

Channels

Free

The professional sound and lighting magazine

No. 2. 1st. FEB. 1991

New Clair Bros. PA here

Jands debut S4 MK.II

Jands Production Services has obtained the latest Clair Bros. P.A. system, identical to the many Clair systems on tour in the Northern hemisphere. Following the buyback of the Concert Production Company from Samuelsons recently, the desire is to "be able to service clients with the forefront of new technology", according to Peter Ratcliffe. Jands has obtained a complete Clair system, including foldback and has also purchased new Ramsa WRS840, 40 in, 18 out, foldback consoles.

Trip Khalaf, Clair Bros. senior System Engineer commissioned the system at Kuranda, on the final leg of Midnight Oil's world tour. The system was handed over to Jands Production Services and their System Engineer Michael Waters, after an extensive briefing on procedure. Clair are very methodical and aloof as to exactly how their new S4 MK. II composite speaker cabinet is loaded.

Based on the famous S4 composite cabinet, the MK. II is loaded with new proprietary JBL components. The new version is configured similarly to the old, with 2 x 18" (low frequency), 4 x 10" (midrange), 2 x h/f horns on custom flairs and 2 x ultra-high "slots". All componentry is J.B.L. and the high frequency drivers are understood to be a close derivative of the 2450 neodymium 2" throat unit, which is about a third of the weight of the previously utilised 2445.

Clair Bros. has links with JBL going way back to 1966. They have assisted in the



F.O.H. drive rack, with the T.C. Electronics Digital Equalisers at top, DBX 160 limiters, (still the best for the job), and proprietary processor at the bottom.

development of high powered transducers, and with over 800 S4's in service around the world, Clair usually specify what they want in their transducers. The response from Trip when questioned was: "These are proprietary components". Next subject!

Unlike earlier S4 systems, the MK II system utilises a proprietary (that word again!) crossover, which is known to perform time alignment of the cabinet components, and possibly, at a guess

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Channels

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AUX 1 >

the people column

A certain West Coast U.S.A. Concert Production Company is rumoured to be very unhappy that a Sydney Concert Production company is using its name. The U.S. company was visited by the Sydney operator before he setup his business, and he was afforded great hospitality, and shown the big picture by the genial Americans. Upon return he acquired stock and setup shop using the long established and well respected name of the U.S. company, creating the very real possibility of confusion when the Sydney company bids for touring work with visiting American artists. Whilst the Department of Business and Consumer Affairs will allow you to register a business name that is not reserved for use by someone else, caution would need to be exercised in a case like this. The owner of an internationally known trading name can take action under common law if it feels its reputation is compromised. Stay tuned.

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Well known Sydney sound and lighting outlet owner LES JONES has set himself up as Les Jones Designs, specialising in nightclub installations. Les can be reached on (018) 642-351.

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Protecta-case, the Melbourne road-case builder formerly of Richmond, has moved. They are now located at: corner of Pickles & Danks st, Port Melbourne, 3207. The phone number is (03) 646-7181, and fax: (03) 646-7028. Contacts: Cameron Clark (design/construction), Geoff Maher (sales), and Debbie Lavell (admin).

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On a sad note our heartfelt sympathy goes to former soundman Peter Molloy, who lost his wife and baby daughter in late November. Nobody can know how he feels.

Do you have an item for AUX 1?
Mail to P.O. Box 171, St. Peters
2044 N.S.W. Fax: (02) 517 1045.

INSERT POINT

The first issue of Channels was a mad rush, it didn't let on how it came about.

Funny how things turn out. The winds were blowing at the Australian Music Show in August; Jands had an exhibit that resembled a rock and roll gig. Eric Robinson had said "make a stage", something was in the air, some fresh purpose. Across town, Robinson was stage managing the Yamaha Band Contest final, shepherding eight un-signed bands through ten minute changeovers, live on MTV.

News of the buyback of Samuelsons was leaking out, Paul Mulholland cornered me on the stand, we agreed that perhaps Jands hadn't communicated too well during the 1980's, perhaps there was a modicum of misunderstanding in the marketplace.

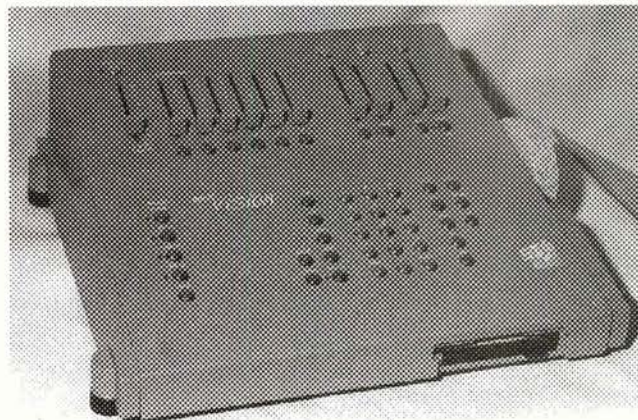
I'd visited the tradeshow to anoint the mind after 18 months living at Napoleon Reef, 3 hours West. Since selling Australian Monitor and Graftons in 1988, the whole industry ceased to be of any importance to me, but life in the bush can retard the mind, Mother reminded me.

So Channels was born, and.. "make sure it's broadbased", they told me. The risk that your eyes will glaze over and your brain fuse whilst reading Channels is omnipotent- if you feel ennuie creeping up, drop me a line. I will then submit to shock treatment at the hands of a crew of loaders. Saddam Hussein's food tester never had it so easy.

Why not contribute to Channels? This is a forum designed to generate discussion, perhaps educate a little, and hopefully entertain. Let me know how we are doing.

Julius Grafton

ETC Microvision, 125 channels



Jands Contracting, as part of its contract to install audio and lighting systems at the Wesley Central Mission in Sydney, will be installing a new Micro Vision lighting control console from ETC/LMI America.

The Micro Vision console is the successor to the popular Vision console, over 20 of which are in use in Australia.

The new console features include six over-lapping pile-on submasters, a proportional fader wheel, and two timed playbacks.

The number of control channels has been increased from 100 to 125, with the number of dimmer outputs expanded to 512.

Options for the system include; Remote Submasters, MIDI Interface, and effects. Additional features of the Microvision include: analogue and digital outputs, remote GO inputs, 200 cue capacity, 3.5 inch disc drive, mono or colour monitor, parallel printer interface, and time clock automation software.

JBL 2450J

**New 2 inch throat
Neodymium driver**



While the "audio standard" 2445 high frequency driver, arguably the most popular 2" throat driver in the world, remains available, the 2450J provides significant improvements in performance at about a third of the weight.

A newly developed Coherent Wave phasing plug assembly, consists of four annular apertures of constant path length providing in phase combining of the drivers output. The new diaphragm design incorporates a series of embossed radial reinforcing ribs, and when combined with the Coherent Wave phasing plug, increases and smooths the 2450J's output in the 5kHz to 20kHz region.

The 2450J is rated at 150w continuous programme above 1khz, sensitivity is 111dB, 1 watt at 1 meter, and weight is 4.8kg.

JBL have announced the 2450J is also the first Neodymium compression driver to be approved for THX Theatre installations. The test process demands the horn/driver combination exhibit natural frequency response closely following ISO Curve "X", so that as little equalisation as possible is required when installed.

The THX qualification process also tests the impedance, impedance phase angle, and distortion characteristics.

RANDOM STUDIO

Jimmy Barnes recently completed tour pre-production, at the Random studio, which is managed by Cadillac Cases.

The studio is used by many concert acts, who rehearse their shows, often with full foldback. Jimmy Barnes takes it one step further, and has everything miked up, with the full front of house mix and effects established within the four walls.

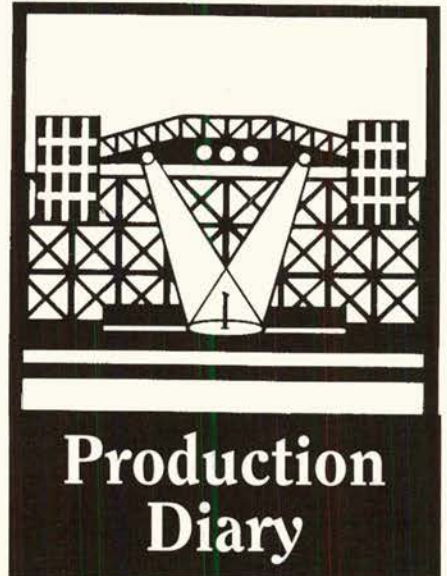
This made for an easy live to air cross during November, when Channel Nine sent an OB van and Barnes performed two numbers live on Hey Hey, it's Saturday! FOH outputs were sent to the OB van, and a satellite dish was put atop some of the 3000 cases Cadillac are building for Telecom. Cadillac's phone number is (02) 317-5633.

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CCT SILHOUETTE



The Silhouette range has had a major re-design. The seven interchangeable zoom lenses have been rationalised down to four, having a new octagonal shape with considerably improved lens control and quick and easy access to the lens. Choices are now:- 11 to 26 degree, 15 to 32 degree and 19 to 45 degree beam spread. The 9 to 21 degree narrow tube remains available. The 1000/1200w lamphouse has been completely redesigned with new extrusions, castings and shutter set. The much improved shutter set is now common to the entire Silhouette range.



AUSMUSIC dominated this very busy period, a simultaneous set of concerts, all simulcast, with 7 or 8 bands/artists per concert

Live sound (F.O.H.) consoles: SYD; 2 PM 3000/40, MELB; PM 3000/40 and PM 1800/40, ADEL; 2 PM 3000/40, 1 PM 916, PERTH; 2 PM 3000/40, 1 PM 2000/32, 1 M 916, BRIS; PM 3000/40, PM 2000/32, M 1532/32, M 1516/16.

Foldback (F.B.) consoles: SYD; PM 3000/40, Soundcraft Series 4, MELB; Soundcraft 8000/40, Jands RD 32/12, ADEL; Ramsa 40/18, Jands RD 32/12, PERTH; PM 2800/40, 2 MC 2408, BRIS; PM 3000/40, 2 MC 2408.

Broadcast consoles came from everywhere, TROY BALANCE CORP, P.A. PEOPLE, AUDEX and JANDS PRODUCTION SERVICES (among others) providing PM 3000, PM 1800 and Soundcraft 8000 series consoles.

FOH SYSTEMS: Jands Production Services provided systems around the country, except BRIS; where the Troy Balance Corp. John Farnham system comprising 36 Meyer MSL-3 with 18 subs, and 22 E.V. Deltamax cabinets were used. In MELB; Australian Concert Productions provided 56 Turbosound TMS 3, with 12 TSW 24 subwoofers, driven by 48 Jands 920 and 12 Jands 960 amplifiers.

Varilight Australia had VL 2B, VL 3 and VL 4 luminaires controlled by Artisan consoles, LIGHTING RIG lantern qty's ranged from 292 (SYD) to 326 (ADEL), CONTROL CHANNELS Typically a 90 channel Celco or 60 + 30, with 3 x 48 way dimmers.

In the Pubs and Clubs, Aust. Concert Productions (BRIS); The Chimes, PM 1800/32 FOH, Turbosound driven by 10 Jands 920/960, 6 F/B sends, Sys. engineer Ray Moss.

Glossary

The **A B C** of Light
+ Sound

B

BAFFLE: the panel carrying a speaker.

BALANCE: known as a Pan control, to pan left, centre or right.

BALANCED LINE: a cable with two signal lines that are isolated from the earth shield.

BARNDOOR: four hinged flaps that fit to the front of a fresnel spot to cut off and shape the beam.

BANDWIDTH: interval between cutoff frequencies, ie: 3k Bandwidth is the space between 1k and 4k.

BLACK BOX RELOCATION ENGINEER: Roadie.

BLACK: a black stage drape.

BLACKLIGHT: Ultra violet light.

BULB: a daffodil. Also known as a Lamp.

BUMPIN: Theatre term for loadin.

BUMPOUT: Opposite to above.

LX SHORT TAKES

CCT'S new 1200 watt discharge followspot has been supplied to the World Congress Centre in Melbourne. The lantern accepts Thorn 1000w CSI or CID lamps, or Philips MSRHR 1200w, and has a reduced power option on the Ballast.

Greater Union Theatre Technology are to supply customised Jands Protech Dimmer racks as house dimming system in the Adelaide Entertainment Centre. The racks will each feature six preset levels plus full and off, remote fault detection, and local plus remote control.

Six Jands Roadpak 12 channel dimmer racks have been installed at the Wesley Central Mission, driven by their newly delivered ETC Micro Vision memory console. (See NEWS, Page 2.)

Cooking corner

In this edition we shall examine a new dish, prepared recently by the crew of a major touring band.

Step 1. Peel and discard packing from digital lighting d/mux units, ensuring the manual is the first thing to go.

Step 2. Fit d/mux unit into top of rack and make sure the three 12 x 2.4 kW burners below it are nice and hot.

Step 3. When lights lock on and don't respond to the control signal from the desk, ring the company who makes the d/mux.

Step 4. After swearing there is no way the d/mux could be heated by the dimmer racks, cajole, importune, urge and grovel until the d/mux maker agrees to deliver a new one.

Step 5. Ring back the maker after 5 minutes, and tell them everything is now OK, as you have put a fan in the back of the rack!

If you, like the erstwhile chefs above, are having problems with your d/mux unit, perhaps the following poem may help:

"When in a rack your d/mux must go, remember to keep them down low,
for when they don't,
we'll say, we told you so,
It's the lights - not the d/mux, that should glow".

-Executive Chef, Michael Tanner

150 POWERLINE AMPLIFIER

Jands Powerline 150 is a high voltage line amplifier designed specifically to drive large numbers of small speakers such as background music systems, and paging systems via long cable runs.

Powerline has three outputs-100v, 70v, or straight 8 ohms, rated at 150 watts, and the input to the amplifier is balanced. A voltage controlled attenuator allows for the remote control of volume or a press to talk switch.

The transformers used in distributed line systems often show low frequency saturation at fre-

quencies as high as 100Hz. In order to produce the best possible sound quality through these devices, the Powerline is equipped with a high pass filter, switchable between 100Hz and 500Hz. The higher frequency setting is particularly suitable for use with miniature paging horns.

The Powerline can be either mains or battery powered making it ideal for emergency evacuation and lifeline systems. It contains an internal trickle charger to maintain a suitable battery if mains power isn't available.



XI SPEAKER SYSTEMS



From Jands- the people who know sound, comes XI. Made here from U.S. manufactured components, designed by Glen Leembruggen, and priced right!

12 X-I SPEECH, MUSIC

12" loudspeaker system \$799*

Power handling: 200 watts, 8 ohms
Frequency response: 70hz to 14khz
Sensitivity: 98 dB @ 1m for 1 watt
Max. short term SPL: 121 dB at 1m

15 X-I MUSIC, P.A.

15" loudspeaker system \$999*

Power handling: 200 watts, 8 ohms
Frequency response: 70hz to 14khz
Sensitivity: 95 dB @ 1m for 1 watt
Max. short term SPL: 118 dB at 1m

Phone (02) 516 3622 for the name of your nearest dealer.

*Suggested list price including sales tax

HELP !

*Send us your problem, and we will try to answer with some kind of accuracy!
Help! P.O. Box 171, St. Peters 2044 NSW*

My question is about JBL polarity. What is red-hot-positive, and what is black-not hot-negative? Why do I hear different answers to this? My keyboard box has a K140 15" bass speaker, a crossover network, and a JBL 2470 horn. Would a change in horn polarity make any difference to the sound?

-K. Dempsey, Manuka.

First, absolute phase is inaudible virtually every time, however it is good engineering practice to maintain absolute phase where-ever possible. All JBL transducers (horns AND speakers) with coloured terminals ARE wired Black as positive, Red as negative. ALL of them. The original reason is not clear.

Predominantly 12dB/octave passive dividing networks are used, the phase shift produced by the network at the crossover frequency is 180 degrees. Thus, the summation of the two acoustic outputs at crossover is zero degrees, or as we say, in phase.

The important thing is not absolute phase, but phase summation at the crossover, which is why many active crossovers have a phase invert switch.

Yes, you can invert your horn phase, yes it may improve the

sound, listen to the audio area around the crossover point before and after.

JBL have a technical note (Volume 1, number 12) detailing this, which we have sent you. Anyone wanting a copy can contact Jands/JBL Australia, on (02) 516-3622.

-Peter Twartz, Audio Product Manager, JBL Australia.

Can I run the Digital output of my Jands ESP lighting control desk down the audio multicore? I was thinking that I could make a 3 pin to 5 pin adaptor for the desk end and the rack end.

-Alan Belmore, Canterbury N.S.W.

Audio multicores aren't suitable for DMX 512 control information, except over a relatively short distance. The further you go, the more likely the receiver will find it hard to lock on, and the easier it will be for it to be 'unlocked'.

Things are not so good from the point of view of the audio, either. If you are having problems with lighting buzz now, it will not get better by connecting the audio and the lighting system together.

In short, yes you can do it, but it is best to keep the earths separate-the buzz potential can upset both sound and lighting systems alike.

-David Timmins, R. & D. Engineer, Jands Electronics.

Speakon loudspeaker connectors -the new industry standard

The Speakon is a 4 pole (or 8 pole) connector that allows screw driver connection of cables, so no more soldering. It has a lock ring to lock it onto the amp or speaker, and the terminals are "touchproof", so no more shocks.

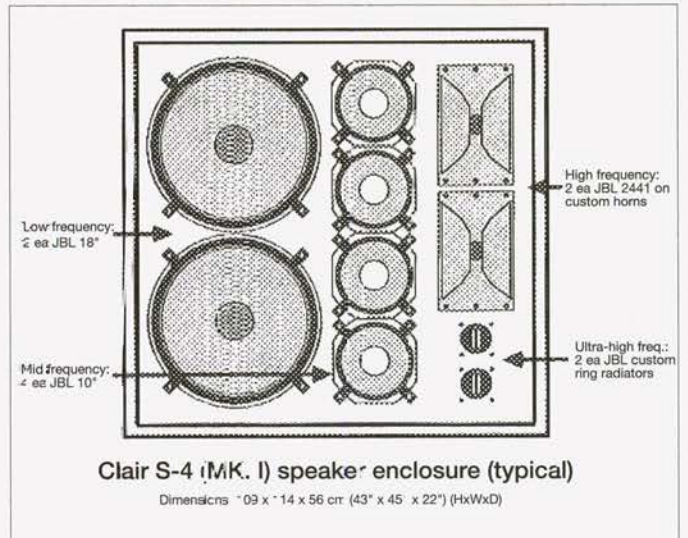
Speakon is distributed by Amber Technology (phone (02) 975-1211), and available at most pro-audio outlets.



has some EQ elements built in. This is contained in the drive rack at the F.O.H. position, which is actually two separate stereo racks, hinged together for transport. Each drive rack has a pair of T.C. Electronics 1128 programmable 3rd octave digital equalisers, six DBX limiters, and the aforementioned proprietary crossover/correction device. One rack controls the left and right main array, typically 40 cabinets when used in the Sydney Entertainment Centre. The other rack controls the long throw S4 MK. II version, typically 4 cabinets per side, at the top of the array. The ability to isolate the long throw cabinets and process them differently is a nice touch.

The T.C. Electronics 3rd octave equaliser has a "control head" that addresses them essentially a set of faders with a keypad. Clair Bros. has had a fair bit of involvement with T.C. prior to specifying their equaliser. From an engineer's point of view, memorising EQ curves is very handy. Where this device really shines is in the Foldback rig, where 16 equalisers can be controlled from one head, even out on the stage via a long cable. Setup and equalisation is a lot easier when standing in front of the actual wedge!

Driving the 48 cabinets are modified Carver amplifiers, racked in lots of 6. Each rack of 6 amplifiers drives 4 cabinets. The bottom four amplifiers in bridge mode each drive 2 x 18" (low) speakers, one amplifier drives 8 x 10" (mid) speakers on each channel, and the top amplifier drives the high end. The Carver amps belong to Clair Bros, and will return to the U.S. in Winter. Obviously they are



120v, 50Hz devices, and a 300 Amp. 75 kVa stepdown transformer of quite some size is required to power them.

The foldback part of this rig is state of the art, starting with the new Ramsa WRS840, 40 input, 18 output console. Each channel has 10 sends plus 8 auxiliary sends. EACH send is switchable Pre or Post fader. EQ is full 4 band sweep centre. The 18 TC Electronics 3rd octave equalisers are inserted before the desk outputs, so the PFL (cue) bus can listen to any input channel, and/or any of the 18 outputs AFTER the third octave equaliser. Clair low profile wedges, sidefill and drumfill is in abundance, with plenty of audio delivered to the ears at the end of each send! (The hot zone.)

Jands foldback engineer, Rob Baumanis, is very

Jands foldback engineer, Rob Baumanis, (with hair) explains the advanced Ramsa WRS 840 foldback console, editor Julius Grafton tries to understand.

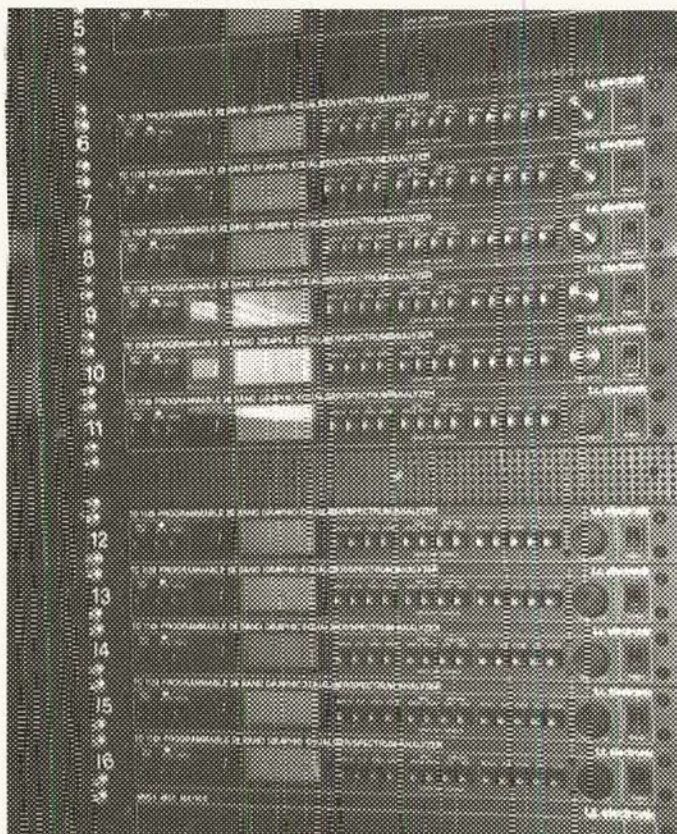


impressed with the system. "It goes together very quickly. The amps are bi-amped, with a time-alignment switch if you want it. The high frequency is attenuated by tweaking back the gain on the amp. EQ is vastly easier as you carry the T.C. Electronics head out on the stage and EQ at the destination of each mix."

Clair Bros. and Jands have co-operated for many years with the original relationship starting when Artist Concert Tours imported conventional horn loaded bins in the 1970's. The Roy bin (a 2 x 12" micrange box) was named after Roy Clair, and many examples are still in use here today, with "CLAIR" branded on the back. The S4 system followed, and this is still in use today, having been revised periodically. The S4 MK. I system can be used alongside the MK. II system as the acoustic couple enhancement is much the same.

Trip Khalaf offered his vision of the future when we spoke with him. "Forget horn loaded bins. I can hear them down the block. Direct radiator technology is where it's at. Clair are working on a Digital/Analogue console, the pure digital console is not here yet." On the subject of how he got started in the business, Trip informed me he was "kidnapped by Gypsies". But, as advice to anyone wondering about a career in the biz, Trip suggested if nothing else, it would be "interesting".

The foldback EQ rack, loaded with 16 T.C. Electronics 1128 Digital Equalisers .



Power user tips

Automatic effects

These days, a sound engineer is also an "effects manager". Today's performances need subtle enhancement, in order to approximate what is produced in the recording studio. The average observer is often overwhelmed at just what this "subtle enhancement" entails.

Take, for example, Midnight Oil, principally a guitar based band that uses a bit of keyboard. On their 1990 tour, soundperson Oysters (who dreams up nicknames like this one?) had at his disposal: an AMS 1580, 3 SPX 900's, Lexicon 480L (two separate stereo reverb units in one), Brooke-Siren 402 limiters on Bass, Keyboards and Vocals. Noise gates were used on kick, snare, rack 1, 2 & 3, floor tom, and two trigger lines from the stage, which were cleaned up by the gates prior to going to a sampler.

The gates and limiters were inserted across the relevant mixer channels, but the arsenal of reverb/delay units had to be returned to the PM 3000-12 returns in all. Instead, a pair of Yamaha DMX 7 digital mixers were used, digitally daisy chained together, then the left/right outputs of the main DMX 7 were inserted into the left/right output bus of the 40 channel Yamaha PM 3000 F.O.H. console.

O.K., you say, so the returns are sub-mixed. So what? Well, the DMX 7 is a digital mixer, and the faders are automated. So, with some programming the DMX 7's were automated, to adjust each required effect return in accordance with a Midi cue.

A Midi controller sent a signal to the DMX 7's, and some of the effects at the same time. The signal, or cue, setup the whole effects chain. Automatically. Dial up a number, hey presto! The Midi controller ran via a Midi splitter box, so each device got the Midi signal at the same time. If you daisy chain the Midi from unit to unit, there is a slight delay down the line, the splitter box eliminates the delay.

According to Oysters, he first saw this innovation used by Grant Walsh at a John Farnham concert. Using Midi to change effect parameters isn't new, your writer recalls Psuedo Echo's soundman circa 1987- Aaron Chugg and his famous "missing effects rack". The rack was hidden under the console, the effects were called up on a portable computer. It worked well.



DARLING HARBOUR CONVENTION CENTRE

BANQUET HALL - DISTRIBUTED OVERHEAD LOUDSPEAKER SYSTEM

Conventional sound system design has tended to polarise either towards quality; like a left/right concert system, or raw quantity - where a distributed overhead speaker system in a shopping centre displays almost zero fidelity. This installation is quite different.

The clients requirement was primarily that the sound system produce clear and intelligible speech re-inforcement - in an environment that was less than ideal in an acoustic sense.

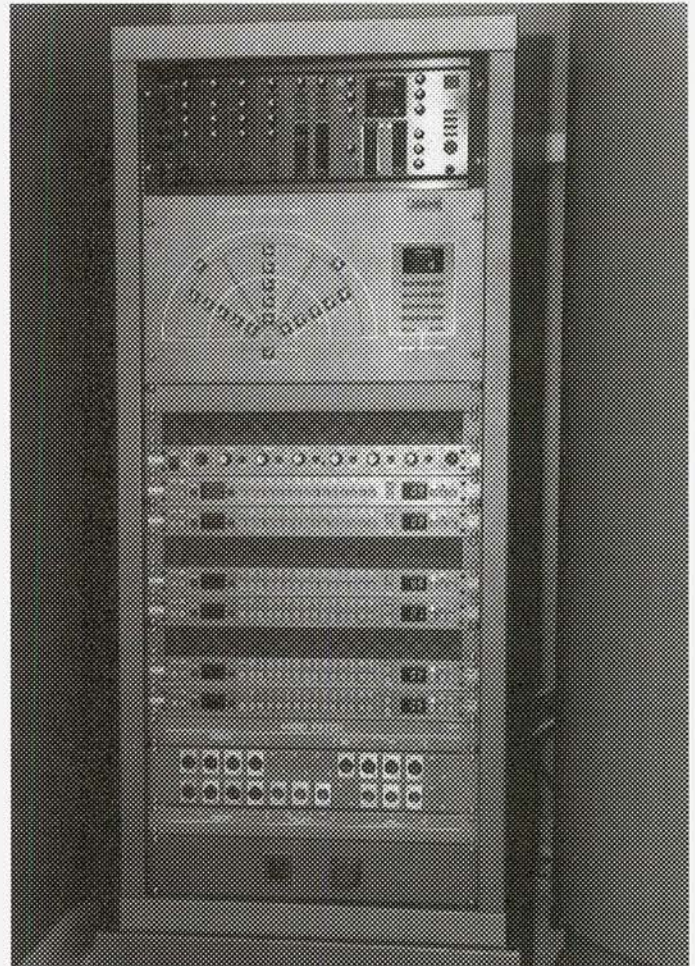
The Banquet Hall at Darling Harbour is a multipurpose space flexibly designed to accommodate different sized gatherings. Mechanical / acoustic divisions can be installed by dividing the area into smaller areas, and the sound system criteria required it be re-configured easily, according to the physical format of the room.

The hall is semi-circular, the stage located at the axis of the room.

Radiating out from the stage, the ceiling area is first flat, then having a cross section resembling a pleated fan.

To achieve the aim of clear speech re-production whilst minimising the impact of the poor acoustic characteristics of the room, it was decided to design and install a distributed overhead system using high quality loudspeakers. Because the room division changed the acoustics, programmable graphic equalisers offered a solution, and Rane MPE 28 devices were used. These 3rd octave graphic equalisers, to maintain "user friendliness" are controlled by a Midi control system, linked to a mimic display panel.

A distributed loudspeaker system is not ideal in terms of catering for live music use, given that it does not provide the correct directions "cue" with the sound emanating from above and not from the



The rack which controls this system. Note the customised matrix switch panel, with visual LED indication of room mode. The Rane MPE 28 programmable graphic equalisers are addressed by the Midi controller.

stage location. However it does provide a smooth and even coverage throughout the room, and operates at a lower sound pressure level, without getting the room "excited". A commonly held view is that there is a "gain trip level" beyond which a room will "freak out".

It was decided equalisation would be required across different room zones, each zone determined by the room being in Whole Room or Divided Room mode. Six Rane MPE 28 3rd octave

programmable equalisers are used, with different equalisation curves according to room mode.

Then a custom control panel was designed to allow any speaker zone to be turned on or off. There are 7 zones, each zone powered by one amplifier, producing 1000 watts at 8 ohms apiece, 7000 watts total. The control panel is laid out to represent the room, with a switch at each zone. Set into the right hand side of the panel is the Yamaha Midi Controller for the equalisers.

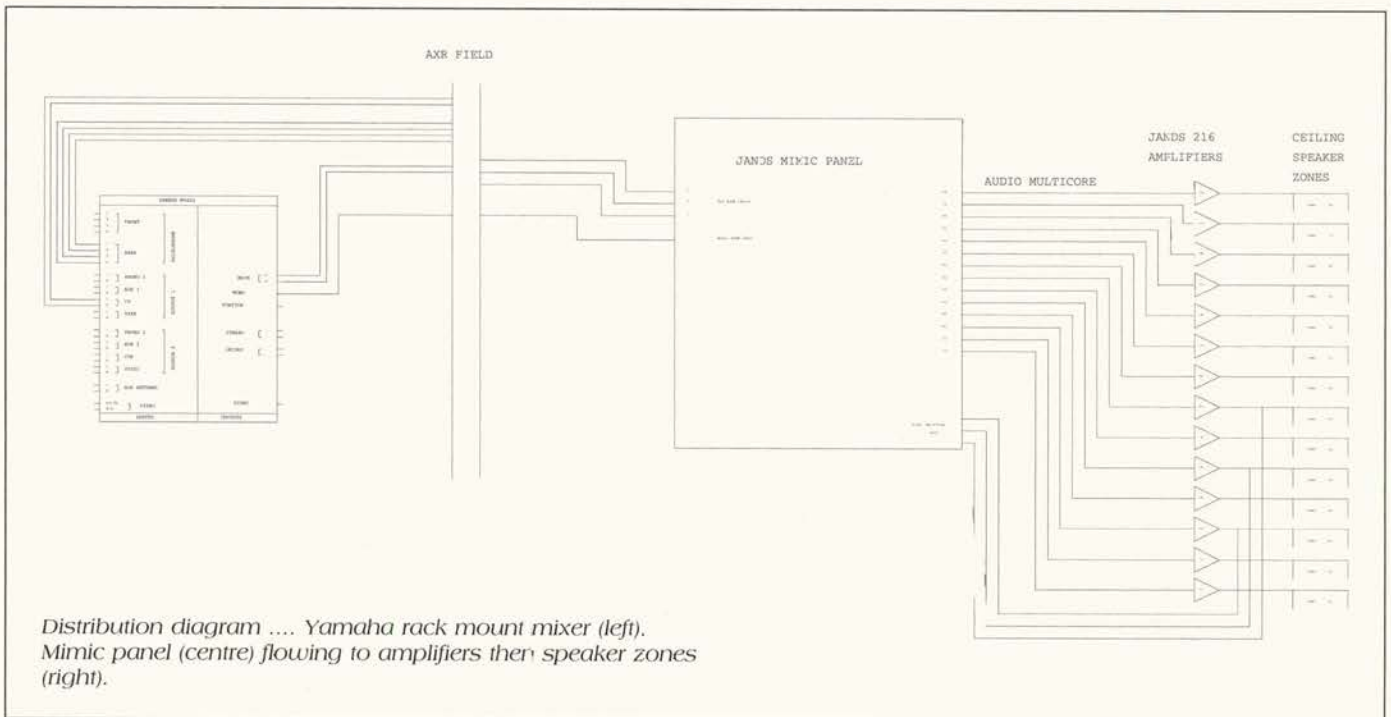
The design utilises 118 JBL S4 ceiling mounted speakers. The S4 is essentially a small studio monitor, utilising a 1" titanium high frequency transducer, with a 6.25" mid/bass driver. Jands Projects Engineer, Garry Rutter explained how they are driven.

"We established the nominal impedance was about 6 ohms, and that around 62.5 watts per speaker was optimum. Then taking the rail voltage of our Jands 216 amplifier at 8 ohms, which is 63.2v, we specified a line transformer be fitted to each speaker. The transformer was designed so that when a sec-

ondary load of 6 ohms was presented, the reflected impedance of 64 ohms appeared on the primary. To drive the 216 amplifier at 8 ohms output, 8 speaker/transformer combinations may be employed per amplifier channel, producing 500 watts per amplifier side."

As the remote mix area rack is a patchbay, to enable any four of the first 20 mic lines from the stage to be patched into a rack mounted Yamaha MV 422 mixer. Beyond the normal role of conference/speech reinforcement, the ceiling system can act as "fill" when a normal left/right concert system is used in the hall. To do this, the technician would derive a Matrix output from a house mixing console like the PM 3000, delay the output, then send it to the rear room zones.

The left/right or arrayed concert/music system would then run relatively quietly, with the slightly delayed signal going to the ceiling system, which would run fairly hard to distribute the sound evenly throughout the room, subsequently avoiding the "room trip point" phenomenon which seems to happen above 92dB in this room.



Channels

NEXT ISSUE:

We talk to FRANK CALVI about how he has become the fashion lighting guru of 1990 and press him for some tips.

PRODUCT NEWS:

Alan Archer from Soundcraft visited us recently, and revealed some secrets. We lift the lid. News, Gossip, Help! and plenty more.

Bangs & Flashes : the lighting page

-by James Reid

TO MULTIPIN OR NOT?

Does multipinning lighting looms save time? Obviously, but perhaps it isn't as necessary as you think. If you own a lighting system that will tour a lot, and if you work with more than 24 dimmer channels then yes - multipin.

Weiland connectors and multiconductor cable costs about twice as much as a well constructed lighting loom of four cables. Remember you'll need a header and a set of tails for each multipinned loom, and your dimmer rack case will need to be suitable if you want to leave the tails patched up. You'll need room for the tails, the connectors to remain plugged into each dimmer channel - sometimes a couple piggy backed together - and room for the par splitters.

A risk multipinning introduces is that you can inadvertently connect a bar of 120v Par 64 lamps to a 240v set of dimmer channels, as all your Weilands are the same. To minimise this financial calamity, the tails of your round pin Par headers and tails should be sheaved in a distinctly different coloured PVC spaghetti, and the actual Weiland painted the same colour.

When patching, pause and think before powering up your channels. Provided your dimmer rack is orderly and neat, patching your multipins should save you about a minute per channel.

If in the business of hiring lighting systems out, keep your smaller systems conventional, as the extra cost and extra error potential when the gear is rigged by novices just isn't worth the hassle.

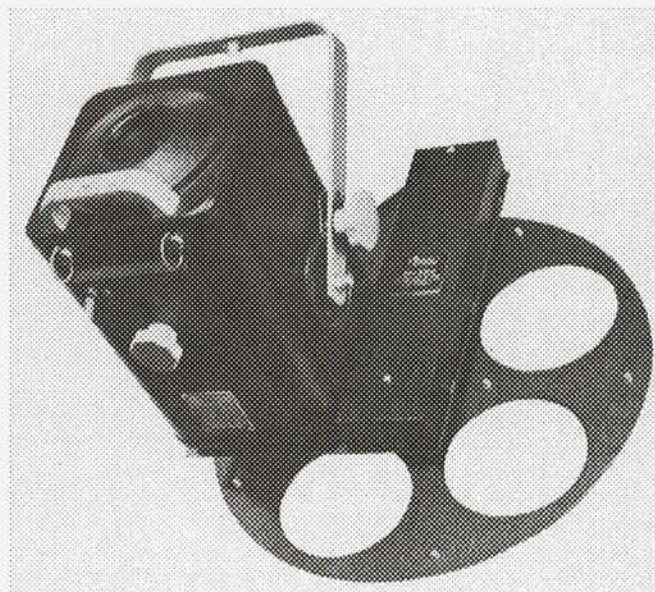
CHEAP LIGHTING EFFECTS dept.

This issue: the colour wheel. Ordinarily this is a very dull, slow changing colour mechanism- BUT try a 40 RPM colour wheel. This speed works really well, especially if you colour the wheel with some contrasting colours, like: red, turquoise, deep golden amber, mauve then medium blue.

Chances are the only 40 RPM colour wheels you'll find at your lighting hire outlet will be designed to fit a Patt 23 ... which is OK, but a bit feeble in light output. Why not adapt the wheel to fit onto a Par 36 pinbeam housing (about the same diameter) and then run a DWE lamp inside the housing? (Without the pinbeam transformer, or course!)

BRIGHT! The DWE lamp is the one in a Molefay, and is 120v, so you could series two housings together like you would a pair of Par 64's.

Another colour wheel trick is to colour the wheel with different shades of the same basic colour, or blank over every second hole, which will produce a coloured strobe effect.



RIGGING HINTS

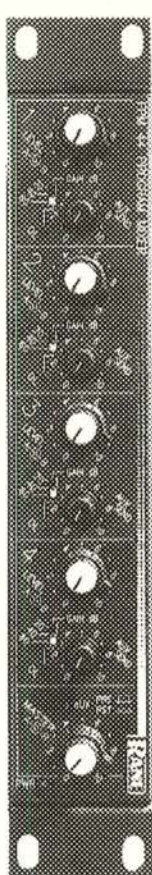
In the perfect world, every performance space has lighting bars, ladders and perches almost everywhere. The reality is sobering, as any lighting person soon discovers.

The fundamental reality of getting the lanterns in the air means you must be an adaptable creature. Too often an entire truss is assembled then winched into place for the sake of a few lanterns. Your rigging box should consist of these essentials:

- Carpenters G. Clamps, to clamp onto room beams, thus providing a hanging point for your bars.
- Chains and snap hooks, at least 400mm in length.
- Eye coachbolts, to screw into wooden roof beams.
- Packet of cable ties, 200mm in length.
- Pipe joiner, for 2" outside dia. pipe. (Spotbar)

The other more obvious accessories must include a shifter, toolbelt, head torch (like miners wear), bandaids, aspirin, Sards wonder soap (because lighting grime is very hard to wash off!), bottle opener, and roll of cooking foil. The cooking foil is to drape over the fluoro in the dressing room or motel room when some "atmosphere" is required! Finally, dont forget the H Stands, these are to enable a bar of four lanterns to be sat on top of the P.A. if all else has failed!

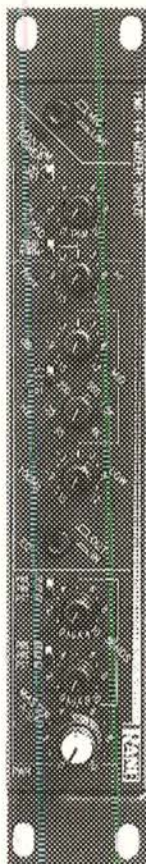
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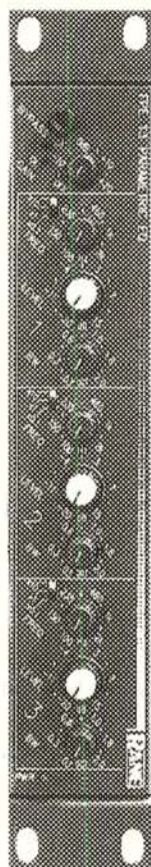
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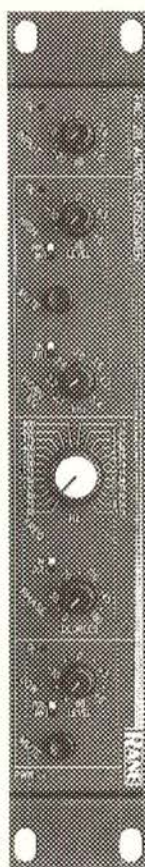
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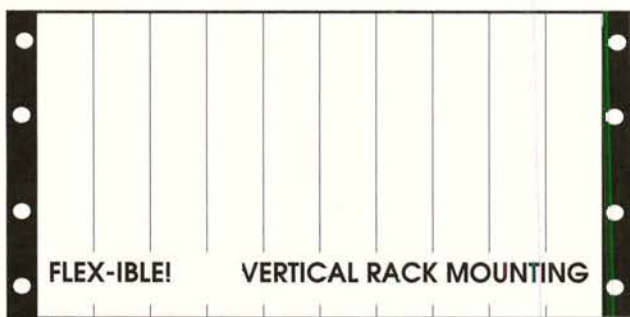
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Great Mistakes

I learnt from that!

Thankfully pyrotechnics on stage are now almost a thing of the past, but there was a time, not sooooo long ago that the average stage resembled a war zone.

Remember Skyhooks and the exploding penis? What about Sherbet, Jim Murray and Jeff Crozier? A visit to the fireworks factory was always entertaining, the family that owned it all had missing digits, some on crutches even!

Anyway, this great mistake happened in 1975 at Paddington Town Hall, where your writer, a psychedelic lightshow operator (trading as: ZAPCO LIGHTSHOWS!) planned a dynamic end to a number being performed by "orchestral rock band", Sebastian Hardie. The number ended in a rising swell, then..... whiteout! Baaannnnngggggg!

Dust clogging the eyes, ears ringing, windows breaking. Then, a sort of stunned silence, and as the dust cleared, the vision remains planted in the mind of anyone who was there.

The stage was a mess, cymbals knocked over, musicians fallen on top of their gear. The lightshow operator, stage left, was wide eyed, his hair blown back, his finger frozen to the flashpot charge button. Several of the audience had been struck by fragments of the concrete balcony corner that blew away. A hushed silence pervaded.

The band had filed from the stage, and the keyboard player was in some distress, unable to hear a thing. "Talk to me!" he was shouting. It took weeks for his hearing to return, the record company made threatening noises in the meantime.

The cause of the explosion was the accidental substitution of flashpowder for something quite more dramatic, at the fireworks factory.

The next year a girl was tragically killed at Ipswich in a similar accident, leading to tightening of regulations.

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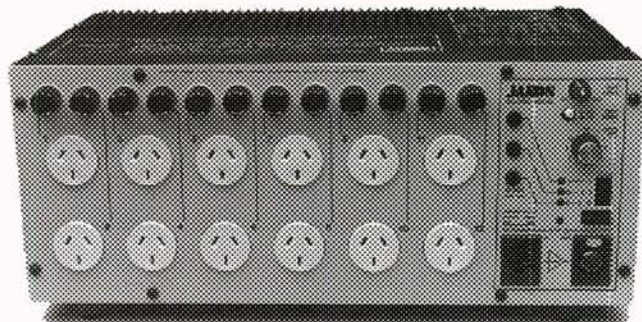
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