "Kinetik" effects. He pointed out the chain of events that started with Getlit, then Lightmoves going out of business. Then he noted that "Lightmoves was sold to new owners who today operate a successful business known as Lightmoves Technologies (NSW) P/L, and that these people cannot be held responsible for the activities of those who preceded them." Given this qualification Jonathon, I wonder with the greatest respect, what point you are trying to make? -Editor

### But it's OK by me...

Just discovered your "Channels" magazine. I think it's a great concept. Well done. The copy I have is No. 4 (1st May 1991) - could you please send me back issues 1, 2 & 3.

-Paul Irving, Show World Enterprises,  
Eastwood, South Australia.



## Soundcraft Delta Monitor

In yet another addition to the Delta range, Soundcraft have released the Delta Monitor. Available in frame sizes to accept 24, 32 or 40 inputs, the console features 12 sends. A nice touch is the panic "DIM" switch on each output, which lets the operator pad the output in the event of feedback. Each input module has Soundcraft's famous EQ stage, a phase reverse switch, a high pass filter, and rotary controls for the 10 main sends, along with a stereo send that can act as a monitor mix for the engineer, or more likely, a sidefill send. More details are available from Jands.

## HELP!

The Channels technical advisory team await your problem, send it to us at: P.O. Box 171, St. Peters NSW 2044, or FAX: (02) 517-1045.

Has technology passed by our kids? The young daughter of a Jands employee was overheard asking her grandmother why her CD's were BIC and BLACK!

## Training notes

CANNON SOUND at Narrabeena (Sydney) have announced a Live Sound Course covering all the ins and outs of audio. They can be phoned on (02) 971-2831 for further details. We are keenly interested in publicising any educational initiatives anyone is taking anywhere, which means if you run, or know of a course in Sound or Lighting techniques, let us know and we will run you a free plug.

Dear readers, please don't assume the course is Kosher just because we mention it, we don't really know how good, bad or indifferent it is. But we are aware of a huge groundswell out there of people who WANT TRAINING.

### NEW AMPLIFIER FROM JANDS

Following the recent release of the Mosfet 107, Jands have just finished the first run of a new unit, the 104. This is a 2 rack unit high, convection cooled mosfet amplifier which delivers 200 watts RMS per channel into a 4 ohm load. Jands Sales Director, Paul Mulholland is very enthusiastic at the sound of both the 104 and the 107.

### JBL 2226 installation note

The recent release of JBL's new 2226 15" loudspeaker has highlighted a consequence of ultra high power meeting today's technology. The 2226, rated at 600w, has excursion more than twice that of its predecessor, the 2225. As much as 40mm, in fact.

Bill Dart of DB Concert Sound in Geelong reports that when installing the 2226 in rear loaded cabinets like W Blns, the loudspeaker is capable of excurting forward into the traditional speaker cutout, damaging the cone. He advises installers carefully check the maximum forward movement potential of the speaker when installing.

If in any doubt, Jands Audio Products Manager, Peter Twartz advises the cutout be enlarged, and the loudspeaker ought be clamped into place, disregarding the original t/nut mountings. The 2226 is one of three new Vented Gap loudspeaker products recently released by JBL, the other models are the 2206 12", and the 2241 18" loudspeakers. Both are rated at 600w RMS, or over 2000 watts peak.

**ADVERTISE  
in Channels**

Call Dayle (02) 516 3622

# Buddy

## The Sound behind the stage show *(from page 1)*

for a fraction, then gently eased a little of the guitar into the mix, leaving the ear locked onto the guitar itself.

It was like that throughout, right to the finale, a big band scene where the stage is just full of musicians and chorus. Even at that point the sound level wouldn't have passed 100dB. To give an idea of the scale of the production, Rosman manages 87 inputs from the stage to a pair of Yamaha PM 3000 40 channel consoles, plus a Yamaha 916 16 channel console. What's more, everything is performed live.

System design called for two separate systems, (Jands Production Services chose JBL exclusively) - one for music, one for vocals, to maximise clarity and intelligibility. Each system has its own PM3000 mixing console, processing gear, and signal chain, right to its speaker cabinets.

The Music System signal runs to 4 equalisers, then 4 Yamaha DDL 3 Delay Line/Crossovers, which are used to delay, crossover and time align both the vocal and the music systems. Then to Jands 920 amplifiers under the stage, then left and right floor stacks, and left and right flown stacks. The floor stack per side is a pair of JBL powered AP 35 cabinets, with a single JBL 18" subwoofer. The flown stacks are exactly the same, and are delayed a few milliseconds as the flying point is slightly in front of the floor stacks.

The Vocal System is similarly fed by DDL 3's, amplified by Jands 920 amplifiers, then comprising three JBL 4726 Soundpower cabinets, stacked atop the Music system (floor) and atop the flown Music system. There are four groups of 3 cabinets. Then, the Vocal system has a delay line of JBL Control 1 monitors arced around the roof of the stalls, and two delayed arcs around the roof of the very highly pitched dress circle. A pair of JBL Control 5 monitors are at the rear of the stalls and the dress circle, for effects, which Rosman sends via a "joystick" allowing a sweeping effect from front to back.

A very clean echo at the end of the show was achieved using an SPX 90II

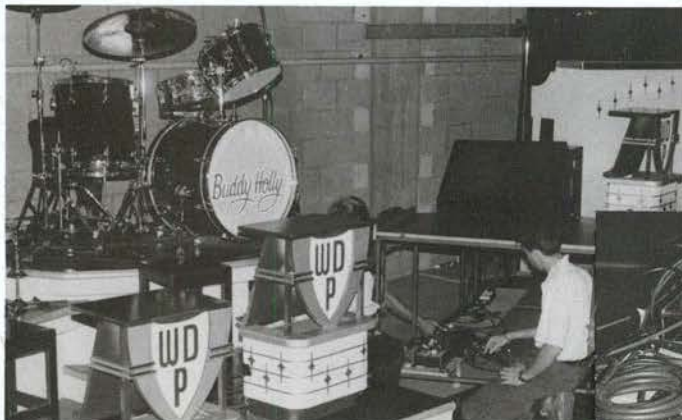
where Rosman punched on the auxiliary send at the exact moment, to send the immortal words, "Rave On" to the device. It then produced the long decaying echo, a masterfully timed



Foldback engineer Rob Baumanis at work. 62 inputs to 17 sends ... it's busy!



Wedges are under the floor; can you spot the Shure SM91 float mic's along the stage front?



Every cart is pre-mixed and wheeled into place. Inset shows the mic connection box with multipin connections at the ready.



JBL in the theatre: 2 x AP 35 and single 18" sub, (music system) and 3 JBL 4726 Soundpower cabinets (Vocal system)

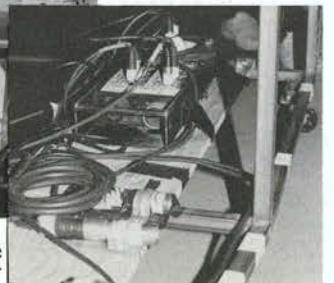
and often tricky effect.

The 87 inputs include 4 different drum kits bolted to risers with "invisible" Countryman Isomax mics, 7 Shure SM91 "float mics" along the front of the stage floor, and Wireless lapel mics in actors hair. Everything is miked, with only the SH 55 mics in view.

Everything is turned off at the FOH when not in use, with so many channels - many of them phantom powered - the potential for handling noise, pop's, booms, bangs, and farts is very real.

The foldback is also an eyeopener, engineer Rob Baumanis's role including supervision of the two sound riggers John Rutledge and Tony Palmer, who load and connect the carts and are kept very busy during the three hour show. Boumanis mixes foldback on a pair of Jands 32/12 consoles. One of his charges is a Fender amp head, sitting on the floor next to the consoles. The idea is, Buddy's guitar is DI'ed on stage, then runs into the Fender head,

from which the amp output is fed to the mix. It sounds a lot more natural with valves in line, and "grungemaster" Baumanis can ad-



just it to suit Rosman.

17 separate foldback sends from 62 inputs - most obviously, the front foldback wedges are under grilles, and a pair of Jands SLP monitors provide sidefill, while JBL Control 1's are hidden almost everywhere. There, there is the remote room.

At one point in the show there is a scene where the audience are backstage at the Apollo Theatre. To stage left, an invisible band plays. A tape, you think. In the interests of production purity and authenticity, the producers insisted a real band play the scene. Thus, downstairs is a mini studio, where cued by a video monitor, the cast band play the scene. Foldback to these players is essential, they each have a headset fed by a little Yamaha AM802 mixer: ten mixers, ten headsets. Each mixer has a voice and piano mix on one input, and the rest of the band on the other, so the muso can adjust his/her level and EQ independantly. Peter Ratcliffe designed this for Chess the Musical, and it works very well. It'll be the standard for Jands theatre shows. "If there's one aspect of the production that gives me grief, it's this room, musicians wanting more of this, less of that" said Baumarus.

A truly "seamless" audio production by Jands Production Services

Buddy. Her Majesty's Theatre, Sydney.

Bookings: phone (02) 212-3411 Picture by Roddypix

## Greg Rosman

Greg Rosman recently mixed BOH for Robert Palmer, and his mates UB40 on their respective world tours. "The last trip overseas almost killed me, so spending 12 months working at home on Buddy is a godsend. It's good experience too". Rosman started his career in Adelaide 25 years ago, with the infamous Headband. ▲



Next month we feature Communication Systems, & the Clearcom system used in Buddy.



# Buddy

## Lighting Designer Roger Barratt, explains his role.

Roger Barratt is probably the leading Theatre Lighting Designer working in Australia today. He joined the Opera in 1969, and today is lighting about 2 shows a month. When we spoke with him, he was in the process of lighting Jerry's Girl's had just lit the entertainment side of the Grand Prix on Gold Coast, a party for Cammeron Mackintosh in Brisbane, and was about to go to New Zealand to light an opening night party.

Buddy is a fun show, doing great business, which'll run in Sydney for a while then go to Melbourne, then tour. Barratt explains the process of lighting a show like this:

"I saw the show in London, but I didn't pickup the London design. There were only a certain number of holes in the grid where the spotbars could fall, we moved the show about a metre and a half upstage because the sightlines here are not so good, things changed. I treat it as two different styles, one is as a play, and the second is a musical - colour and movement."

"I talk to the director-ask what style, establish it isn't hi-tech. No Vari\*Lite's, no moving light systems, I establish what needs to be lit, what doesn't, The acting area has to be front lit, backlit and crosslit, you just build up, bearing in mind the physical restriction on where you can put equipment. I discussed with the production manager whether we would put a front truss out, he said he'd prefer not to - the Theatre doesn't lend itself to that - so I came in at about 250 lanterns, which is a good size, not a big budget."

"I use 3 followspots, open white HTI

longthrows, for a really crisp white look, to make the Buddy Holly character stand out. I've got Colourset Scrollers in the grid which are focussed around the centre mic for the concert (at the end part of the show) with saturated colours, along with steel tints, straws, light pinks, heavy steels which are used in the non-musical section. I enjoy musicals, they're fun."

"Once I draw the plan, I give it to the Theatre Electrician, who prepares his circuit allocations and plots. It's a very efficient theatre here, excellent staff, Graham Harper and Martyn Richards have been working together for about 25 years. It's a good working theatre, with 1500 seats and a good working stage. It's owned by a company called Empire Talkies."

"The theatre staff put it in, once the set is in position I'll come and focus it, then it takes about 2 days to go through each scene and each lighting change to make it work, once it's lit we're into tech rehearsals, we do a dry tech where we rehearse the scene changes without the cast, then we add the cast and do a piano run, then add all the instruments- about 3 or 4 days of adding elements, then dress rehearsals, 2 or 3, then previews. Maybe 6 previews, then you open. Martyn Richards is operating the show."

"I sign it over at opening night, then come in for production meetings maybe once a month, watch the show every six weeks or so, I see it as my role. Other designers probably don't monitor the show once it opens, I do, it's my name up there. I like to keep the standard."

Barratt owns apparatus, his equipment lit Buddy, as well as the house rig. He uses whatever is available first, including Patt 263's out front, "I didn't need a big punch there", with Patt 243's and Patt 60's on stage amongst newer types. As to owning his own rental company: "No other designer does. Overseas, designers are paid a royalty, here you get a flat fee". He owns over 1000 lanterns, which are looked after by Tony Davies of Chameleon Touring Services. Davies provides Barratt with an infrastructure, rigs some shows for him, it is an association that goes back quite a few years now.

"I've got 500 1k profiles (the most usefull lamp in a theatre) including about 200 Prolights & 200 leko's, along with 100 1k P.C.'s, 100 1k Fresnels, 6 followspots, various other types, an ETC Microvision and a Strand Gemini for control. I don't own dimming, most Theatre's have their own."

"The one golden rule is "Light it for what it is", people need to see faces. If it's night time and it's raining, light it that way. If it's a one night stand that no-ones going to remember, forget the grand spectacle. Be economical. Here we are using equipment that's up to 30 years old".▲

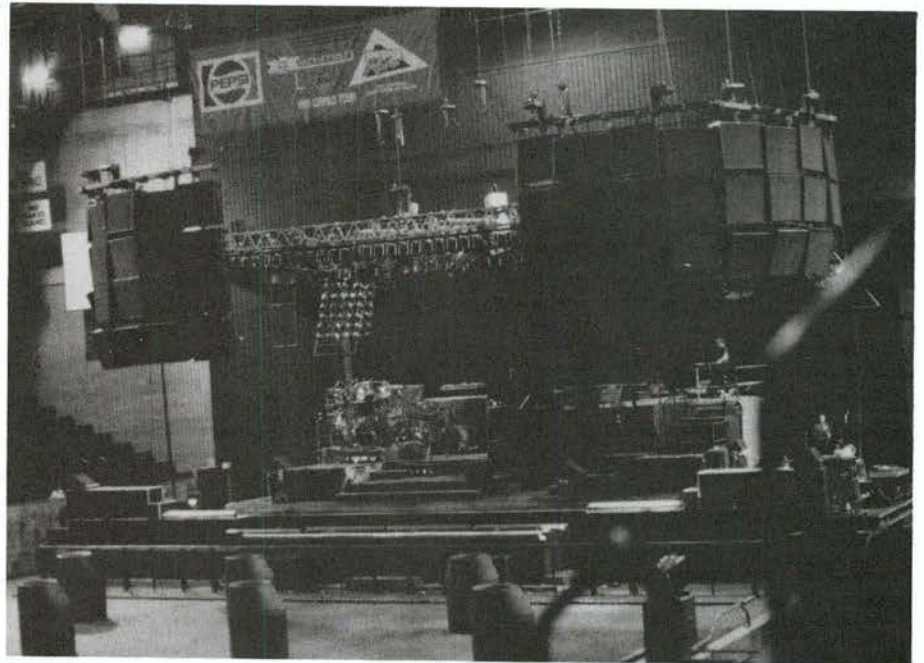
# Hammer time!

M.C. (The Man) Hammer commands a devoted audience, and a large one too. The Man sold out two nights at the Sydney Entertainment Centre. Channels experienced show number two, on Friday 22nd March 1991.

**D**ont Hurt 'em, Hammer", a catchy theme and one of the nine raps that made up MC Hammers show was preceded by a monologue about protecting little children. By that time, late in the hour and a half show, many of the very young audience had taken a breather outside. "Hammer's MY MAN", said Mike, aged 9, from Baulkham Hills. "Gee, it's LOUD, though".

"We're implementing, in a rap show, a live band, some DAT material, and live vocals", according to L.A. Soundman, Tim Colvard. The P.A. was the Clair Bros. S4 MK.II rig (reviewed in Channels Issue 2) and consisting of 56 S4 cabinets, flown in left and right stereo configuration. The rider received by Jands Production Services also called for subwoofers. 24 A.C.T. Concert W Bins were stacked on the floor in front of the stage.

The result was the most pulverising bottom end I have ever experienced. It rumbled and shook, to the extent the writing on the mixing console facia became unreadable due to vibration. The Video camera image shook with the lowest passages. Colvard sent signal from an auxiliary output of his two Yamaha PM 3000, 40 channel consoles to the subwoofers. That way, he could just assign what he



wanted to the subs, and send the rest of his mix to the main system.

By sending digital programme only and not having any open mic's routed to the subs, it was possible to just run them flat out. The Valley People limiter sitting across the sub signal lit up like a christmas tree, the JX 5 crossover providing sub 150Hz simi-

*📷 The scene; check out the hollow concrete tubes on the Dance Floor. The 24 ACT Concert W Bins are stage left and right (front). They work.*

larly flashed the message. The message was, "It's loud". How loud? "About 125dB SPL at the desk", explained Colvard.

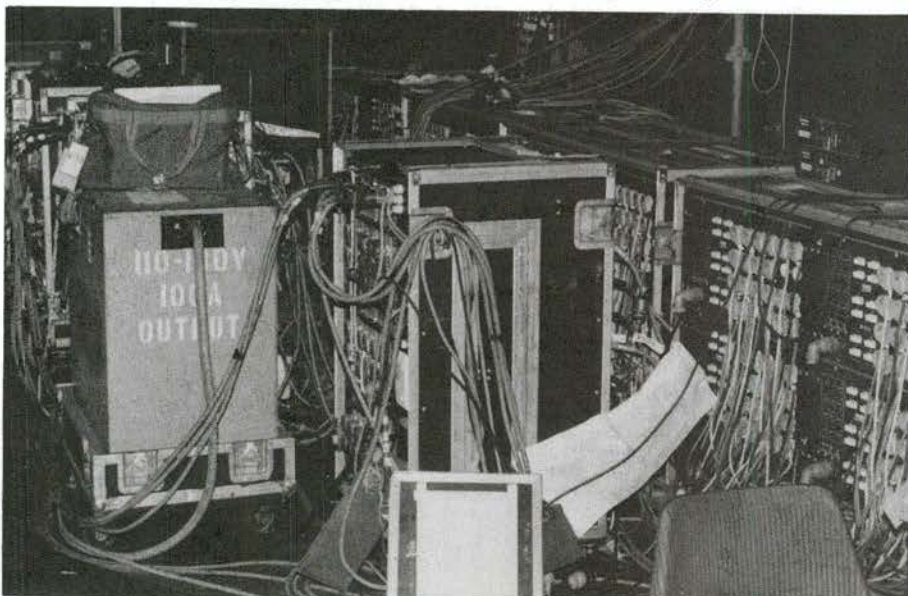
Hearing loss is a concern, "I try to keep backstage during the warmup act, then come out in about the last five minutes. That way, my ears don't go into shock when Hammer starts". Ominous advice.

Hammer has been using a Manifold system in the Northern World provided by D.B. Sound of Chicago Illinois. "The Manifold seems to have a brittle

*(Continued page 12)*

## 📷 "Dimmer City"

*Back row: 48 way touring racks of Jands JR 12/2.4 dimmers. Centre + far left (background): 3 x Jands Multipak - 36 touring racks. (A total of 300 x 2.4kW dimmer ch.) Left front: 3 phase 100a, 240v to 110 - 130v stepdown transformer for U.S. stage gear.*



# Topstage

## PRODUCTIONS

LIGHTING & SOUND FOR ENTERTAINMENT

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<b>Speaker Cabinets- per cabinet</b>	<b>\$</b>
JBL AP 91 15 & horn (6 units)	900
JBL AP 25 composite (4)	1500
JBL Control 10 (2)	900
JBL Control 1 (1)	175
JBL AP 22 (2)	500
JBL AD 44 Satellite (4)	2000
EV 3 way 15 passive (2)	750
JBL AP 51 monitor wedge (4)	700
ACT Concert W (2)	750

#### Mixing Consoles

<b>Mixing Consoles</b>	<b>\$</b>
Inkel MX 1200 12 Ch. (2) - new	800
Jands JM 10/8 (1)	1000
Jands JM 10/16 c/w case (1)	1600
EV 5212 c/w case (as new) (1)	1300
Soundcraft 400B 24 monitor (1) c/w case in as new condition	9500

#### Powered Mixers

<b>Powered Mixers</b>	<b>\$</b>
Tapco Entertainer (1)	1500
EV 61 PM powered mixer (1)	1200
Ross PC 8400 powered mixer (1) -new	1450
Anchor AN256 Mini PA (1) c/w speaker and carry case - new	700

#### Amplifiers

<b>Amplifiers</b>	<b>\$</b>
Jands M600 (4)	900
Australian Monitor AM 1600 (6)	2500
Perreaux 3000c (1)	1200
Inkel MA 410 (3) - new	700
Redford 250 watt Mono - new	400

#### Miscellaneous Audio Equipment

<b>Miscellaneous Audio Equipment</b>	<b>\$</b>
Cutec DT300 Turntables (4) - new	450
JBL Studio monitors 4311 - 1 pair ex production equipment c/w swivel wall/ceiling suspension brackets	1500

#### SOUND EQUIPMENT

<b>Signal Processing</b>	<b>\$</b>
White 4650 EQ (10)	1000
YDD Digital Delay (1)	4500
Digitech Time Machine (1)	500
DSP 128 Plus (2)	500
Audio logic MT 44 Gate (1)	500
Rane SP 15 Parametric EQ (1)	1100
Jands JX 7 Crossover (2)	500

#### Microphones

<b>Microphones</b>	<b>\$</b>
Eleco 200MHz Diversity c/w lapel and handheld mic in roadcase	900
Other Microphones (Call) from	100

#### Portable PA Equipment

<b>Portable PA Equipment</b>	<b>\$</b>
20 watt battery system c/w extension speaker	500
Anchor Liberty 4500	2000
Anchor Ensign Lecturn	2000

#### Public Address Equipment

<b>Public Address Equipment</b>	
All equipment brand new	
Inkel PA 1 Background Music system	1000
Inkel PA 3000C amp/cassette /tuner	800
Inkel PC 3300 Auto cassette deck	200

#### Speakers

<b>Speakers</b>	<b>\$</b>
JBL 2225 (9) -as new	340
JBL 2202 (1) - new	300
JBL 2118 (2) - new	250
JBL 2240 (1) - new	450
JBL K140 (1) - old	200
JBL M112 (2) -new	120
JBL M110 (1) -new	100

#### Rigging Equipment

<b>Rigging Equipment</b>	<b>\$</b>
Gas Genii Towers (2) c/w cases	120

#### LIGHTING EQUIPMENT

<b>Lanterns</b>	<b>\$</b>
Complete with lamps	
Strong Xenon Trouper	
700 watts (1)	4000
Colourtran 1200w HMI (2)	1500
Minuette Fresnel (16)	130
Minuette PC (2)	140
Minuette Barndoors (16)	40
Minuette flood (8)	110
Quartzcolor Mini Iris (8)	150
Minuette followspot (2)	500
Strand Prelude 28/40 (8)	250
Strand Prelude 16/30 (8)	250
Starlette 1000 fresnel (8)	300
Starlette 1000 PC (4)	300
Starlette barndoor (8)	60
Silhouette 1000 30 profile (12)	300
Silhouette 1000 25 profile (12)	300
Model 243 2000 fresnel (4) old	150
Par 64 alloy (24)	100
Raylight alloy (24)	110
Tomato Growing Lights (8) 400w	100

#### Lighting Control Equipment

<b>Lighting Control Equipment</b>	<b>\$</b>
Strand Model 3 (1)	250
Jands Fourpak (4)	600
Jands Stagemaster 12 (4)	500
Q Engineering 24	
Rock Board (1)	1000
Strand SMC 12 (1) recondit.	300
Jands ESP 36 (1) as new	3300
Jands Instinct 48 (1) new	7800
Jands Instinct 60 (1) new	9660
Jands Analogue Roadpak (2)	1300
Jands Digital Roadpak (3) as new	1700
Rock Rack (1)	900
Light Processor Commander (1)	1000
Zero 88 Mercury (2)	1100
Zero 88 Touchlight 12 (1)	500

#### LIGHTING EQUIPMENT

<b>Disco Effects Systems</b>	<b>\$</b>
High End Systems Intellabeam and Controller- package of 4 - as new	30,000
Martin Roboscan 804 (4) new	1500
ClayPaki Astroraggi (2)	1500
Coemar pictor 500 SN c/w Fx disc (1)	1000
Solar 250 Fx projectors c/w disc (2)	250
Satel Baby Kum (1)	1000
Coemar bellos (1)	1400
Claypaky AstroDisco (1)	2000
Coemar Galaxy 12 (1)	1200
FAL Alligator (1)	1000
Satel Magic 3 (1)	350
FAL Multibeam (1)	1000
FAL ET (8)	100
Optikinetics Par 56 S/Scanner, package of 4 units	1000
Martin Junior smoke machines (4)	600
Martin Magnum smoke machines (2)	850
GEM ZR 20 Smoke machines (2)	850
GEM Smoke detector c/w controller	1450
Mode Arcline (16) the real UK stuff	175
Mode Arcline multizone controller	700
4 channel strobe chaser (1)	200

#### Video Equipment

<b>Video Equipment</b>	<b>\$</b>
Hybrid Nine Video switcher (2)	550
Fairlight Video Entertainer (1)	4000
Vidikron TGS 200 Projector (1)	8000
Vidikron TGS 100 Projector (1) - new	7000

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# Hammer Time

(Continued from Page 10)

high end around 2k, 2.5, real brittle, it's very hard to get out sometimes. The S4 is a lot smoother up top. Manifold moves more air with less boxes, however."

Across the 80 input channels were a variety of things. A couple of 808 drum machines, a bass synth, keyboard left and right, couple of sample lines, couple more keyboard lines, bass guitar, more keyboards, DJ "scratch mixer" send, horn section of trombone, sax and trumpet, 8 vocals, another sample line, guitar, something called "PRAY LINE", effects returns, double drum kit, percussion, inputs from the video player used at the start of the show, and about 20 channels put aside for the support band.

Around the venue the sound suffered from the overwhelming digital bottom end attack, but up at row V, just three rows from the back, it all balanced itself out OK. In fact, Sarah Grafton, aged 14, thought it was loud enough in Row V, and she likes loud. Hammer's vocal was intelligible from most seats, but not down in the (flat floor) General Admission zone.

Interestingly, a dozen or so concrete tubes about two metres high



were positioned around the dance floor. "We put a guard in each one with water to spray on the crowd", according to Colvard. The effect of 24 W bins and hollow concrete tubes proved a bit much for the guards however. The security effort had to be seen to be

**"Hearing loss is a bit of a worry"**

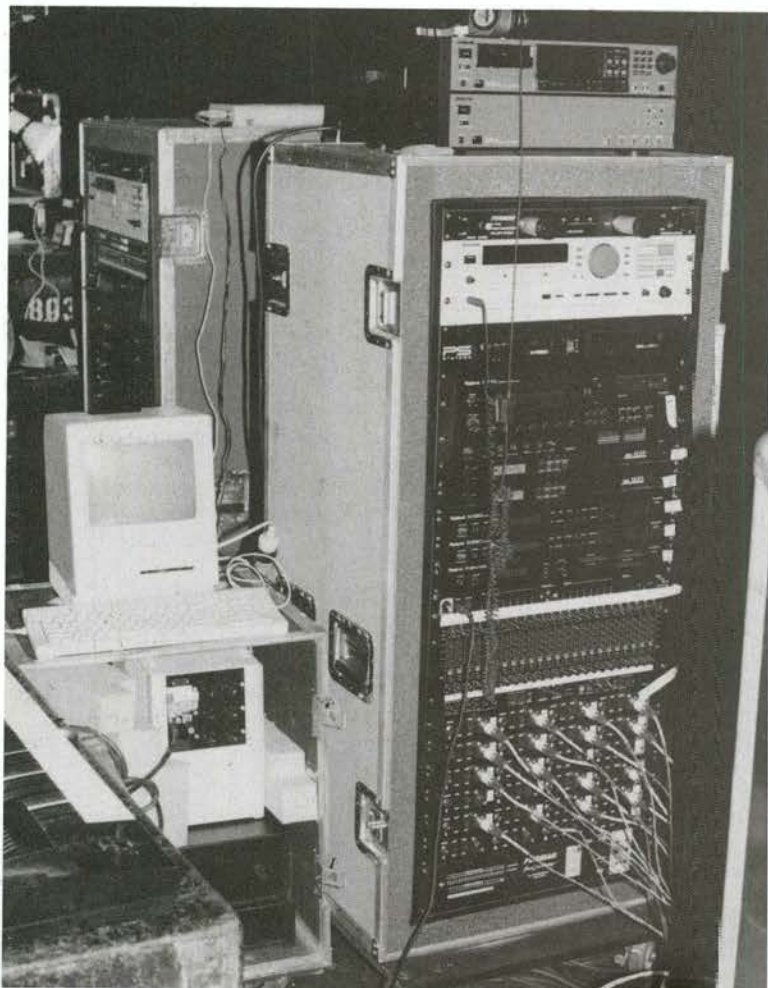
believed. Every entrant to the General Admission zone was searched, unhappy looking Police were prowling the dance floor.

The profusion of Digital inputs gave foldback engineer Tray Klein

plenty of scope. The foldback was most definitely working, and getting over the house sound on stage. The whole foldback rig came from Chicago, lock stock and Ramsa 40 channel desk. 12 sends were used, sidefill had subwoofers and front wedges were under a grille for neat sightlines. "It's an extremely loud foldback mix, the hard part is getting it there", said Klein.

On stage there was a lot of action. Backstage, these two workstations provided a lot of the sound input. The white device near the top appears to be a Panasonic VCR, providing a long play audio track. Then there's a few samplers, and..

L.A. Soundman, Tim Colvard last visited Australia with Tracy Chapman.



"The Ramsa is great, but it doesn't have mute groups or VCA sub-grouping that I would really like to have on a monitor desk. Although I could have got a Ramsa from Jands, we did New Zealand last week and are doing the Tokyo Dome next Tuesday and Wednesday, so it's just easier to carry the same desk and dial it up once." Equalisation is pretty simple, because so much of the programme is Digital, most of the sends are just equalised to Hammer's vocal mic, I do whatever I have to do to get it loud enough".

L.D. Troy Hansen from Minneapolis Minnesota was ably assisted by a Vari\*Lite operator, and a

**"Suddenly the crew donned industrial ear muffs. Then, it happened."**

colour changer operator. Troy operated the Avo board, and called the eight followspots. He had the Video crew on talkback too, so his Clearcom was a party line system indeed. The Lighting was designed by a fellow named Merrill McLean.

"Originally, the light rig was designed a little too big to be travelled the way we were in the United States, we were doing too many shows. The de-

sign concept is a basic square, some asymmetrical design with the diagonals. There are three structures that mildly resemble hammers". These were sections of truss dressed in gauze, that descended towards the end of the show, and went up and down, with lights inside them and hung beneath.

"There's a lotta wash, there's so many people on stage (up to 40). We did three days pre-production before the tour in Louisville Kentucky, then we had to do a fair bit of adjusting on the road". Hammer's light rig has been supplied in the North World by Light and Sound Design of Birmingham U.K.

"In a word, the lighting system resembles two or three truckloads of disco lighting. It's a very live show, big on Vari\*Lites." The other element worthy of mention is the Pyrotechnics. There were some very rude percussive explosions that managed to be very evident over the top of the sound. It came as a surprise, suddenly the stage crew donned industrial type earmuffs. Then it happened. Also used were every possible variety of air burst, starburst and spark showering pyro you can imagine.

It's 1991, music trends come so fast you can miss them while on holidays. When they are accompanied by strong production values like Hammer has, well and good. The next fadder has something to live up to.

Pics by Roddypix

## GLOSSARY Biz talk **A B C**

**E** Effects Projector: optical projector for effects as diverse as clouds, rain or even pyrodella.  
Electrical tape: don't use Gaffa to insulate electrical connections or...  
Ellipsoidal Spot: a Profile spot.  
Engineer: a sound engineer: needs no diploma, just a good 'eer.  
Equalisation: the process of modifying the amplitude and frequency response to produce flat overall response, minimise noise or create an artistic effect (thanks Ozzie).  
Echo: sound that has been reflected or delayed.  
Eczema: a nervous rash usually found on tour managers.

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**FIRST in lighting**

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# AN INTRODUCTION TO STAGE LIGHTING

## Part 1

By Michael Tanner\*

Stage lighting is an integral part of the stage picture and should be given special consideration by the director and lighting director during the production. In order to light a show effectively, the lighting director must be both artist and electrician. He or she should understand the use of electricity generally, and should know all of the various characteristics of stage lighting equipment.

The most important consideration of the lighting director is visibility - let the audience see the actors or the show. Not until this requirement is satisfied should he go on to consider the subtle refinements of light and shadow, colour and intensity that add to the overall effect of the production. As a starting point, consideration must first be given to the frontal illumination of the act.

The standard method of planning this is to draw a floor plan of the stage or typical stage area and layout the general areas of the setting, where most of the action will take place. These are the areas then given the most intense lighting, normally through the use of profile or fresnel spotlights, or in the case of a rock and roll, a Par 64 with the appropriate beam shape lamp.

The rest of the setting is blended by the use of back and side lighting for softer illumination which gives modelling (shape) mood and effect. The choice of lighting fixtures to accomplish this we will cover in later sections. Light should be located and focussed with care and colours carefully selected to compliment the act.

Following is a list of lighting fixtures commonly found in use throughout Australia..

### Profile Spotlights

Profile spotlights provide a very sharp defined, hard edge beam, which can be accurately focussed and controlled. The optical system combining an ellipsoidally shaped reflector, one or more planoconvex lenses and an adjustable aperture. In short the most efficient use of the light thrown and make it possible to have light exactly where it is wanted with no spill onto the surrounding areas.

These lights are usually placed at the front of the auditorium or off the front truss. Theatrically they are used to cover the whole of the acting area whereas in rock and roll and other forms of light entertainment, they are used to provide sharply defined small circular areas of light known as specials. Profile spots range in size from 500 watts to 2,500 watts, with the 500/

650 watt size being the most common. Profile spots are equipped with four beam shaping shutters. These shutters are used to restrict the beam of light from falling onto areas that are not required to be illuminated or for framing a particular object on stage.

Other beam shaping devices used in profile spots include:-

### Iris/Aperture Plates

These devices are used to provide a circular beam shaping with the iris providing a variable circular aperture and the aperture plate providing a fixed circular size.

### Bush Lighting Tip No. 1

To provide a small diameter circle of light in your profile spots without the use of an iris, cut a piece of shim brass or 1mm thick aluminium sheet to fit within the gate runners of the profile spot. Drill at the centre of the piece, a small hole starting with a hole about the size of a 5 cent piece. Place the finished plate within the gate of the spot light and flash it up on the wall. If the circle of light is the correct size for your application, great. If however, the hole needs to be increased or decreased in size, remove the plate, allow it to cool then drill out the hole or in the case of reducing the beam, cutting a new piece of metal and drilling a smaller hole than that with which you started.

Profile spots may also be used to project patterns. A range of stock patterns are available with designs such as trees, church windows, venetian blinds and city lights, to name but a few. Gobos are usually manufactured from thin stainless steel that has been photographically etched to create the image. Gobos are usually inserted into a carrier known as a gobo holder which then is inserted within the gate of the profile spot.

### Bush Lighting Tip No. 2

If a gobo is required for a particular performance, gobos may be simply manufactured using the following method:-

First cut a piece of shim brass or aluminium plate to the size of the

gate runners. Ensure that sufficient material is allowed so that the top of the gobo plate stands 1" to 2" higher than the top of the gate slot. You will need this to readily insert or remove the gobo from the gate runner. Next sketch the pattern onto the brass or aluminium plate, remember simpler patterns are easier to cut out. Next using either a drill or a file, cut away the areas marked from your original artwork on the metal. Remember, the image will be required to be upside down and back to front so care should be taken when cutting the image on the gobo plate.

Note: Most modern profile spotlights create significant temperatures (like 500 degrees!) particularly at the gate which is the focal point of the reflector. The selection of gobo material should be as stated, aluminium plate or shim brass or any other metal with a high melt point.

I cannot stress how important this point is, as in the past I have discovered people using aluminium softdrink cans as their source of material for gobo plates. The downside of this course of action is that as the profile spots are usually mounted at the front-of-house, if the thin aluminium or thin tin plate used were to melt, hot metal may drip down the back of one of your audience members necks.

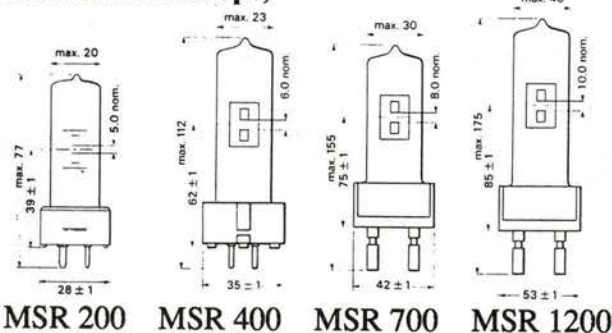
\*Mike Tanner is Lighting Products Manager for Jands Electronics Pty Ltd.

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<b>AMPS</b>	<b>\$</b>	Mixer Paul Kirk 1/04 broadcast desk, 2 desks can be slaved together	3,500	<b>LIGHTING STOCK IN THE CARTON EX DEMO</b>	
Jands 150w blue amp	125			ESP 24 channel memory desk	2,950
Clair Bros. black front Phase Linear Series II be quick limited qty each:	1,200	<b>EFFECTS, ELECTRONICS, CASSETTE DECKS</b>		ESP 48 ch memory desk	5,000
Rack of 4	5,500	Yamaha Rev 7	900	Quadfloor	300
Perreaux 6200	1,600	Eventide 949 Harmonizers	3,000	Digital Roadpack dimmer rack	1,700
Perreaux 5000B with meters (2)	1,300	Klark Technic DN 22 stereo single octave equalisers	600	Multipak, 12ch analogue	1,257
Jands J920 w/biamp stereo 800Hz function EP 4 output, transf. balanced	1,400	PAS 2 way notch filter	150	DDX 48 demuxer	795
BGW 750	1,200	Rolamnd 555 Chorus Echo	200		
<b>EX DEMO STOCK AS NEW IN CARTON</b>		Yamaha DEQ 7 Digital Equaliser/delay	900	<b>MICS, MULTICORES</b>	
Mosfet amplifiers		Aphex Aural Exciter type C	425	Shure SM 58 mics new	237
Jands 216 (800 + 800w)	2,000	Lexicon Prime Time	650	Shure SM 57	229
Jands 516 (800 + 800w)	2,350	Lexicon LXP1 (two off) & Midicon, complete:	1,550	AKG D12 kickdrum mic	150
Jands 510 (500 + 500w)	1,950	DBX 165a comp. limiter	900	Sennhiesser MD 441	400
Jands M400 (200 + 200w)	1,100	Renkus Heinz X1 processors	1,100	Beyer M500	300
Jands 107 (335 + 335w)	1,100	Yamaha K950 Cassette Deck r/mount	250	Shure SM 56	150
		Alpage cassette deck exc cond r/mount	400	AKG C451/CK-1 or CK-5	
<b>SPEAKERS AND BOXES</b>		Yamaha K2000 cassette deck r/mount	500	10dB and 20dB pads	350
Australian Monitor F500, pair:	3,200	Yamaha CDX 1 CD player	150	Beyer M88 Best kickdrum mic	225
Australian Monitor S600 subs 2 x 18"	POA	Sound Developments active DI	130		
Turbosound TSW 124 subs, pair:	3,000	Jends SM 2 DI	120	<b>MUSICAL, BACKLINE</b>	
Jands AP 35 (TMS 3 copies) pair:	6,000	Tascam DA 50 DAT recorder nr new	2,550	Keyboard amp Jade 70w	450
JBL 2205 8 ohms	250	8 way headphone monitoring		Yamaha DX 100	200
JBL K120 8 ohms	200	loop 4 channels w/indep mix controls	125	DSK EMQ1 module	250
JBL 2441 16 ohm h/f driver	600	White 140 Analyzer	1,500	FM Sound Generator	300
Wedges with 2 x JBL 12" & 2470 horn, 3 for \$2,250 or price each:	750	<b>LIGHTING</b>		Basthead Peavey MK 4	900
R3 cabinets with Renkus Heinz flair for 2" driver, no drivers. each:	600	17 Motolights, 26 transformers			
JBL 2225H 8 ohms	350	8 Leko adaptor plates, all working.		<b>ROADCASES &amp; MISC</b>	
JBL E145 16 ohms	275	15 Motolights & 6 transformers not working. The lot	3,350	Phase Linear 16 unit amp racks with ABS case and mains distrib. 4 fans:	POA
SLP Wedge Renkus Heinz 2" flair no drivers	225	Prism lighting chaser	100	Jands 16 unit FX rack, timber, with ABS case	400
Northwest flairs (Ex TMS 3 cabinets, cutdown sides)	200	Jands chaser	100	4 unit wooden sleeve	40
Piezo tweeters 100w (wooden panel)	15	Assorted 3 phase leads 45/60/80 & 100 amps. various	POA	12 unit ABS rack (no front or back)	50
New R4 cabinet, empty	500	1500w floods, no bulb	50	4 unit wooden sleeve (small)	30
18" sub-low cabinet, empty	125	Ultra Arc short throw spots with ABS case MK 350 bulb	1,200	24 unit steel electronics rack w/fan cooling	POA
JBL 2425 1" drivers	300	Lycian Longthrow follow spots w th ABS case MK 350 bulb	1,400	Pomona Rack fans (high output)	25
<b>DESKS</b>		Ultra Arc Longthrow followspot w th ABS case MK 350 bulb	1,400	Roadcase, ABS damaged top	100
Shure 4 channel,	80	Chain Motors and rigging, 1 tonne		Roadcase ABS damaged bottom	100
Soundcraft 200 24-4-2 in roadcase	6,000	Loadstar, each:	3,350	ABS 7 unit sleeve/case	200
Soundcraft 400B mixer, 24 ch foldback	9,000	10 way controller and cables	2,500	Rosco smoke case damaged side	60
Yamaha DMP 7 8 ch digital mixer with MLA 7 8ch mic to line amp	3,500	Genie Superlifters each:	2,000	ABS profile spot case 5 hole, damaged	125
Yamaha RM 602 6 channel rack mixer	300	or 8 Chainmotors, controller and 2 x superlifters, the lot: for	30,000	36 way dimmer case complete	200
Yamaha MR 1642 16 ch mixer	2,000	Pett 23	135	36 way dimmer shell	60
Yamaha PM 2000 24 ch with ABS roadcase & power supply	16,000	650w profile spots	150	Lycian f/s case (damaged corner)	100
Yamaha PM 2000 32 ch with ABS roadcase & power supply	21,000	500w fresnels	135	Orange Headphones (Sennhiesser earp)	130
Yamaha PM180 6ch balanced rack mount mixer	450	Strand 5k dimmer rack	1,500	Sennhiesser HMD 224 dual muff intercom headset	100
		1 x Jands JL 36 lighting desk in roadcase, with 2 strand dimmer racks in roadcase the lot:	3,000	New Sessions black carpet roadcase on castors (for a 5 piece drumkit)	500
				2 roadcases, 1 single, 1 double alloy amp case. pair:	400

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# Great Mistakes

The promoter rang at a quarter past six on Monday evening. It was snowing outside the cottage, and I was jet-lagged. "Yes, Lithgow on Friday, Dubbo on Saturday," with some band I'd never heard of. The P.A. was going back to work, and I was not very into it. Just a few days previously, after all, I had been Windsurfing off the beach at St. Tropez. Summer in France, Winter at Yetholme.

While catching up on events during the week, the Promoter rang again. "Sorry, there's been a small change" he said, this being the way of Promoters. "Lithgows out, the gig for Friday is the Empire Hotel at Cowra", he said with what might have been a touch of nervousness in his voice. Acting on autopilot, I noted this, and the phone number of the Hotel, in the diary. Then I put the whole thing out of my mind.

Friday came along, and the faithful offsider appeared on schedule at 2pm. "How long will it take to get to Cowra?" he enquired. "Oh, hour and a half, we'll leave at 3, setup at 5.30 and eat at

6.30". The eating part was always the highlight of our night. "Better call the Hotel and ask if they have a Bistro", I said.

Dialling the number, it wasn't connected. Funny, so I called directory assistance. "No listing of an Empire Hotel in Cowra", came the reply. But ... back to the diary, and ... hey. HEY ... look at the STD prefix. It isn't 063, it's 068 !!! Dialling the number, sure enough, "Empire Hotel, COBAR!"

The voice on the other end of the phone was patient whilst I pulled myself together, trying to visualise just where the hell Cobar actually was. I told the nice Lady we were with the Band, and might be a little late. She turned feral: "Listen, MATE, last time you were here you were late, get it together", and hung up. We were beside ourselves, moreso when offsider found the map.

The Urvan was loaded to the roof with PA and Lights, the two guys in the front seat were in an advanced stage of panic, and the sun was low over the

plains. Stopping at Dubbo for fuel, it was 6pm, and we snatched a packet of Crisps for dinner. At Nyngan, it was 8.00pm when we dashed through.

Finally, after screaming along the last long plain at 139.5 KPH, we arrived in Cobar. The Band were pleased to see us. The Publican was pissed off. The audience were just plain pissed. Setup commenced at 9.30, and the band started at 10.05pm, playing without a break until 11.59pm.

The lady with the money didn't want to give it to the band, who called in yours faithful to negotiate. What a haggale. A compromise was reached after the lady had dialled our Motel to cancel our rooms. We took what was offered.

Funny enough, the gig the next day at Dubbo was at a Club. Not your average everyday RSL Club, with Restaurant and Poker Machines, but a bike club, with a small corrugated iron shed and a lot of hairy guys.

Send us your story! P.O. Box 171, St. Peters N.S.W. 2044 Fax: (02) 517-1045

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