

STRANDLIGHT

THE INTERNATIONAL JOURNAL OF STRAND LIGHTING

PALS

Precision Automated Lighting Systems

by Susan Dandridge

**In 1967 the news was Memory Control Boards.
In 1972 the news was Tungsten Halogen.
In 1989 the news is Remote Memory Controlled Lighting**

As we go to press, the Quotes Department is awash with requests for information and layouts. With all this activity for PALS, it's hard to escape the conclusion that automated lighting will become as common in the nineties as memory control systems have become during the eighties. "Why now?" you say. The reasons are twofold; first, the same advances in micro-processor technology that have brought you the greater reliability, added features for less cost, and compact size of systems like our new Action, are likewise to be seen in our ability to adapt the newer powerful microprocessors to automated lighting and its control.

The ability to control lights from a remote location has been around for years. Even Strand's installation in the National Theatre



1 PALS installation at the Theatre St. Etienne, Paris. This shot shows part of the F.O.H. rig. The PALS equipment is on Cadenzas, but is available on nearly all our Strand & Quartzcolor units.

2 Control Room - the PALS Control panel is the black keyboard in the right foreground.

wasn't a first. What's new is decreasing cost, greater reliability and memory control.

So the next question becomes: why should you be interested? There must be practical reasons for PALS or we would be in the unfortunate position of pursuing technology for technology's sake! First and most obviously, efficiency: whether it's a production studio, repertory theatre or ballet, the turn around time for getting sets in and out becomes much reduced when there are no ladders to get in the way.

Second, central control; dimmers provide control of only one of the many controllable elements of light-intensity. With an automated fixture rig and Galaxy 3, colour, movement, direction, and even quality of light are under the control of a single operator (more about this later).

Luminaire efficiency: as much as we like to sell lights, fewer lights are necessary when one can do the job of many. And, of course, that means more room on bars.

Memorisation of position and absolute repeatability: these two elements work hand in hand. Obviously a system named the Precision Automated Luminaire System must be pretty good about going back to the place it was told. So the ability to go back to where it was told over and over again has

obvious application on any long running performance or rep situation.

And finally, cost savings: Automated luminaires will never be the same price as non-motorised lights, but over a period of time the money saved in initial focusing, regained rehearsal time and not having to send someone up to the gods for a minute adjustment, (not to mention the savings in sanity of the lighting designer and director), will result ultimately in a cost effective system.

But now, a brief introduction to PALS itself. At the heart of the system is the basic pan/tilt yoke. A series of compact sizes cover the majority of the Strand and Quartzcolor luminaires, including Cadenza, Cantata, Polaris, Castor, Pollux and Arturo.

The aluminium yoke houses the motor drive assemblies, a processor board and drive electronics. Movement of pan and tilt is provided by DC servo motors coupled to a precision reduction gearbox in which the gear ratio is altered to suit the weight and balance differences of the various luminaires. The output shaft of each motor drive incorporates an adjustable clutch to protect the light from damage when moved manually. The absolute position of the output shaft is measured by a servo potentiometer.

Each yoke also contains a 16 bit micro-controller which decodes the luminaire's channel number, stores current cue data and controls the motors. The servo potentiometers are continuously monitored by this processor and speed is adjusted with changes in load and distance. Repeatability and resolution are accurate to one part in a thousand or 1/3°. This means that over a throw distance of 15m, the light will come back to within 3cm of its originally recorded position.

A data cable connects each pan/tilt yoke (with its additional features if required) to a power supply. Here mains input is reduced

Continued overleaf

Strand UK 75 This Year! 1914 - 1989 Strand USA 60 This Year! 1929 - 1989

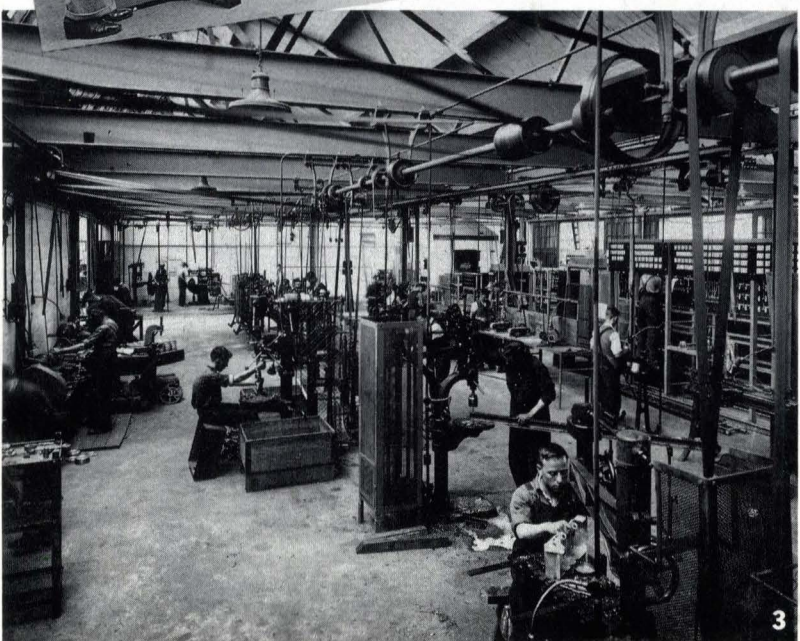
75 Years in Stage Lighting and 53 Years in Television Lighting, The Strand Story So Far

Exit the Arc

Back in the teens of this century Earnshaw and Sheridan, the two founders of Strand Lighting, both theatre electricians, fought the stage lighting battle for the tungsten lamp against the carbon arc, with its back stage army of operators. And they succeeded. In the end economic forces will win out.

Seeing What One Was Doing

In the thirties and forties Fred Bentham, then Strand's presiding control system designer, innovator and iconoclast, fought the battle for remote control of stage lighting so that, at last, the operator could actually see the effects of his labours. It is hard today to realise what a revolutionary idea this was at the time, when the perch or the "corner" were the usual board locations. The movement of the switchboard to its now universal front-of-house position was Fred Bentham's great contribution to the art of theatre lighting.



1 Strand batch production - Judging by the voluminous cut of the trousers, a mid thirties shot showing what was probably a week's production of follow spots. Today it would be a disappointing single shift's output at Kirkcaldy.

2 The Real Breakthrough - London Coliseum 1952 and one of Fred Bentham's Light Consoles. The organ technology derivation is very obvious!

3 A Strand Works of long ago - Get that overhead shafting and drive belts.

Parasitical Practices

In a small industry, such as ours, no company can fund fundamental research projects. You have to make use of technology developed

by others and adapt it to the job in hand.

The first Strand remote control boards, the Light Consoles, looked like the cinema organs that older readers may remember from their childhood.

This is because we used the electric relay mechanisms developed for their organs by the Compton company. Today, of course, the micro chip is the universal tool of lighting control, but these were certainly not developed for such a purpose.

From Private Company, to Public Company to a Group of Companies

Strand's early days were those of any small struggling operation. The Company's middle period, by then with shares issued to the public, was of continuing success both in theatre and in equipping the Super Cinemas of the thirties with their multiplicity of on stage battens and flood towers. In the 1950's things really accelerated with an effective export trade, the founding of companies in Canada, the U.S. and Australia and the growth of television with its demand for control systems.

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PALS

Precision Automated Lighting Systems

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to the 24 volts DC necessary to run the motors. Power supplies are available in three way and ten way versions, and may be daisy chained to accommodate a variety of installation configurations. A data distribution box would also be required for systems involving more than thirty units or cable runs longer than 100 metres. The Data Distro box acts to amplify and buffer the signal from the control console to the individual power supplies.

A choice of two control systems are offered for control of the Precision Automated Luminaires: one is a small stand alone system which would be appropriate for retrofitting into existing installations. Based on an IBM PS2/30 with 20 megabyte hard disk, a custom interface card, software and dedicated keyboard provide control of all automated luminaire functions. Luminaire positions, commands and cue information are displayed on a high resolution colour monitor, and an on-line function provides immediate assistance to the operator.

The absolute position of each function for up to 99 luminaire channels is recorded for every cue. Cues are recorded directly onto the PC's hard disk or onto a 3 1/2" floppy disk, depending on the selection made in the initial setup menu.

The PALS keyboard has cursor keys for positioning the lights which act in two modes: fast, for getting the light in approxi-

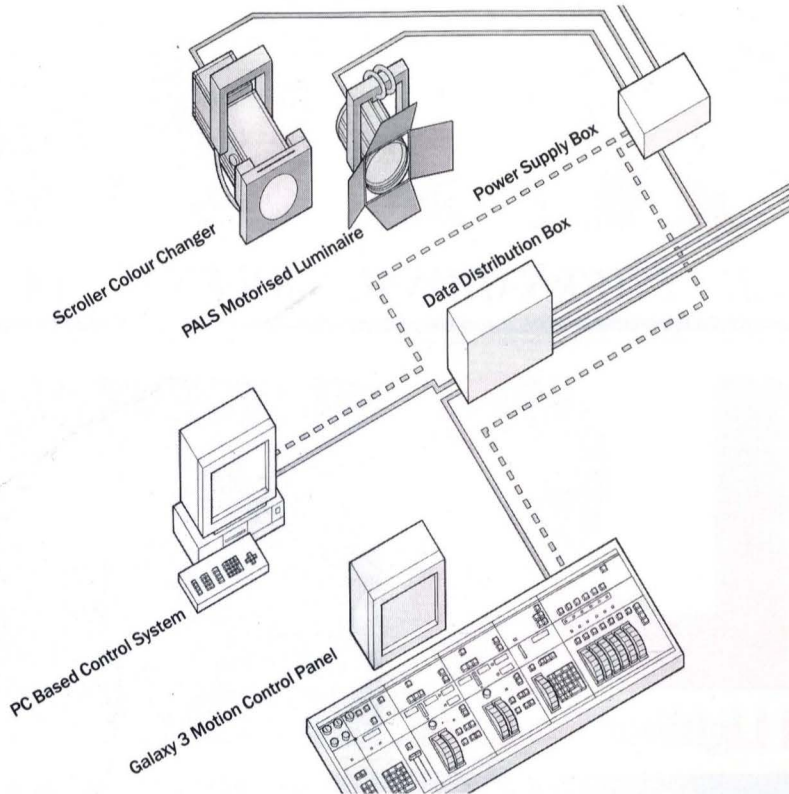
mately the right place, and slow for perfect positioning. In slow mode, each tap of the cursor key moves the light a third of a degree. There are numeric keys for selecting luminaire channels or alternatively, channel groups. And there is a range of command keys to record, edit and control the playback of cues.

Special effects are possible as consecutive cues may be linked for automatic follow on, or chased in a continual cycle. Moving lights may be stopped mid-cue, returned to their last position or stepped between any two cues in discrete intervals.

Alternatively, Galaxy 3 provides the ultimate in automated luminaire control: total integration of motorised lighting into the operational structure of a traditional lighting control system. The new Motion Control Panel offers co-ordinated recording and playback of all motion and dimming cues. Like the PC controller, Galaxy also provides control of 99 channels of PALS, with the added capability of electronic patching so that a single channel controls the intensity, pan, tilt, colour, focus etc. of any given unit.

Two keypads permit selection of channel number and function. All functions of a single unit, or alternatively, multiple units may be transferred to the four wheels which are then used to position the light, select a colour or adjust other functions. Displays are included to mimic unit number and the positional reference of the function selected. Illuminated push buttons indicate function in use. The Galaxy monitor can be used to interrogate the status of a single luminaire or to provide positional references of all motorised units in the installation.

Positions may be plotted live or blind and the recording and playback of a motion or colour cue only, i.e. no dimming change,



The elements of a PALS system.

may be executed on the Motion Control Panel itself. And all of Galaxy's many abilities are available for integration with the motion cues. Cues may be written to create sweeps of light across the stage or a light simply may be repositioned following a stage blackout for use in another scene.

The possibilities are limitless: with PALS and Galaxy 3, Strand have taken the first steps toward the lighting of the future.

Why are we so confident that this is actually the way lighting will go?

Well as we are now seventy five, let's look back a little and see what lighting history teaches us.

In 1914 every London theatre was lit by arcs on perches and as wing floods. Strand, when it first began, went for the 1K tungsten vacuum lamp, and very soon arcs were ousted.

In 1930 we declared war on the batten. This battle took a lot longer and we were still making the things – just – thirty years later. But where are they now?

In 1950 we went for a focusing profile spot – The Pattern 23, no less.

In 1968 we went for memory control systems.

In 1970 we went for halogen lamps.

Notice anything? . . . all these developments were at the forefront of contemporary technology and now all are standard pieces of equipment.

Now in 1989 – we are confident that PALS is the next wave – and it won't take thirty years, either!

For more information on products featured in this article tick box A on the coupon on the back page

75 This Year! Strand UK 1914-1989

Continued from previous page

In 1968 Strand became part of the Rank Organisation, and growth really took off. In 1968 annual turnover was about six million pounds. In 1989 it will be eighty million pounds.

The world's leading manufacturers of Studio, Film and Television lighting – the Quartzcolor company – became part of Strand a few years ago while the previous acquisition of Century Lighting of the U.S.A. was Strand's most important move towards achieving its present position as, without any question, the world's leading company in the field.

To recall Earnshaw and Sheridans' very first slogan – now as true as ever – Strand is "Lighting for Entertainment".

1914: In the Beginning

1914 was not at all a bad year in the London theatre. April saw the first night of Shaw's "Pygmalion", when that canny Irishman ensured an instant success by getting his star, Mrs. Patrick Campbell, to say "Bloody" on stage. In view of what one regularly hears from stage and screen today it is impossible for us to imagine the thrill, shock, horror and nervous laughter that single word produced in the pre Kaiser war audience. For some months the more daring members of society would remark "Not Pygmalion likely", thus adding extra fuel to the publicity fire.

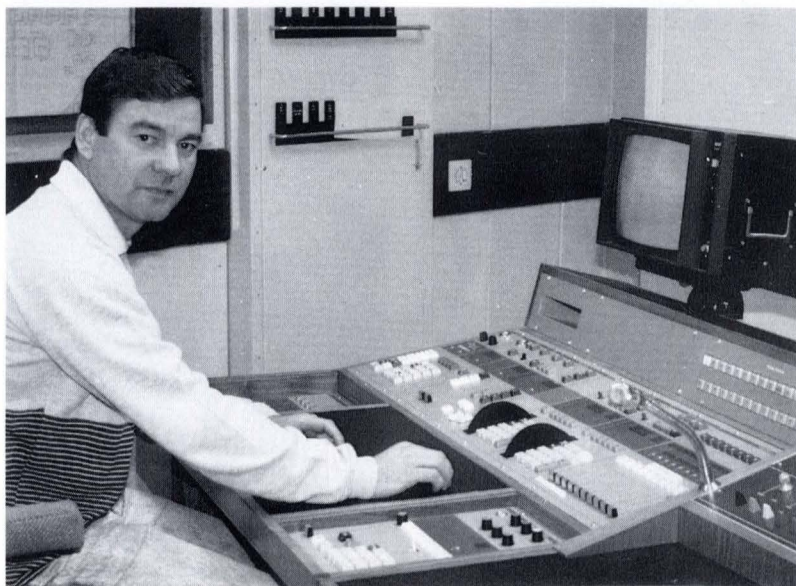
Suet Pudding and Prunes

From the lighting point of view Pygmalion was also memorable. It was the first production, so far as I can discover, in which the fashion of following the principals throughout the play with spot lights was abandoned in the interest of realism. Shaw persuaded his heroine to forgo this star status symbol by appealing to her vanity. 'Mrs. Pat', although a tremendous on-stage sparkler, was no classic beauty, having a completely round face. Shaw told



Celebrating the success of another breakthrough – A party at the Dorchester involved this cake, with its border of Patt 23's. Presumably in 1964 this was to mark the first 100,000 units of the company's mass selling lantern.

The Lineal Descendant of the Light Console – one of the very latest Galaxy III's, a pair of which were installed last year in the South Bank Studios of London Week End Television. We built the non-standard desk to fit in with the control console that previously held a desk from Another Company.



her that followspotting made her look "like a suet pudding in which two prunes have been embedded".

A Slapped Face and an American Invasion

At the Palace Theatre 1914 saw Pavlova and Mordkin take London by storm in the Russian ballet. Unfortunately, they didn't get on well off or on stage. One particular disagreement ending with the famous on stage face slap. I suppose he could have simply dropped her.

At the Hippodrome, today the home of the all conquering "Les Miserables", 1914 saw Miss Ethyl Levy star in "Hello Ragtime", the first of the many successful U.S. theatrical invasions and return matches. One constant between these totally diverse land-



Right Royal Strand – from right to left – the then Princess Elizabeth, the Present Queen Mother and Princess Margaret, photographed during the war at one of the pantomimes at Windsor Castle – needless to say, lit by Strand.

filter materials. Footlights were made to the same pattern. The first show to be so lit was a totally forgotten melange called "Round in Fifty", again at the Hippodrome.

1924: Dead in Front

In those D.C. days switchboards had contacts and bus bars mounted on the front of polished slate panels.

In 1924 Strand produced the first board to have the safety of a "dead front". It was installed at the Old Vic for Lillian Baylis.

1925: Patching

This year brought Strand's first patch panel. Before thyristors made dimmers economically possible for every circuit, load patching by a kind of giant telephone exchange was widely practised, and may still be found from time to time.

We made our first patch panel for the Royal College of Music Opera Theatre. This theatre has recently been rebuilt. Incidentally, we supplied the memory system, dimmers and lanterns for the new theatre.

1928: The First Stirrings of Modern Stage Lighting

In this year the new Savoy Theatre, the present building in the Strand, was opened with a D'Oyly Carte production of "The Gondoliers" under Malcolm Sargent. New lighting system by Strand. Stelmar ellipsoidal spot patent applied for, and Strand were now set to make the world's first 1kW and 500W ellipsoidal profile stage spots.

1929: Century Stage Lighting of New York founded

This company's most famous product was, and perhaps still is, in spite of the fame of Light Palette, the "Leko" range of ellipsoidal, still going extremely strong, with versions now available in all world voltages. Strand and Century were on the same

marks seventy-five years apart – the Lighting by Strand.

1922: "You can stop the dipping now"

This year saw the introduction by Strand of the compartment batten. Because these units are now totally out of fashion, being almost museum pieces, it is perhaps worth explaining that up to the year in question coloured light on stage was achieved by wiring batten holders to take 100 or 150 watt GLS lamps in either three or four circuits. These lamps were dipped in red, blue or amber varnish, the fourth circuit being left clear for white. The invention of the compartment batten meant that a frame could be mounted in front holding colour

path, although they only came under common ownership in 1969 and didn't completely combine until 1985.

1930: The Long Goodbye to the Batten Begins

"Evergreen", with Jessie Mathews, at the Adelphi Theatre.

The lighting of this cyclorama show was, for the first time, by floods and spots. No battens – not even Strand compartment type.

1931: The Arrival of Massed Front of House Spots

For "Waltzes from Vienna" Hassard Short used massed Strand spots on the circle front and on the stage at the Alhambra in Leicester Square.

For the C.I.E. Congress that same year London had its first flood lighting of public buildings. Strand lit the National Gallery, St. Martins in the Fields and two Stelmars lit Nelson on his column.

1932: Stratford-Upon-Avon

The new rebuilt Shakespeare Memorial Theatre opened. The only theatre built between the wars with the facilities we all take for granted today. Strand provided cyclorama colour mixing and a 56 way Grand Master Board. By a quirk of history, this was actually the second Grand Master produced, the first going to a theatre in Halifax the previous year.

1934: Sir Tommy Beecham at Covent Garden

The Royal Opera House, Covent Garden, and the new lighting installation was Strand's first job on a European Opera House scale. The load was 700kW AC and 150kW DC.

1935: Seated One Day at the Organ

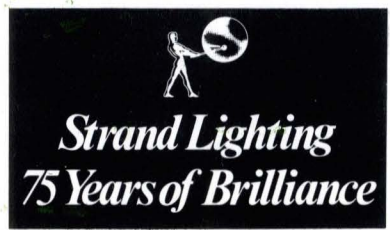
The year of Fred Bentham's Strand Light Console. This was the first lighting control in the world to use not only a movable console but the principle, derived from organ practise, of Select and Play, the common basis for all today's electronic memory systems.

1936: The World's First High Definition Television Service Opens

The B.B.C.'s Alexandra Palace studio has lighting control by a Strand Grand Master, the world's very first T.V. lighting control. Today the B.B.C. and hundreds of other studios around the world use Galaxies, while in the western hemisphere our U.S. company supplies Light Palettes to T.V. by the dozen.

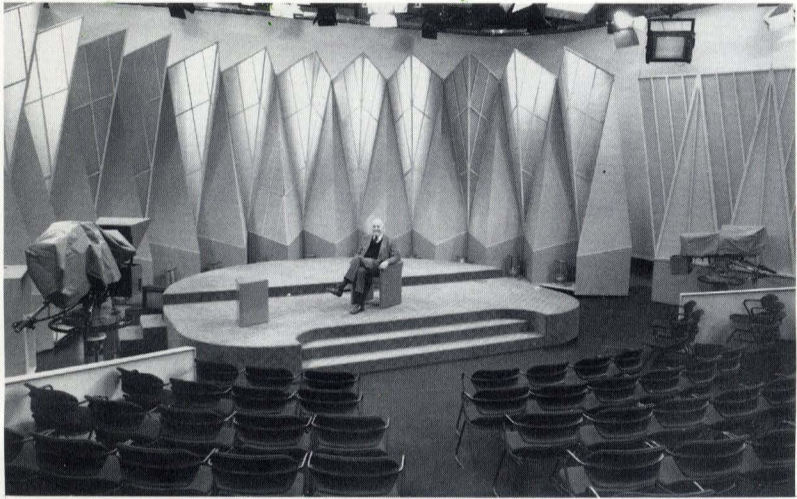
1940: "We Love Our President, But –"

Lisbon Opera House and our first big export job. A Light Console and, at last, the operator can see something of the lighting he is creating. The console is not yet F.O.H. but at least it is in the orchestra pit. Opening night operation was by Fred Bentham, who was horrified to discover that the house lights were to remain on throughout the performance. The Police



Strand In Chicago

The Editor Sits Where Oprah Winfrey's Guests Sit



The editor on the rostrum in the Oprah Winfrey studio – unfortunately several hours before the audience arrived.

Refurbished T.V. Studios

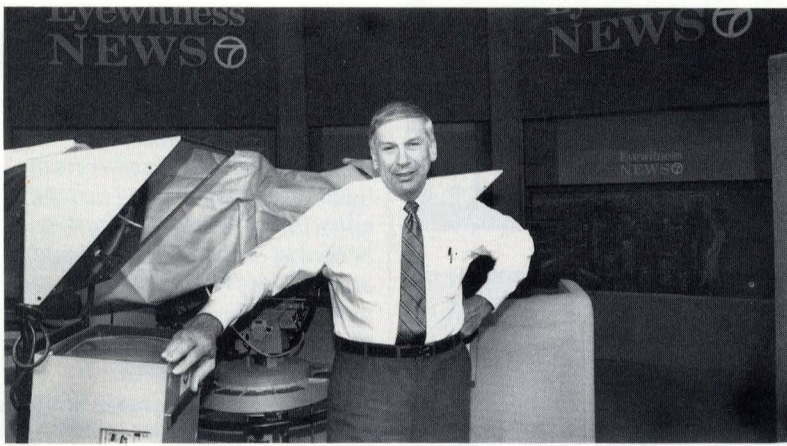
During a visit to Chicago last year, Jim Crooks, our Mid West Sales Manager, took me to see the studios of WLS television, a local Chicago station owned and operated by ABC. As part of a very full studio refurbishment Strand dimmers and controls, supplied through Media Specialities of San Antonio, Texas, had been installed in two studios.

The smaller studio, although still of pretty generous size, was the Eyewitness

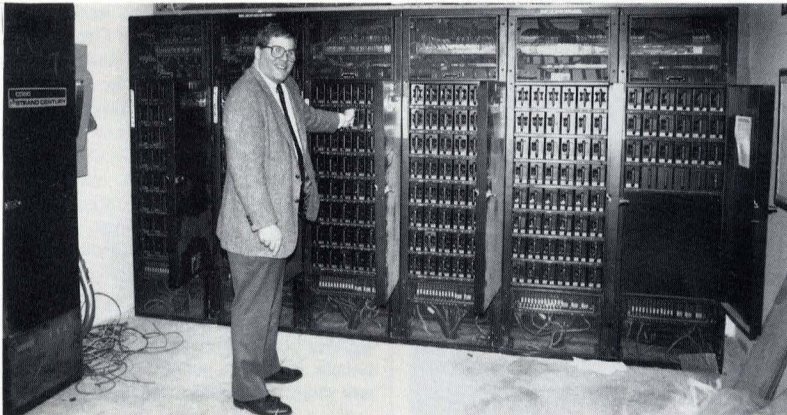
News Studio. I was told that in America news broadcasts had become an area of great competition between the networks.

The larger studio is used daily for a very successful chat show hosted by Oprah Winfrey. This show now appears on our Channel 4. ■

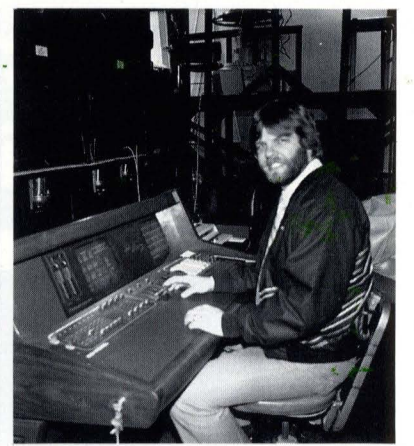
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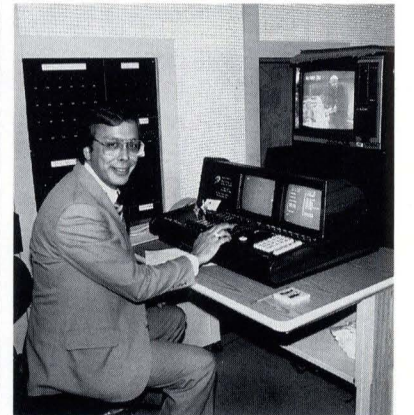
Joe Kreznicka, the studio's Chief Engineer looking very relaxed as he faces the editorial Pentax. Both Palettes and all dimmers had been checked and found to be working perfectly!



Success story, CD80, Strand's best selling dimmer range ever. WLS television is just one of many, many installations. Seen with one of his many successes is Jim Crooks, Strand's Sales Manager for the Middle West.



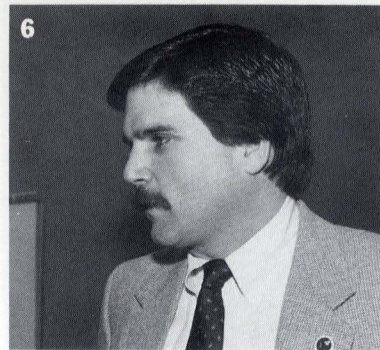
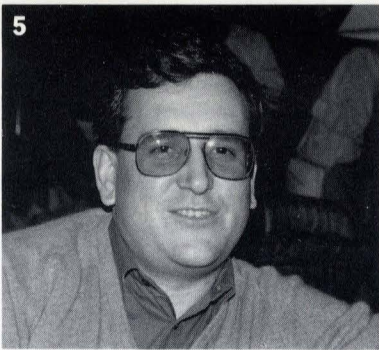
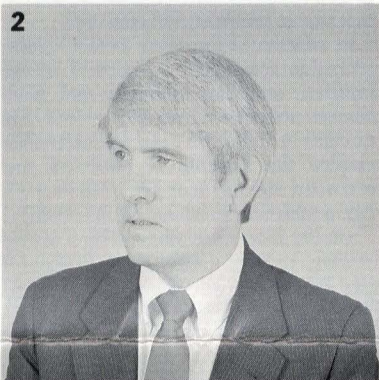
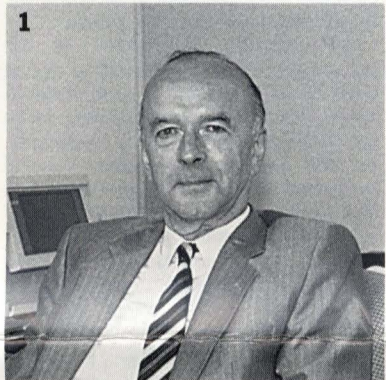
A Light Palette controls the Oprah Winfrey studio. (Sorry about bad focus, I took this before I got my present glasses.)



A Mini Light Palette controls the new studio.

Some Strand Personalities

- 1 Oliver Hartree, Managing Director, Strand Europe, Asia & Australia.
- 2 Tom Sullivan, President of Strand Lighting North America.
- 3 Donna Appleton, President of Strand Canada and Rick White, Sales V.P. of Strand Electro Controls, Salt Lake City.
- 4 Ian Haddon, Director, Strand Australia.
- 5 Phil O'Donnell, Director, Strand Asia.
- 6 Bill Groener – the man in charge of US marketing for Strand.
- 7 Susan Dandridge, Product Manager, Control Systems, shows Lightboard M to Fred Bentham, now enjoying a very active retirement.
- 8 Bob Schiller – long serving member of the Strand US team – manages sales for the West Coast.



Chief explained – "We all love our President, But –".

1952: Strand's First Branch Office in Australia

481 Malvern Road South Yarra was the address and Alec Brown, ex chief of the London Coliseum, was the boss, with a small group of the crew from an Australian tour of "Oklahoma!" which he had masterminded prior to the Strand opportunity.

1953: The Most Famous Number in Stage Lighting

The Patt 23 is born. Our first die-cast aluminium stage lantern. Easily the most popular single unit ever made by Strand U.K.

1959: The Smallest and Best Event in Stage Lighting

Strand launch the hook clamp and free theatre from the old 2 nut and 2 bolt L

clamp. Strand start up in Canada.

1960: It All Hangs Out

"Oliver!" at the New Theatre exposes all Strand lanterns over the stage – an absence of masking totally accepted now – it was 29 years ago but it seems as though it has been this way forever.

1963: Strength Definitely Needed

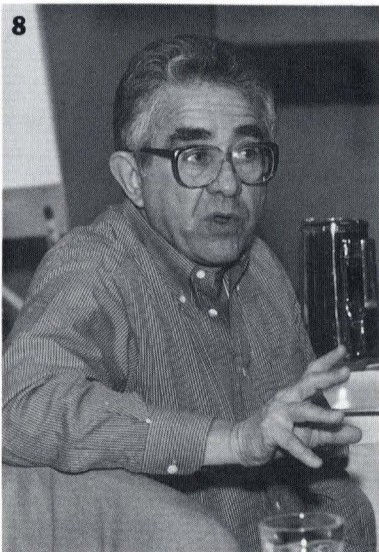
The year of the Junior 8. Four slider resistance dimmers which could be shared over eight circuits. Hundreds are still in use in schools and village halls. They may last forever. They are certainly heavy enough.

1964: Royal Opera House Again

The first big all thyristor dimmer installation, 240 ways.

1965: The Presets March In

Junior Preset (J.P.) and Senior Preset (S.P.) boards arrive.



1967: Strand's First Memory System

Instant Dimmer Memory. Now each lighting picture can be replayed exactly as the designer originally wanted it. On the other side of the coin, cues can be recorded as fast as a button can be pushed, so designers have to do their homework.

1969: Hey, Hey, U.S.A.!

Strand, by now part of the Rank Organisation, acquire Century Lighting of New York.

1969: Strand becomes Distributor of Quartzcolor Studio Lighting

The world's most widely used T.V. lanterns comes into the fold for sales, but remain an independent manufacturing company.

1973: Its Modular!

The Modular Memory System (MMS) allows every theatre, studio or consultant to do their own control layout – but nearly everyone leaves it to us!

The Strand Control Wheel, with optical encoder, is a complete winner. Many MMS systems are still in use in both theatres and T.V.

1976: Console Out!

Drury Lane change the last Light Console in regular use for an MMS for "A Chorus Line". The one-hundredth MMS is installed at Nottingham Playhouse.

1978: Duet

The first microprocessor system.

1983: Now Anyone Can Have Memories

M24 – the system that brought memory systems within reach of virtually every professional theatre – and a surprising number of amateurs.

R.I.P. Patt 23. The end of an era. In thirty years and half a million had been sold. Almost all of them must be still alive and lighting.

1986: Strand and Century Come Together in One Company

"Strandlight" takes over from "Tabs", to give a world view of Theatre and T.V. lighting.

Electro Controls of Salt Lake City joins the Strand Group. This highly innovative and successful company now masterminds our architectural products for world markets.

1987: Quartzcolor Becomes Part of Strand Lighting

1988: The Year of Galaxy III and Lightboard M

Our top line system enjoyed its best year ever, with installations for the B.B.C., London Week End and Yorkshire T.V. as well as many theatres and overseas television services. 330 Galaxies have been sold to date.

In our U.S. company, Light Palette continued its successful run, again in both T.V. and theatre, while Lightboard M became a real worldwide success story, being as popular in Europe as it has proved in America.

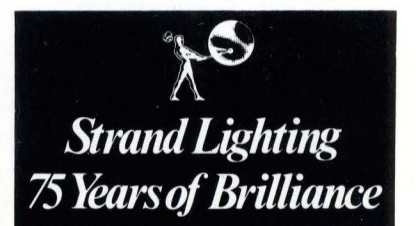
Where Are We Now?

A few years back we decided that Strand should concentrate on its main line business – the business of lighting and lighting control.

We have Strand, Century and Quartzcolor, plus Strand architectural control and dimming systems. We now operate in a mature industry, where any company offering our type of product on a worldwide basis has to have a turnover sufficient to support research in a field where development of a major new control system has a very heavy price tag. And all products must be supported in the field, which is the key to repeat business.

1989 is definitely the year which will be remembered; in another 75 years, as the year of PALS and remotely controlled lighting. ■

60 This Year!
Strand USA
1929-1989



Architectural and Commercial Lighting



Lighting Education at the Bartlett

Recently David Brooks, who manages Strand's Architectural lighting operation, and I had the opportunity to visit the Bartlett School of Architecture & Planning at University College, London to meet David Loe to hear about their programme for lighting education and research.

The Bartlett has a long history of lighting education and research but in 1987 a new lighting centre was set up to provide facilities for specialist lighting education and to expand the existing lighting research programme.

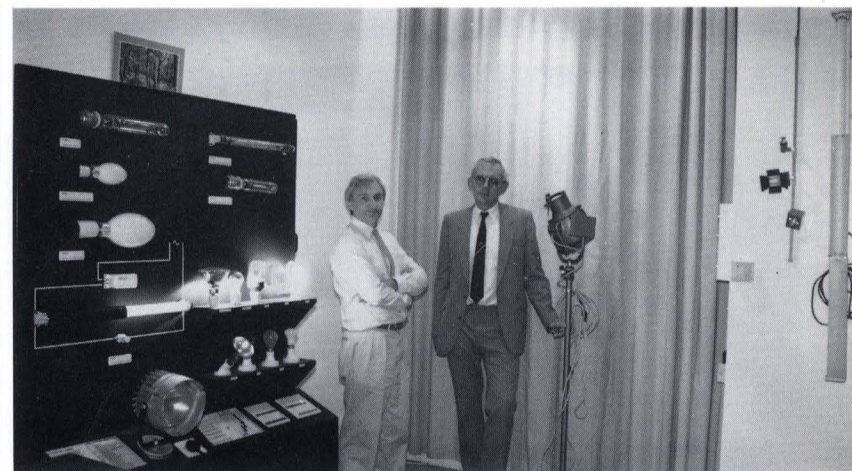
The centre, known as the International Philips Centre for Lighting Education & Research, was set up with financial help from Philips Lighting B.V. in Eindhoven, and is under the direction of David Loe.

The first aim of the centre was to set up a post graduate course (Master of Science) in Light & Lighting; the course accepted its first students last year who came from a wide range of different backgrounds e.g. architecture, engineering and the theatre. The aim of the course is to provide an opportunity for students to study most aspects of both natural and electric lighting, and to consider the subject in an holistic way. This means that the students will study the human response to light & lighting, the way in which light is generated and controlled and the way it can be used to provide an efficient, attractive and comfortable visual environment. The course is taught using a combination of lectures, seminars, project work and visits. In all a comprehensive programme and one that has been needed for some time.

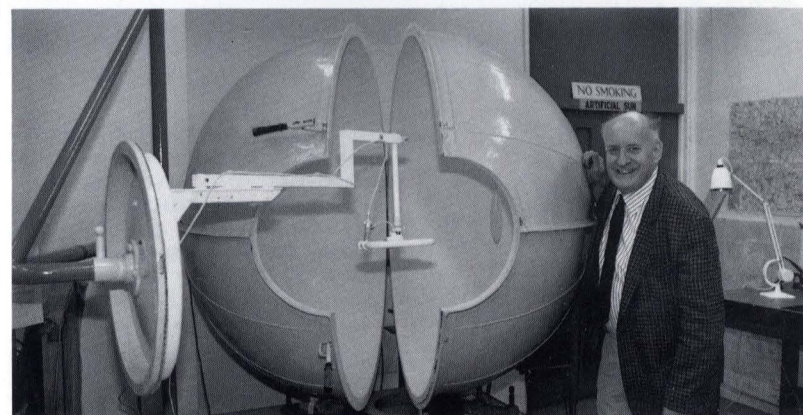
In addition to the more formal lighting education programme a series of special lectures, one day symposia and short courses are offered from time to time. For example in April 1988 a one day symposium entitled the Lighting of Churches was organised and this year there will be a one day symposium on lighting for the theatre.*

On the 22nd November, 1988, a special evening lecture, entitled "The Benefits of the Electronic Lighting Revolution", was given by Professor Dr. Ir. S. H. A. Bergmann, Senior Vice President of Philips Lighting B.V.

The Bartlett is already well equipped to teach lighting and to carry out lighting research; the department has an artificial sky and sun as well as equipment for the measurement of light and colour; there are also facilities for studying the performances of lighting equipment. Some of the equipment can be seen in my



Lamp and Lighting demonstration studio. David Loe (left), & David Brooks of Strand (right).



Photometric integrator for light output measurements. The Editor is on the right.

photographs. The laboratory facilities are currently being extended to accommodate the increase in student project work.

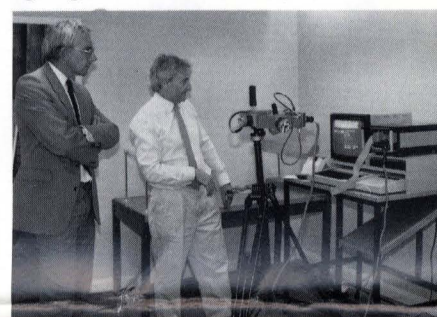
The research programme of the department has concentrated in recent years on the subjective aspects of the lit scene and on ways in which lighting can be quantified to relate to visual assessment. For this purpose a luminance scanning instrument has been developed which it is hoped will give designers a clearer view of what constitutes good lighting.

Other areas of investigation include the lighting of exterior amenity spaces and the affect of luminaire brightness with respect to the apparent effectiveness of the lighting.

The establishment of the new International Philips Centre for Lighting Education & Research at the Bartlett is an exciting venture; it provides a facility for the study of lighting that has been desperately needed for some time and we wish it well.

If you would like more details about the various activities of the Centre then you should contact:-

Full scale lighting study area with luminance scanner instrumentation (room lighting now Environ controlled).



David Loe, The International Philips Centre for Lighting Education & Research, Bartlett School of Architecture & Planning, University College London, 22, Gordon Street, London, WC1H 0QB.
* See Editor's Column.

A Model Environ Installation

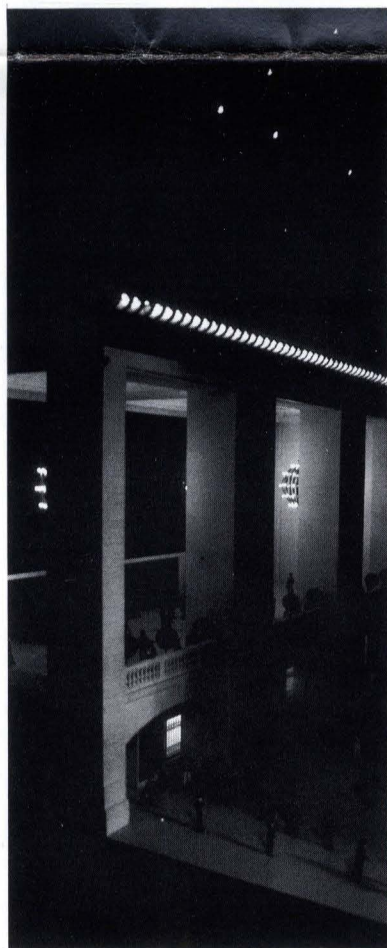
At first glance readers may not even appreciate that our photos are of a truly magnificent model, part of a California businessman's model railway layout

The tracks - 1 Gauge (3/8" = 1'), circle his swimming pool, past villages, over trestle bridges and through a tunnel into Grand Central, which has been recreated to scale just as it was in 1930. The shop fronts along 42nd Street, the cars and the clothing of the model passers by are all in period. The station lighting is all "practical" even to the clock on top of the information booth. Environ programmable dimmers are controlled from a master, and Auto Cycle provides the final realism.

As a last touch, the whole model is built inside a mock up of a Caboose some twenty feet long. The model was researched and constructed by Scale Models Unlimited of Menlo Park, California.

The light presets are

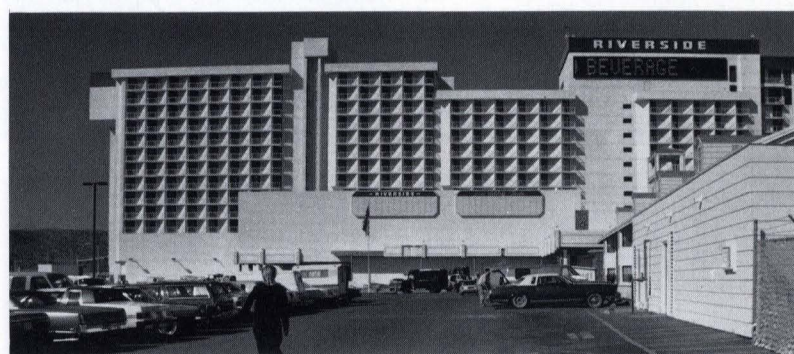
- P.1 House (Caboose) Lights on.
- P.2 House dims - Curtains open.
- P.3 Station lights, including the booth, the famous Starry Ceiling, Chandeliers and street lights dim "on". (Night Scene)
- P.4 The Sun rises, the street lamps dim out to give the daylight scene.



P.5 The sun sets and the night scene resumes.

P.6 All the model lights dim to off, the curtains close and the "housetlights" dim on.

The autocycle allows day to follow night automatically.



Inside the Loser's Lounge Laughlin, Nevada

by John Richards

Surprisingly, it's quiet. Perhaps, everyone is down on their luck & spent more than you did in the casino.

The band begins to play. They use simple but sophisticated stage lighting. 2205 4 1/2" zoom lekos fade up & down. Wide colour washes on the band. A few are tight spots on the lead singer, others use gobo's. The first set ends. The band stands up, takes a quick bow & hurries off stage.

A small ripple of applause starts, but what's this? The stage lighting starts chasing, lights fade up & down, colour, patterns & shapes collide. The crowd goes wild! The applause is deafening.

You look quickly around. Who is this lighting technician? Where is he?

There is no lighting booth. You see the bartender throw a toggle switch, the lights fade to a dim glow on the stage. The band returns, applause subsides. The keyboard player picks up a portable Environ 7206 control station, presses a preset button, lights crossfade, the band begins to play.

It's Environ programmable controls, performing an Auto-Cycle.

What a perfect idea. "Small bar needs dimming system with simple controls & special effects."

The 7206 is a combination of a six channel slider station with master and On/Off control. Next to the master station there are 4 preset buttons, a blackout button, an up arrow or "cleanup" that works as a fifth preset.

"Riverside" Laughlin, Nevada. "The Losers Lounge" - complete with Environ - is within. (Note: the "Beverage" scrolling sign. Of course in England a beverage is cocoa, or at the strongest Ovaltine. I'm not sure it means the same in Nevada.)



And all the lighting controlled from behind the beverage counter!



It looks like they like Lekos.

M·I·C·R·O·D·I·M·M·E·R

Previous issues of *Strandlight* have described lighting in hotels, museums, churches and cathedrals. What they have in common, despite apparently being totally unconnected with lighting for the performing arts, is that they employ similar dimming and control techniques which have followed from lighting design for the stage to lighting design for buildings. For people involved with designing lighting for buildings who do not have the benefit of such a background, Strand now presents a solution. It is called **MICRODIMMER**. Quite simply, Microdimmer is both dimmer and control system in one package, suitable for permanent installation in virtually any building where the recall of pre-recorded lighting scenes is called for. Today, there can be few buildings that would not benefit from such treatment. Better lighting is a proven means of raising productivity, creating more efficient working conditions and in attracting more custom into retail outlets or to leisure related premises, such as clubs and restaurants.

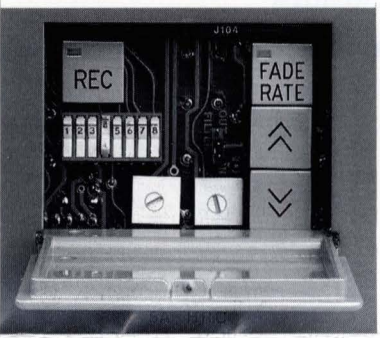
Anyone entering a room needs to succeed in getting some lights on. Most people will have been conditioned to look for a simple light switch, a device that seems to have resisted fundamental change for the last hundred years. Microdimmer uses simple pushbutton controls. With the use of pushbuttons becoming more acceptable in the control of a variety of consumer electronics goods, presets feature on domestic audio equipment for example, so a wider application for more general lighting control in buildings, whilst still quite novel, should at least be comprehensible.

Microdimmer is a valuable new introduction to meet the lighting control demands of a variety of situations. Initially it is available for 220/240V 50Hz supplies.

For the electrical installer, ease of installation is important. Microdimmer provides all round access for wiring and, once connected to the supply, it is automatically programmed.

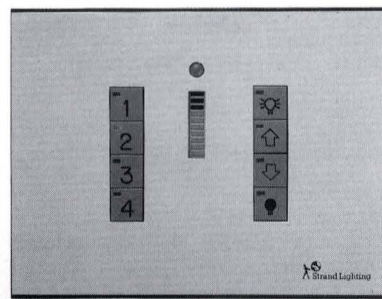
Default settings for all parameters are stored on power up. But if they are not what the lighting designer needs, concealed behind a small door are the additional facilities that enable different set ups to be made and recorded. A solution which is easy to use, quick and simple to install but has the added sophistication of independently programmable designer settings.

A major benefit of Microdimmer becomes apparent when several are used together. Today's lighting will comprise an assortment of light source types such as low voltage tungsten halogen and fluorescent as well as various tungsten lamp configurations. Cold cathode or neon may be featured in some interior spaces, so a universal dimmer able to deal with them all is advantageous. To cater for various load requirements, Microdimmer is available in three ratings - 5A, 10A and 20A. For larger loads, Microdimmer can be slaved. But the most exciting means of linking them together is in Scene-set mode. In this arrangement, each Microdimmer retains its own independent data but can be controlled from a common station, enabling lighting states to change from one preset to the next at rates and levels dedicated individually to each circuit.



Opening a small hinged cover reveals additional facilities to allow a lighting designer to set up his own programmed data. Intensity levels can be adjusted, either using the raise/lower buttons or remotely from faders, then simply pressing the record button followed by the selected preset button stores the level for future recall. In addition the fade rate of all 4 presets and blackout can be independently recorded anywhere in the range from 0.3 seconds to 420 seconds. The 3 buttons on the right are used for this with the LED bargraph switching to display a relative indication of time in this mode. Each preset can have different up and down rates. The Microdimmer automatically selects which, depending on whether the levels are to increase or decrease from the previous preset.

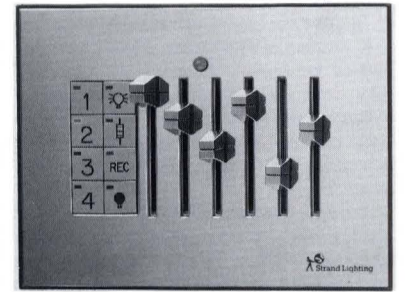
The pack of 8 miniature switches tucked away below the record button, enables the selection of various special Microdimmer options. Worthy of mention is the Record disable switch to protect the programmed levels against unauthorised alteration. Below these is a trim potentiometer for top and bottom set. A helpful detail is an instruction label on the inside of the door.



Preset select control station

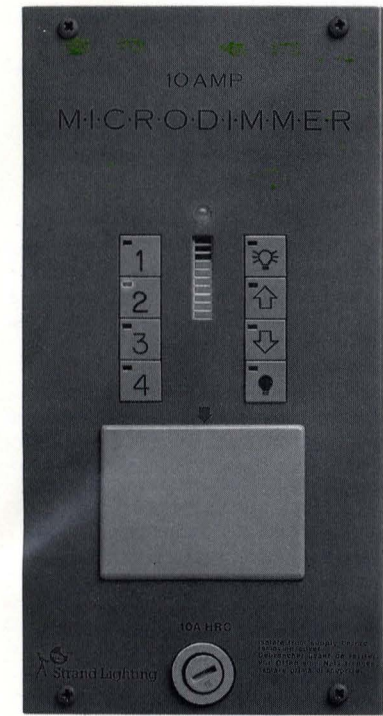
It is often appropriate to provide remote control stations so that the dimmers themselves can be tucked away in a back room along with the electrical distribution equipment. A series of stylish low profile control stations complement the Microdimmer range and are connected by safe low voltage wiring back to the dimmers. Our photographs show the

Microdimmer pushbutton controls and bargraph mimicked on one of these new control stations; the fascia unblemished by any unsightly retaining screws. Fixing all takes place on the base assembly behind the plate to screw into a standard British 2-gang electrical contracting box. The latter is supplied, incidentally, with each station. To blend in with the interior decor, faceplates can be supplied in a variety of finishes. Traditional white is standard, but brass and a dark anodised bronze are also available in the range, with other finishes to special request. Each station has a green LED - a useful feature when locating it in a darkened room. Pushbuttons have embedded red LEDs which light when that button is pressed so that, at a glance, you can tell which state is currently selected.



Preset & Fader Control Stations

Remote control stations also enable control of several dimmers from one place or provide the same control facilities from different locations. For the lighting designer who appreciates the simplicity of manual faders when building a lighting scene, the control station illustrated above is the answer. Also available in single, 2, 3 and 4 fader options, the intensity levels of circuits under control can be experimented with, the desired balance found and recorded directly into a preset using the record and preset buttons as before. Selecting the button which has the fader legend inscribed, transfers control back to the manual faders. In a multiple station installation, these operate on a take control principle.



Microdimmer

Microdimmers are a complete control system and dimmer in one compact housing, a mere 8 inches high, 4.5 inches wide and 3.5 inches deep in the mid range 10 Amp version seen here. This 10 Amp unit dimmer can handle up to 20, 4ft fluorescent tubes or 2.4kW of tungsten load. Two rows of four low profile pushbuttons are provided for local control. On the left, 4 Presets. On the right, Full (indicated by a bright light bulb symbol) is at the top and fade to blackout at the bottom of the stack. In between raise and lower buttons, with arrows to indicate direction. Simply hold one of these two buttons down and release when the desired level is reached. A red LED bargraph gives a dynamic visual representation of the intensity level. And on "power up", Microdimmers automatically have sensibly selected default levels stored, to give immediate use of all functions.

St. Mary's Cathedral, San Francisco

A few issues ago we described the M24 controlled lighting installation in Manchester Cathedral. Now comes news from Strand North America of a large ecclesiastical Environ project in San Francisco.

by: Bruce Thompson of Lighting Systems, San Francisco

As do most large lighting projects, the new lighting control system for St. Mary's Cathedral began with the lighting consultants, in this case Luminae, who are the largest and longest established firm in their field in the western U.S.

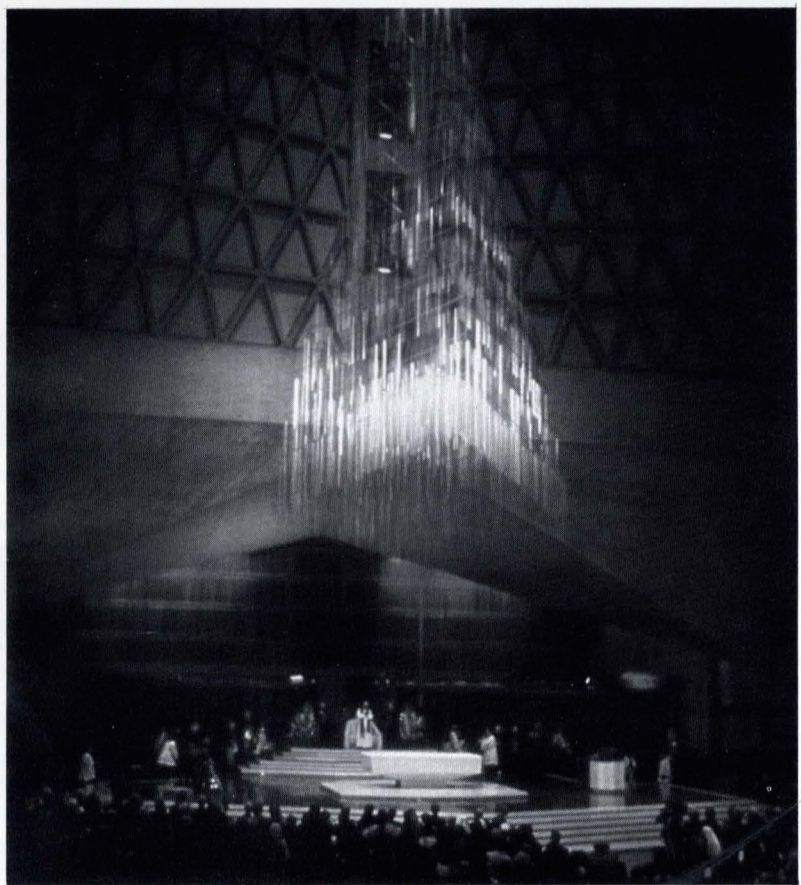
The two designers on this project, who are both principals, were Naomi Miller and Jim Benya. Naomi is a graduate in architecture from MIT.

Jim Benya is a professional electrical engineer. Luminae have won awards from both the IES and the IALD.

When Jim and Naomi first approached me about the job, they listed their performance criteria. They insisted that the clergy were terrified by the term "programming". Like many lighting consultants they wanted to program the presets and not worry the client with system operation beyond pushing a few clearly labelled buttons or switches. The system had to have the capability to be fully automated for normal day-to-day operation. This was important as an energy management feature and helped the church comply with "Title 24" and gained the Church substantial cash rebates from PG & E.

Beyond simplicity and automated function, flexibility was stressed. Full "theatrical" capabilities were required for such major functions as the impending Papal visit.

Additional presets, beyond the 5 accessible from remote Environ 7304 stations in the sanctuary or the 10 accessible from the 7401 were considered insurance against the dreaded necessity of the clergy having to "program" anything. This requirement stumped me for a while. I considered what a Lightboard M front end could do but, that was considered too

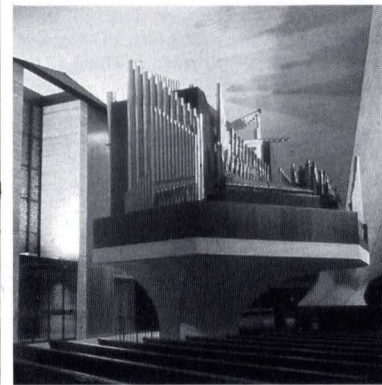


complex an approach. It was then that I remembered discussion with Strand of auto-cycle functions with fountain lighting and the concept of "phantom" rooms. I reasoned that this would work for this project and could be described to Jim and Naomi in terms similar to preset "pages" used on rock boards.

The whole job had to be completed in time for the Papal visit. The electrical design drawings for the building were nothing like the way it was built. The cathedral has two electrical rooms located on opposite sides of the building. Unfortunately loads that were shown on the plans as being terminated in one location actually went to the other room. Circuits

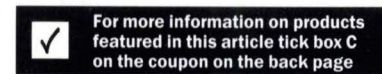
that were shown on plans either didn't exist, were of different capacity or were condensed in count. Because of the tight schedule most of these conditions were discovered only after the dimmers had been installed, just days before the Pope was to arrive. Consequently, we required a major rearrangement of dimmers in the cabinets to address site conditions and the reburn of the program cartridge.

The new lighting design is brilliant. It enhances the dramatic architecture of the cathedral and the beauty of the devotional experience. The Environ 2 control system is an important integral part of these functions as well as meeting other more secular objectives.



The paging capability of the system is unique and will obviously be used again whenever appropriate. However, I might do some things slightly differently in the future. The 7401 should be set up as a system-wide master. The "page selection panel" could be set up with push-buttons instead of toggle switches. I think it looks more elegant that way.

But these are all very small points for future jobs. The St. Mary's Cathedral project is one of which Strand can be truly proud.



From the Lighting Consultants

Luminae
Lighting Consultants & Designers
555 De Haro Street
San Francisco, CA 94107

Dear Bruce,

We want you to know how pleased we have been with the Strand dimming system at St. Mary's.

Modernisation was important in order to simplify the operation of lighting equipment. Our discussion with the church determined that most of the time only four-scene presets were needed. But it was very important to have several pages of four scenes each: one is automatic (with clock programmed presets); one is for normal liturgy; one is for organ concerts; two for changing seasonal liturgy; and the last is for video. Changing pages had to be as simple as flipping a switch, since the priests and nuns who operate the system are not computer scientists.

We were very pleased that Strand was able to solve our problems so well. The basic Environ 7401 controller is remarkable in itself. Once programmed by me (or you) it is simple to operate. But the real genius is the paging system - it is as simple and effective as it should be.

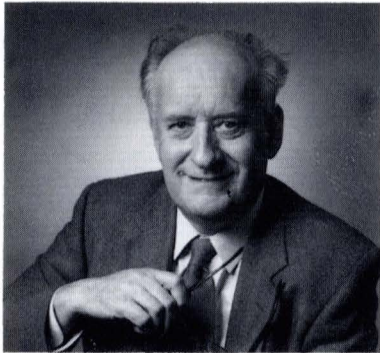
Another criterion of the design was being able to connect a performance panel with a minimum of fuss. For the Pope's visit, we operated the lights for the national T.V. broadcast by simply plugging in a rented Mantrix. No hassle, no problems, and full memory board control. Wow!

The toughest of our criteria, though, was the schedule. The system arrived on time, on-budget, and right up to the final day, we were able to juggle dimmers to match loads. Strand's ability to over-night burn a new patch cartridge enabled us to achieve a very successful result under-the-gun.

We trusted Strand with an extremely difficult, demanding, and technically complex dimming problem. We're very glad we did, both for product quality and service. We recommend Strand highly.

Sincerely
J. F. Benya Sr. Principal

What a super letter to receive. I hope Mr. Benya didn't mind my printing it - I just couldn't resist such an accolade. Ed



The Editor's Column

"List Purification"

This is marketing jargon for updating a list of people who may be interested in your products.

In this case I am addressing myself to the U.K. readers of *Strandlight*. Please note that unless we receive from you the attached blue card – postage pre-paid to encourage return – we shall assume your interests have changed and that you no longer wish our magazine to rattle through your letter box.

We now mail over six thousand copies in the U.K. alone. If we get 6000 cards back we shall be delighted, but we don't want to go on sending to people who are now devoting themselves to bee keeping or bell ringing instead of lighting!

Overseas copies – all ten thousand of them – will continue to be distributed through our local companies and dealers, as will the six thousand copies currently distributed by our sister company, Strand Lighting, North America.

Showlight '89, Hilversum, The Netherlands, May 15th-17th 1989

A few years ago the first Showlight conference, colloquium, conversazione or what you will was held in London at the then new Barbican and a rip roaring success it was, too. Experts spoke "ex-cathedra" while competitors within the lighting industry stabbed each other verbally with all the zest of old friends venting twenty years of thorough dislike.

There were excellent presentations and I found the whole thing informative and extremely pleasurable.

Now another Showlight is happening and I recommend it to all *Strandlight* readers. There will be various visits arranged and there will be an associated exhibition of all the latest and best equipment which will, of course, be dominated by Strand.

My guess as to the main theme? Easy – it's sure to be automated lighting.

The opening speaker will be that doyen of American lighting directors and constant *Strandlight* reader, Bill Klages. I once spent a fascinating afternoon with him at his offices in the old Columbia film studios on Gower Street in Hollywood. I guess the opening speaker on his own will make a visit well worth while.

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Jonathan Miller to Launch Lighting Symposium

The International Philips Centre for Lighting Education and Research at the Bartlett School of Architecture and Planning, University College London is organising a one-day symposium that will be of interest to all amateurs and professionals concerned with the fundamentals of stage lighting, as well as lighting designers in all fields who would like to know how experts in the field of theatre lighting go about their task. The symposium, which is co-organised by the Lighting Division of the Chartered Institution of Building Services Engineers, the Association of Lighting Designers and the Association of British Theatre Technicians, begins at 10am on April 20th, and will be held in the 500-seat Bloomsbury Theatre.

In the morning session of the symposium, which will be introduced by Jonathan Miller, Francis Reid will talk about the aims of the stage lighting designer and Bob Anderson will review the latest equipment available for stage lighting. After lunch, two leading theatre lighting designers, David Taylor and John B. Read, will describe their work, and Andre Tammes will close the symposium by describing his work and its links with the work of the architectural lighting designer. Both morning and afternoon sessions will close with a period for questions and discussion.

Registration fee for this unique and interesting symposium is £75, with a discount of £10 for members of the co-organising institutions. The fee includes coffee, luncheon and afternoon tea. Special rates are available for students. Applications for registration forms should be sent to Ann Nash at the Bartlett School of Architecture and Planning, University College London, 22 Gordon Street, London WC1H 0QB.

The Arts Council Lighting Course

Readers will remember we mentioned this course in our issue No. 6. Francis Reid duly brought his – fully subscribed – flock down to see us at Isleworth as part of the course. We were delighted to see representatives from many overseas countries. It was an added pleasure that so many of them were old friends. We understand the course was a universally acknowledged success.

Horror from Down Under!

A Letter to the Editor

Dear Sir,

I write to you to express my horror at a photograph and its accompanying caption which appeared in the article entitled "Palladium on Thames" in your Summer '88 issue. The photograph in question is of the Palladium's female board operator seated by the M24. I shall repeat the caption.

"No! I did not ask one of the cast to pose as an M24 operator. The glamorous young lady actually is the operator."

I find it surprising that the idea of a female operating a control desk should be considered a novelty. Are your heads buried so deep in the sand that you are unaware of the fact that women are a normal part of lighting crews? We may still be in the minority but we are most definitely there.

I read this journal regularly as do many of my female lighting colleagues and the result of a head count showed that all ten of us are experienced M24 users. What a novelty indeed! We trust that you will dig your heads out of the sand a bit and show a trifle more insight in future articles and remember that YES! some of us actually are the operators! Yours sincerely, Jacqueline F. Molloy on behalf of: Janine Wiseman, Angela Le

Fante, Tuula Partanen, Lyndi Lane-Graham, Mandi Braine, Lyz Philp, Judith Sears, Carmel Duffy, Marina Philipides. P.S. No, I am not an actress aspiring to a more glamorous profession!

Dear Jacqueline, Janine, Angela, Tuula, Lyndi, Mandi, Lyz, Judith, Carmel and Marina,

I have discussed your fiery missive with Susan Dandridge (Product Manager), Celia Pope (Export Territory Manager), Camilla Aitchison (Marketing Manager) and Donna Appleton (President, Strand Canada). They all agree with you! The point I obviously failed to make was simply that the young lady I captured with the editorial Pentax looked as though she might well have come from on stage to pose for me. The caption simply meant that she hadn't. I know there are many female board operators, in fact my recent piece on the Salisbury Playhouse mentioned one such who had been through the Bristol Old Vic Theatre School.

Anyway, I hope you all continue as readers – as I love getting letters even when they chastise me.

The Editor



The picture in question.

Lightboard M

The First Anniversary

By the time this issue of *Strandlight* reaches you the first U.K. Lightboard M installation will have had its first birthday.

Here is the story of the Phoenix Theatre, Leicester board, how it was chosen, why it was chosen and how the choice has worked out.

Right in the heart of the old industrial area in the centre of Leicester, the Phoenix is probably one of the most convenient of theatres to visit. It is signposted from the moment you drive into the city, and there is a multi-storey car park within a stone's throw – kept open especially till after final curtain time.

The theatre is a touring venue, with a very wide selection of music, dance and drama, a proportion aimed at Leicester's multicultural community. Films are also shown on occasion.

The building is some twenty years old, and seats 274 in a stadium format with a semi thrust stage and an F.O.H. control room.

The Decision

The former memory system (not Strand) was due for replacement. The choice came down to three possibilities, of which Lightboard M was one.

Recommendations were made by Rick Boylan, who was in charge of electrics until recently – he has decided to resume his freelance career as a lighting and sound technician, a career that has led him on extensive tours as well as a stint as a chief in the West End. Rick is of that highly competent breed that one keeps running across in theatres and at commercial shows. He is now, incidentally, based at an ancient water mill in Zouche near Loughborough. (Pronounced, such is the contrary-ness of Midlanders, as "Zotch", as compared to Ashby de la Zouche pronounced "Zooch" – so there!)

News of a new memory system which offered full manual lever per channel control, full memory facilities plus electronic patching, was first brought to Rick by Terry Abbs, who represents us in the Midlands.

This was followed by a Brentford demonstration by Susan Dandridge. Strand were very keen at this point to make a sale to a suitably located theatre as we had great

hopes for this board – hopes which have now been overwhelmingly fulfilled.

Leicester is near the geographic centre of England and with the possibility of Rick as the user we put every effort into making the sale. The existing dimmers, which were to be retained, were 60 ways of S.T.M. and 30 ways by Another Manufacturer.

A long days demonstration and a deep technical investigation now took place. Rick wanted "A traditional theatre board, not a rock and roll board which would do as a theatre board". There are, be warned gentle reader, quite a few of those around.

Rick lays down the Rules

The board had to:

- 1 Be within a strictly limited budget.
- 2 Be simple to operate, as visiting companies sometimes bring their own operators to the Phoenix.
3. Have full memory facilities plus lever per channel control for one night shows.
- 4 Choice of rate or manual play back.
- 5 Hard copy print out.
- 6 Flexible patching arrangements.

As we have seen, we met all these conditions – even the first – so let's see how a year's use has confirmed or changed the theatre's views.

The Good Points

Comments in quotes direct from my interview with Rick Boylan.)

1 The V.D.U. (C.R.T.) has been a real hit of the control room. "Very clear and really easy to read. This display is the best use of colour I have seen". The Lightboard M display also offers dramatically clear text.

2 "The ability to clear the desk as I wish, i.e. "Clear Memory", "Clear Cues" or "Clear Patch".

3 "The Functions Key is a delight! You can set up anything you want on functions buttons so that one push will carry out a multitude of individual personal operator requests – what a fast way to load the system and in rock and roll what a way to bring up a whole new lighting sequence!".

4 "The "Selective Print-Out is a whizz! I can print out the cue sheets (times and links), or each of the four patch panels, or the sub-master assignments or, of course, the whole plot. But you don't have to have a waste bucket full of print out every time I want a hard copy".

5 The sub-masters. Rick has put cyc.



The Leicester Phoenix – in the heart of the business district.

Rick Boylan at what was Europe's very first Lightboard M.

colours and other useful washes as groups which he has put into the desk and replays on the sub-masters. "If anything is particularly nice, then it becomes a memory in my permanent repertoire".

6 "The desk layout makes operating extremely easy. And it is professional and subtle! For example, I like the fact that there are no silly bleeps saying "don't be stupid". The system designer meant this board for people who knew what they were about – and I don't like being treated like an idiot as some boards seem to do".

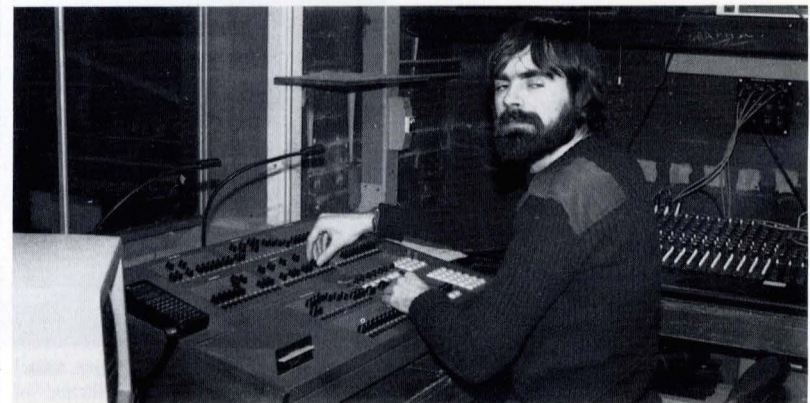
Some less good points and one really annoying one!

Rick: The desk is rather "right handed" – and I am left handed! This means that I have to enter cues sitting to the right of the desk!

Strand: Actually, the desks ordered nowadays can be reconfigured within certain limits – but this does mean special orders and this stretches delivery times.

Rick: How about 120 channels instead of 96? – even though control of 768 dimmers is, to say the least, adequate!

Strand: Lightboard M can go to 144 channels. BUT its double sized – after all, 144 faders is a lot of faders!



Rick: A padded roll along the bottom of the desk would be more comfortable on a long rehearsal.

Strand: Too right – we will seriously think about it!

The Summing Up

In spite of a few reservations Lightboard M is definitely the desk for the multi purpose venue. At one go we do appear to have overtaken the whole plethora of manual/memory boards that are now offered. Up to

the time of writing Europe has ordered over 350 units and the system is already a tremendous success in the U.S. Why has Lightboard M been able to move into the lead before its first year is complete?

First – value for money. All the facilities you ever thought of at a middle range price. Second – Strand back-up and service to give that feeling of confidence that every buyer of a high tech product must have.

For more information on products featured in this article tick box D on the coupon on the back page

Oliver Hartree's Message



A message to Strand Lighting customers, users, and staff for the New Year from Oliver Hartree, the Managing Director of the Strand Companies in the UK, Germany, Italy, France, Australia and Hong Kong

Last year we moved to our new headquarters building. Critics could say that architecturally it is short on character, but then the people who work for Strand more than make up for that possible deficiency.

The Editor has commented in his history of Strand on the Company's strong growth since its acquisition by the Rank Organisation. I would like to say a few words by way of reassurance to a very

"personal contact" business.

In the UK we have continued to place emphasis on our distributor chain, ever growing both in business and in expertise in our products. Each of them is carefully selected and I hope that they will not mind my saying that their standards of customer service are constantly monitored by Russell Dunsire and his team. This is only right as they are often our only link with the most important people we know, you the Strand customers.

Changes in the last few years in certain overseas territories show that the same principles are applied.

It could be invidious to mention any particular areas of success, but I would like to congratulate M. Bouchet and his team in France on their progress over a very short period. They have made Strand No. 1 in one

of Europe's No. 1 theatre nations. Of course, they have had the world's No. 1 products to help them, but it is still a fine achievement.

When we re-purchased our Australian company everyone at Strand was delighted. The re-born company's progress in that most important market justifies our decision.

The acquisition a few years back of the Quartzcolor Studio Lighting operation based in Rome, Italy, was another good decision. We have backed them fully, and new innovative products will soon be announced to reinforce our hold on the world's studios, both film and television.

At Strand we have always invested heavily in up to the minute technology. Our lead article in this issue describes in detail what I consider to be the most important development currently under way - remote memory controlled luminaires. Any technology that has saved time and improved actual performance standards has always won out in our world. Look at Memory systems. Now PALS is the new lighting revolution. I am delighted to say that Strand is at the forefront.

Galaxy and Lightboard M have put us ahead of our competitors in controls.

Cantata has done the same in luminaires. In automated luminaire control we are actually starting out ahead!

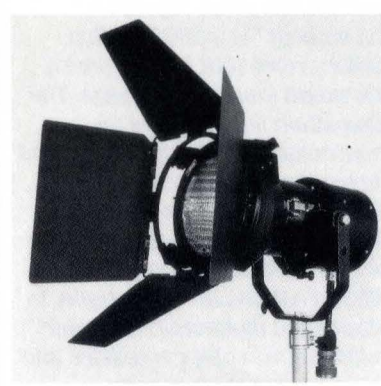
We plan again to take our products to you in a series of sales tours, we welcome you to Isleworth, and we shall continue to seek to keep you informed, wherever in the world you live, through the pages of Strandlight.

Finally, thank you for your support of our products - and watch out for the latest advances.

I and all my directors, send very best wishes to all our customers and friends for 1989.

*Oliver Hartree
Managing Director.*

Some Quartzcolor Updates News in Brief from the Eternal City



The new Quartzcolor Parlight 1200.

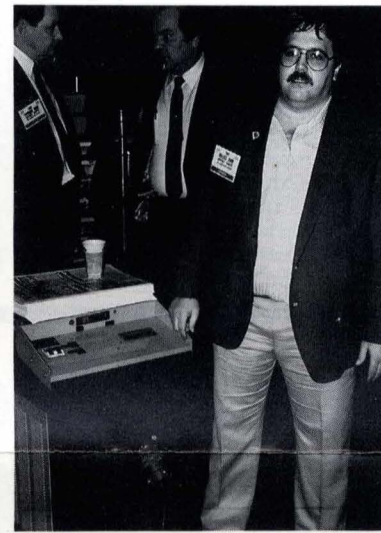
Parlight

This unit uses either the HMI or the CID sealed Beam lamps.

It is compatible with any Quartzcolor 1200 Watt ballast including our latest Flicker Free electronic units.

These lights are ideal for any maximum lumens per watt daylight source situation. Lens holders, colour frames and four leaf barndoors are all available.

Mike Collier - the man behind the new products now flowing from Quartzcolor, seen with an HMI ballast - and copies of Strandlight!



New Flicker Free Electronic Ballasts

Back in 1972 we launched HMI daylight systems for the film and T.V. Industries.

Now we are proud to announce solid state electronic Flicker Free ballasts for 575 watt and 1200 watt luminaires.

These units not only eliminate any flicker problems, but they are lighter and more compact than conventional ballasts.

Other features include in-built dimmers allowing colour temperature balancing and voltage input switching between 100V and 240V AC, 50-60 Hz.

New Iris Cyclorama System

This features a split yoke, allowing both Iris 2 and Iris 4 to have their top compartments tilted independently to give more even coverage on especially tall cycloramas. These units will be particularly useful when scenery or props rule out the use of groundrows.

One of the new "Split Yoke" Iris 2's.



For more information on products featured in this article tick box E on the coupon on the back page

You Can Always Learn from Education

Kxon TV-35, Oklahoma

by David C. Ostmo, C. E., KXON TV.

We thank "T.V. Technology" for permission to reprint a recent interesting article. Jackie Grotheer has been kind enough to provide the photo. The special interest lies in the method used to obtain the best package for the price - perhaps this approach would help others with a studio to equip and a limited budget?

Claremore OK... KXON is an educational television station owned by Rogers State College. Currently, we are producing 22% of the program schedule in our studios. The shows vary from telecourses to specialized talk shows, along with a weekly country music program.

This variety of production dictated the need for an accommodating lighting package. When the facility was in the planning stages two years ago, we were able to develop such a system.

The budget for the entire lighting package was only \$30,000. That figure would have to buy the grid, electrical distribution, all lighting instruments, extra lamps and any grip equipment.

We felt we could achieve our lighting goals on that money if it was carefully spent.

It was immediately obvious we could not afford a dimmer system. The lights would have to be switched from breaker panels.

To provide electrical head room, the panels were equipped with 30A breakers. The larger size was installed because many lamps draw about 19.5A when they are switched on. Twenty amp breakers sometimes kick out and shorten lamp lifetime.

Designing the grid

Station facilities were constructed in an old gymnasium. Control rooms were framed on one end of the floor; the other end was left open for the studio. This created a 48' x 35' studio with a ceiling height of 18'.

We determined a 4' x 4' grid system would offer the most flexibility for lighting setups. It would be suspended 3' below the ceiling, for a grid height of 15'. The space above the grid would be used for air conditioning duct work.

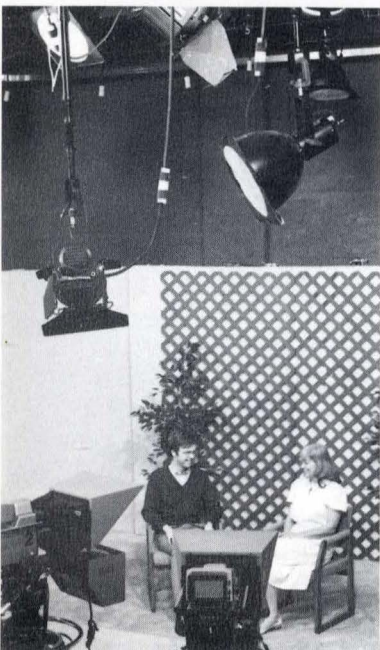
Our plans called for a 360° curtain track to be hung from the grid. We selected a 60'

grey cyc, a 20' black curtain and a 20' chroma-key blue curtain.

Electrical distribution would consist of 50 pigtailed divided between five 25' sections of wireway. This evenly spaced the outlets around the studio.

A dimmer system may not have been in the plans, however we still wired the drops with individual grounds. This would allow us to add a dimmer console without rewiring everything.

The lighting package was bid in an unusual way. Instead of spelling out every requirement and accepting the low bid, we stated the \$30,000 budget figure up front, and said the entire amount was to be used.



The Author pictured with Naomi Bluebird.

Taking bids

Our specs asked for a grid, electrical distribution, the curtains and grip equipment. Instrument types and quantity were left up to the vendor. The contract would be awarded to the bidder offering the best package for the money.

Victor Duncan, Inc. of Dallas, TX, submitted the winning bid. Its proposals met our stated requirements and included a wide variety of Strand lights.

The proposed package offered 10 #3380 6" 1,000 W fresnels, five #3480 8" 2,000 W fresnels, 12 #4291 14" scoops, six #5915 Mini Cys, two #2209 1,000 W Lekolites.

The fresnels and scoops are focussing instruments that include gel frames. Each

fresnel is equipped with eight-way barndoors. Cucaloruses and pattern frames were thrown in with the Lekolites, which are ellipsoidal spotlights.

Also included were eight telescoping hangers, a 16' platform ladder, shot bags, C-stands, a quantity of diffusion material and colored gels.

Plenty of variety

An attractive element of the Victor Duncan package was the variety of instruments. The production crew would not be forced to "scoop out" the sets with an indiscriminate amount of illumination. The different types of instruments would enable us to precisely aim the light to create different effects.

The grid was installed under the supervision of Charlie Perry, the college maintenance supervisor. His men assembled the grid in a way that exceeded the designer's specifications.

Overlap brackets were used at every intersection of pipe; twice the recommended number of pipes were fastened to the wall. Their work resulted in a rigid grid that has virtually no sway. Instruments can be changed without worry of knocking the other lights out of alignment.

After a year of heavy use, the lighting system has performed well for our station. Remember, our requirements range from simple, one person sets to music programs featuring a dozen people spread out over a wide area.

Even though some of the Strand Century instruments are classified as theatrical lights, they were acceptable to us. Victor Duncan lamped the instruments with 3,200° K bulbs.

The theatrical classification also meant a lower price per light, which is why the package included so many instruments.

An inadequate number of top grade lights is often worse than a large quantity of less expensive instruments. It does not matter how good your lights are if there are not enough of them. To properly illuminate some sets, quantity can be the most important factor.

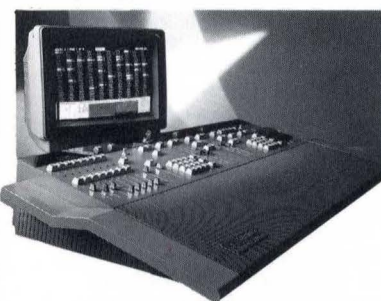
Glossary for non U.S. readers:

1 "PIGTAIL" - Electrical female outlet from connector strip. About 24" of cable terminating in a female plug.

2 "CUCALORIS" - Large pattern gobo to "break up" direct light source.

3 "SCOOPING OUT OF SET" - Flood the set with light - "flat lighting".

Introducing Gemini 2



Seen at the 1988 Photokina for the first time, the new Gemini 2 is now in production. Featuring a bold new look, improved ergonomics and fresh new displays, the Gemini 2 has been substantially improved.

Channel capacity has been increased to 240, and channel numbers from 1 to 999 may be used in controlling the maximum of 384 dimmers. Gemini's powerful electronic proportional patch ensures flexibility of control of large numbers of dimmers and allows balancing of multiple dimmers on a single control channel.

Also new is the inclusion of colour monitor, disc storage and the programmable special effects panel as standard in Gemini 2. Today's production needs make these former options a requirement in any system of Gemini's stature.

Best of all, there is no price penalty for Gemini 2 - the new Gemini 2 is equipped to match up to a diverse range of lighting control requirements in theatres, studios, nightclubs and touring productions. A full colour brochure detailing all the features of the new Gemini is available.

For more information on products featured in this article tick box F on the coupon on the back page

Sackcloth and Ashes

I seem to be in big trouble with Antipodeans these days - see letter from ten ladies all of whom joined forces to chastise me.

Now it seems I have made another mistake. In Issue No. 4 I wrote about the magnificent Imax projection system as seen in the Bradford Photographic Museum. I described it as a Canadian invention. It now turns out that the original spark of genius belonged to a Mr. Ron Jones of Queensland who, in 1967, first described his "rolling loop" principle to eliminate the jerking intermittent movement of conventional projection.

This concept was taken up by a Canadian, Mr. Graeme Ferguson, who developed the whole concept to the impressive show I saw at Expo '86 in Vancouver.

I am grateful, to Mr. J. J. Pace of Blackall, somewhere down under, who sent me a most interesting letter sorting me out.

Light up the Sky

Sky Channel, the new Rupert Murdoch Satellite television service, has opened its Isleworth Studios just across the car park from our HQ, equipped with Quartzcolor, Lightrig, M24 and Strand dimming.

For more information on products featured in this article tick box G on the coupon on the back page

Tick for Action!

If you would like to receive brochures and technical information on any of the Strand products mentioned in this issue of Strandlight, please tick the appropriate box in the coupon provided on the back page and post to me in the U.K. or to Greg Zebrowski in the U.S.A., or to your local Strand company or agent in any other country. Addresses of Strand companies overseas are on the coupon.

The Frosty Season



New Cinelux Colours

We have great pleasure in introducing 4 new Cinelux colours:

435 Deep Golden Amber, 220 White Frost, 221 Blue Frost, 225 Neutral Density Frost.

435 has always been in Strand's Chromoid range, but now, due to popular demand, we have included it in our polyester filter range CINELUX.

220, 221, and 225 have been produced to widen the range of diffusers that we offer to the film and television lighting designer.

220 is used to soften the quality of the light and slightly increases the colour temperature.

221 also softens the quality of the light and slightly increases the colour temperature.

225 is the combination of two filters, a diffuser which softens the light and reduces the light 2 stops without changing the colour. By combining the two filters Strand has enabled the lighting designer to allow more light to be transmitted.

If you would like samples to try, please call us.

These new products are now available in both Rolls and Sheets.

For more information on products featured in this article tick box H on the coupon on the back page

World Expo '88, Brisbane, Australia

The 1988 International Exposition on "Leisure in the Age of Technology" is a \$600 million dollar dream that has become a six month long extravaganza. The Exposition has provided an environment in which cultural and technological progress can be measured and reviewed throughout the exchange of ideas between all participants. It has offered nations the opportunity to strengthen diplomatic and trade relations with other countries and to the corporate sector to demonstrate their capabilities and to enhance their company image while maintaining the theme of how people play and relax in their own countries. World Expo '88 became "the biggest and best party of 1988" and the major international event of Australia's Bicentennial celebrations.

World Expo '88 is located on a 40 hectare site (97 acres) on a strip of land along the south bank of the Brisbane River linked to the city centre just 800 metres away by a picturesque bridge. Eight giant sunsails flung across the site form the visual and protective theme over the pavilions of the 52 government and 20 corporate exhibitors. The original number of projected visitors - 7.8 million - was achieved before the halfway mark. New projections are in the range of 12 to 14 million. This will put World Expo '88 in the remarkable position of recording an attendance close to 100 per cent of Australia's population.

Strand Lighting is once again pleased to have played a significant role in the success of the magnificent project. In keeping with the contractual presence the organisation upheld at World Expo '86 in Vancouver,

Canada, the Strand Lighting logo was proudly displayed in over 40 pavilions and exhibits as well as all the entertainment venues making Strand Lighting the single largest lighting company on the project site.

For the first time at a world exposition, Strand Lighting, in addition to providing the supply of luminaires, dimming control equipment, provided a complete 'turn key' services from concept/design, electrical engineering, electrical distribution, rigging, commissioning, to full operations and maintenance packages.

Strand Lighting provided these services to the following International government pavilions: United States, Soviet Union, Japan, Canada, China, Switzerland, Indonesia, Papua New Guinea, Kenya, Philippines, South Pacific Island Lagoon project and the United Nations.

State Governments included: the host state Queensland, New South Wales, Western Australia, California, Hawaii and Alaska.

Corporate participants include: the Japan Technoplaza, Fujitsu, Queensland Teachers Credit Union, Queensland Newspapers, Australia Post, Cadbury/Schweppes, Universal Telecasters (host broadcast), Queensland Electricity Supply Industry and the Primary Industries Pavilion.

Specialised exhibits/pavilions included: the Holy Sea Vatican Treasures, the Captain Cook Pavilion, Alice Rock Cafe and the restoration of the historic "Plough Inn".

Additionally, Strand Lighting provided luminaires, follow spots, control equipment and special effects to the World Expo '88 performance venues and to the Sitescape lighting.

The success Strand Lighting played at World Expo '88 was possibly due to a joint venture agreement with Rathe Productions to market and project manage Strand Lighting services directly to the participants and exhibitors.

Rathe Productions is a multi-faceted corporation based in New York and

Washington DC, USA and is recognised internationally as the world leader in World Exposition design, management and fabrication.

The joint venture offered a full service exposition team and went on to design, fabricate and manage over 50% of the entire site.

The concept of providing a full service organisation to World Expo '88 was based on Strand Lighting's participation at Expo '86, as the prime theatrical contractor and the management/operational ability the organisation proved it could execute. Canadian lighting designer/businessman, Don Scarrow and Strand Lighting Australia foresaw the potential in having a full service exhibition lighting organisation that could provide a "turn key" operation in conjunction with a leading exhibit team as having mutual merit.

Under the direction of Strand Australia's General Manager, Ian Haddon, Don Scarrow and the Board of Directors of Rathe the agreements and operational guidelines were completed in July, 1987. The operation moved to its own offices and warehousing adjacent the Rathe 80,000 sq ft., facility, close to the Expo site. An extensive marketing plan assured that every participant was completely familiar with not only the equipment but the complete services that Strand Lighting could offer.

As January 1988 drew close, it was evident that not only the potential business that was about to unfold, but also the logistical nightmares involved in the supply, labour and timetable criteria so crucial in the timely and cost efficient completion of the anticipated quantity of projects, had to be outlined and identified immediately.

In conjunction with National Sales Manager Geoff Biggs and Queensland State Sales Manager, John Rippin, anticipated equipment requirements and delivery timetables were drawn up and orders placed with Strand's various worldwide manufacturing plants. Management, design and technical personnel were interviewed and hired until

their numbers exceeded seventy-five technicians, riggers and electricians under the direction of the General Manager, and former Expo '86 Technical Services Manager, Misha Tarasoff; Production Manager Brett Fitzpatrick and Electrical Manager Derek Campbell.

Within the following one hundred days the team worked basically around the clock to design, install, wire and commission over 2000 theatrical luminaires, 600 dimmers, fully automated shows, over 200 architectural fittings, fire/emergency systems and a myriad of special effects into over 40 projects simultaneously.

Credit for the timely manufacture, delivery and organisation of the equipment to Brisbane must be shared by the entire Strand Lighting organisation. Additionally, the strength of the Rathe/Strand joint venture (almost 500 employees) and its "house" capabilities of project management, fabrication, audio visual and lighting teams have been tested and proven along with degree of flexibility required from a disciplines involved with the project.

The task of completing World Expo '88 on time under sometimes trying conditions is now finished, the operational and maintenance crews (18 team members in total), provided instantaneous service to the entire site. Recent clientele have included additional lighting services in both the Australian National Pavilion and the Spain Pavilion.

As World Expo '88 entered into its final months of operation, plans were being effected by the team to make Expo '92 in Seville, Spain the success that both Vancouver and Brisbane have been.

Strand Lighting has once again proved can deliver the product anywhere in the world on time and to a technical standard the rest of the world can only aspire to reinforcing Strand's position as the world market leader.

Quartzcolor at the Movies

People at war were themes thoroughly explored by blockbuster box-office hits during the last eighteen months. "Platoon" was a harrowing story of GI's at war in Vietnam. Shot in the Philippines the production used a location lighting package supplied by Keylite PSI of Burbank, California. The package comprised Quartzcolor luminaires, in particular 12000 watt HMI Sirio Systems that performed impeccably in the hostile jungle environment.

"Hope and Glory" examined a totally different war, a war director John Boorman experienced as a child in the London blitz of the early forties. Samuelson Lighting of North London supplied the lighting equipment consisting of Quartzcolor luminaires.

Samuelsons also supplied Quartzcolor equipment for a motion picture that examined the Vietnamese war from a totally different angle. "Good Morning Vietnam" showed the futility of war through the eyes of an irreverent radio disc-jockey.

"Who Framed Roger Rabbit" was arguably THE box office smash of 1988. The tale of a love-sick rabbit and the very human private eye who takes on the case provides a hilarious romp featuring real and cartoon characters. Once again Samuelsons provided the equipment consisting largely of Quartzcolor luminaires.

1 Ricky Francisco in a tense scene from Orion Pictures Corporation's production of Oliver Stone's "Platoon".

2 A family at war awaits the London blitz of the forties in John Boorman's "Hope and Glory", a Columbia Pictures release.

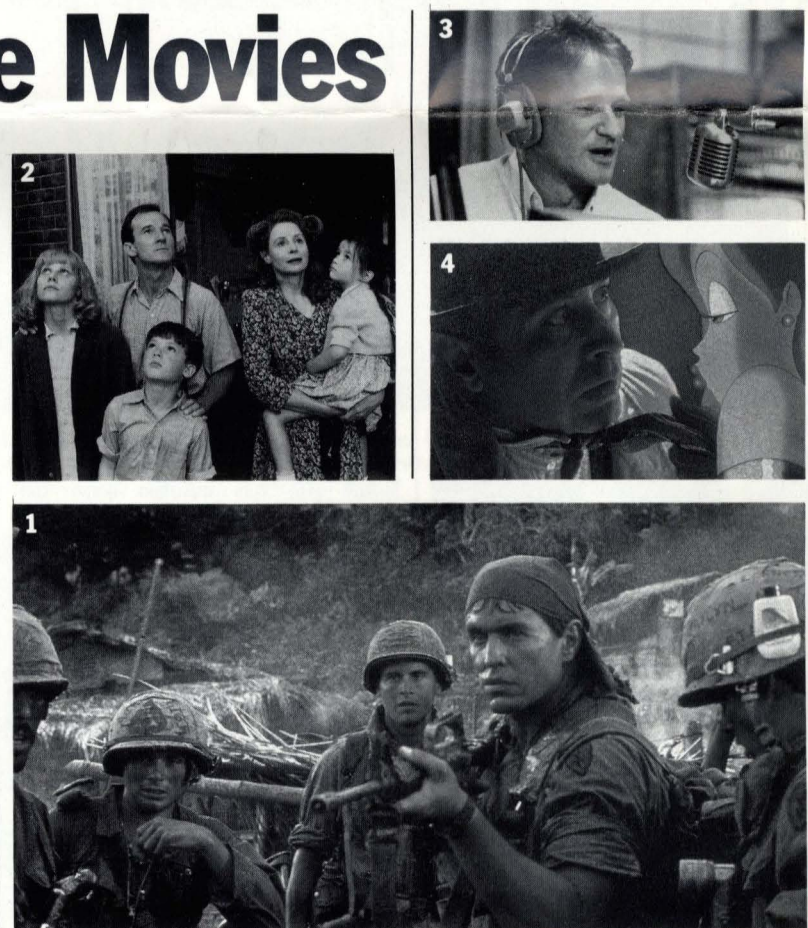
3 Robin Williams, "on the air" in Touchstone Pictures release "Good Morning Vietnam".

4 Bob Hoskins comes face to face with a lady that spells "trouble" in "Who Framed Roger Rabbit" from Touchstone Pictures.

5 Vancouver's Stanley Park is a beautiful setting for the CBC/Disney TV production of "Danger Bay". However, it has been known to rain in Vancouver. Gaffer Barry Reed shows Product Manager Brian Hartley Canadian Prolite's umbrella rig, designed to keep Quartzcolor HMI's dry and cosy.

6 Bert Skelton (2nd from right), owner of Prolite Inc, welcomes from left to right, Mike Collier (Worldwide Marketing Manager), Brian Hartley (Product Manager) and Donna Appleton (President, Strand Lighting - Canada). A major rental/hire company in Canada, Prolite uses a tremendous amount of Quartzcolor luminaires.

For more information on products featured in this article tick box I on the coupon on the back page



Technical Information Request Form

For more information on products in this issue please tick the appropriate boxes below, and return this coupon to your local Strand office or dealer.

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Please Read! Important Notice to All U.K. Readers

Dear U.K. Reader
 Please fill in the reply paid blue postcard and send it off if you wish to continue to receive Strandlight.
 We now send out over six thousand copies in Great Britain and we wonder if all the people who receive it are still interested! After all, interests do change.
 If we have a completed card back from you we will be delighted - and we will go on sending you our magazine.
 If we don't hear we will assume that interest has died - or possibly it's the reader!
 Best regards,
 RICHARD HARRIS Editor

Strand Lighting

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