

# LIGHTS!

NOVEMBER 1992

VOL. 3 ISSUE 3



60 YEARS OF...

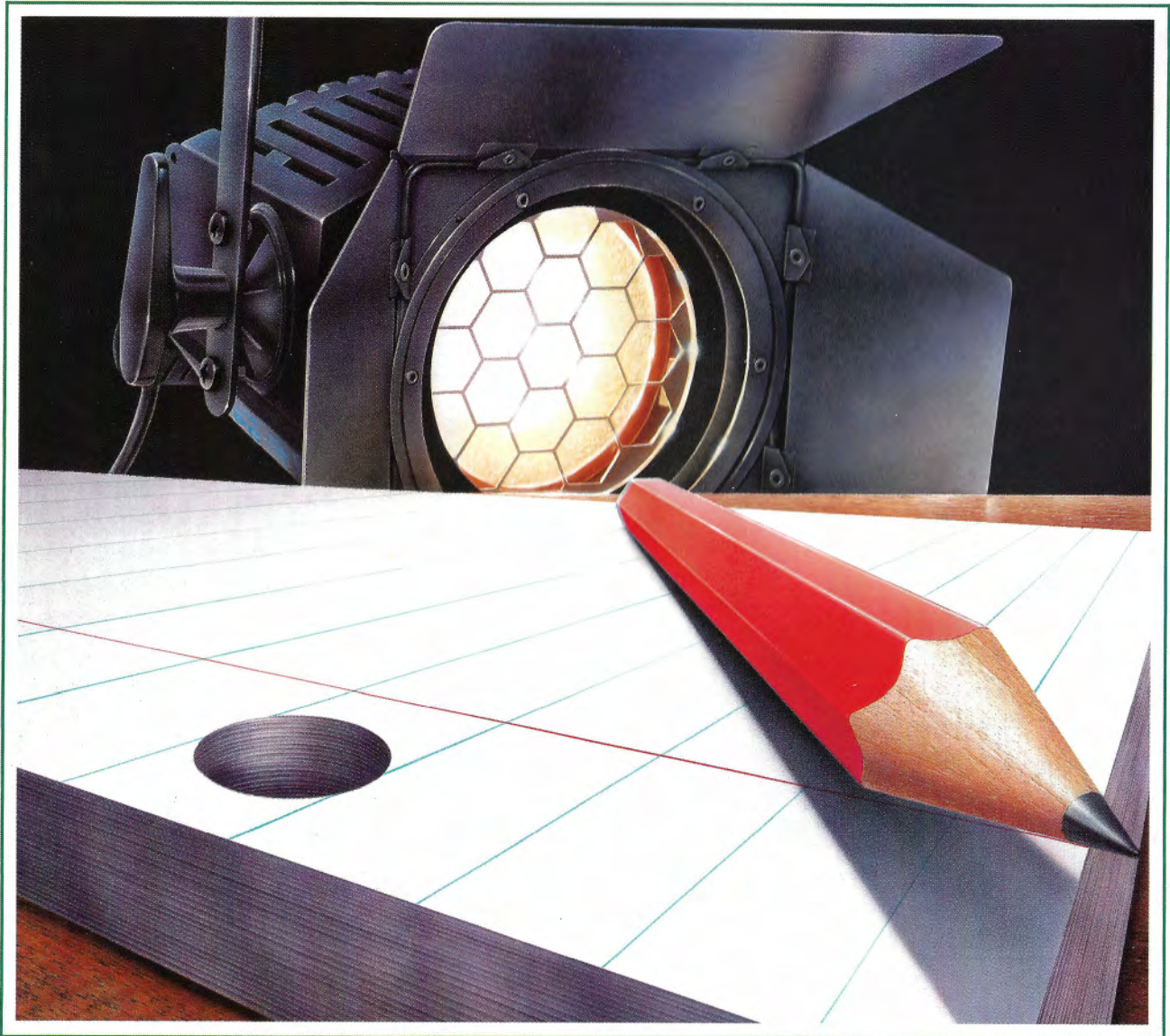
**LEKO**  <sup>®</sup>



Strand Lighting

# S T R A N D S C A P E S

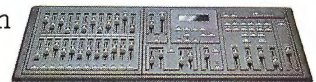
— No. 5 —



*At college*



**S**trand, the world leader in entertainment lighting, has been a part of the educational and amateur dramatic scene for over 75 years — bringing the benefits of professional lighting expertise to new performers and audiences around the world, with top quality products like the new Quartet spotlights and MX control boards.



**Strand Lighting**

## Focus on the USA

Right from our first issue, *Lights!* has stressed the global nature of lighting for entertainment and architecture setting out to promote the exchange of ideas, showcase product applications and provide technical guidance to a world-wide readership.

Major trade shows this year in Paris, Las Vegas, Berlin London and Cologne have already provided the debut for important new products from Strand Lighting. And November 1992 was the turn of the LDI show in Dallas - a venue chosen by Strand Lighting to unveil a new range of LEKO<sup>®</sup> fixtures.

Leko - a named formed from the conjunction of Century Lighting mentors Levy and Kook - is a product whose name is synonymous with Strand and Century, continuing a tradition extending back some sixty years. A new Leko therefore is an event of no small importance and the new product that carries forward this name is itself a landmark in lighting instrument design. It is also the first time that a product has featured on the front cover of *Lights!*

Another change in design is that our production process enables us to introduce two issues of *Lights!*; this issue, and a version for North America.

Another landmark is the publication of Fred Bentham's autobiography reviewed in this issue of *Lights!* His is another familiar name with a story to match. A book that is a must on the reading list and bookshelf of everybody involved or just curious about the subject Fred refers to as the 'arcane world of creative lighting'. *Lights!* readers will be pleased to find an opportunity to own a copy of "Sixty Years of Light Work" through an offer in this issue.

Quality and Strand products are synonymous so it is gratifying to announce the award by the British Standards Institute following compliance with the BS5750 quality standards.



Dr Lewis Moonie MP for Kirkcaldy (right) presenting the Certificate of Registration for the BSI Register of Firms of Assessed Capability (BSI 5750 Part 1) to Managing Director, Chris Waldron (left) and Operations Director Neil Gilmour on 14 October 1992 (see News item - page 4).

Editorial Board: David Brooks, BSc., CEng, MIEE, DMS. Andy Collier BSc(Hons). Edward Pagett, BSc(Hons), AMIEE. Steve Norman, BA, MBA.

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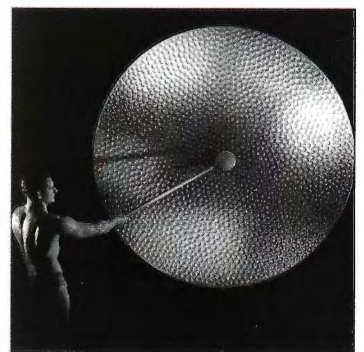
Details of your local Strand contacts.

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Sixty years of theatrical tradition as Strand Lighting launches the new Leko in the USA and Canada. See pages 6/7.



The anonymous man who became the symbol of the British Film industry is on page 8.



A look behind the scenes at Gleneagles - one of Scotland's Premiere<sup>®</sup> golfing hotels on page 11.



Capture your magic moments on page 9.

Front cover:  
A celebration of the new range of LEKO<sup>®</sup> ellipsoidal spotlights.

# STRAND ANNOUNCES 'EURO SYSTEM'

**S**trand has joined forces with its Main Distributor network throughout Europe to launch a new pricing package on a selected range of luminaires, controls and dimmers. Called 'Euro System', the range of products represents a complete system for the smaller-scale performance spaces.

The products, which include the popular Quartet range of 650W spotlights, LX 2-preset manual desks, MX manual with memory desks, M24 memory systems and Act 2, Act 6 and Permuss dimmers, have been included to provide a choice for a complete lighting system for schools and amateur theatres at highly competitive prices.

All products are available individually, or in special packages prepared by the local distributor.

Introductory leaflets in fourteen European languages have been mailed and inserted in journals to reach over 150,000 people. The campaign is supported by colourful posters, stickers and 'Euro System' polythene bags. Strand is supporting the distributors by supplying these products on a new pricing base to enable them to offer special promotions, and to pass on savings to their customers. Full details and advice on selecting the system to suit all applications and budgets are available from Strand Main Distributors listed on page 18. ☼



## NEW PORTABLE LIGHTING FOR PROFESSIONALS



**S**trand's new range of lightweight, easy to handle, go anywhere daylight lights provides all the components needed for a tailor-made portable kit.

Specifically designed for news reporting and cinematography, the 'Reporterlight' range offers high output 125W or 200W daylight sources (five times brighter than equivalent rated tungsten sources), 5600K colour temperature, battery or line powered operation, lightweight flicker-free electronic ballasts, and an extensive range of components and ready to use kits. Tungsten versions are also available in the same range. ☼

## STRAND'S SUCCESS IN TV CONTINUES

**I**n the midst of gloomy reports of the effects of a world-wide recession, Strand is maintaining its position as the number one studio lighting equipment supplier by winning fourteen contracts in recent months valued in excess of £3m

Egyptian TV has installed Gemini and MX controls, EC90 dimmers plus Quartzcolor studio luminaires in five studios. In Africa, Gemini desks, EC90 dimming, studio luminaires, and Strand self-climbing hoists have been chosen for four new TV studios.

Ulster TV have awarded Strand the contract for hoists and EC90 dimmers for their new studio.

Central TV have installed three new Galaxy Nova memory controls

in their Nottingham studios.

A combination of MX desk and Premiere® control, EC90 dimming, LightRig and luminaires has been chosen by Carlton for their new London News Network studio, and London Weekend Television have upgraded their G.M.T.V facility with EC90 dimmers.

In Portugal, the Berna Cinema Television facility has MX and EC90 dimmers, Strand's new track and barrel studio suspension plus Quartzcolor luminaires. Also in Portugal, NBP Television has been equipped with a Lightboard® M control, EC90 dimmers, and Quartzcolor luminaires.

Sabah TV in Turkey are soon to take delivery of their EC90 dimmers, MX control, LightRig and

studio luminaires and Scottish Television is equipping its studios A, C and Gateway with a selection of Galaxy Nova and Gemini controls, EC90 dimmers and Quartzcolor luminaires. ☼

### PETER RADMORE

It is with great sadness that we record the untimely death of Peter Radmore, on August 14th, who was Technical Manager of the National Theatre, London. Many of us at Strand had worked with Peter from the earliest days of the National Theatre, and his immense knowledge, professionalism and enthusiasm will be greatly missed.

## STRAND LIGHTING - BSI REGISTERED FIRM

**S**trand Lighting is proud to announce its registration to BS 5750: Part 1: 1987, EN29001-1987 and ISO 9001-1987.

The British Standards Institution Quality Assurance Director has granted Strand Lighting a Certificate of

Registration permitting the company to be listed in the BSI Register of Firms of Assessed capability. This registration is in the "Standard Industrial Classification" and is cited for the "Design and Manufacture of TV Studio, Theatre and Architectural Lighting and Control Equipment".

The scope of the registration also extends to our West London location at Isleworth in Middlesex. Strand regards this achievement as a very important recognition of its commitment to quality throughout its design and manufacturing process. The company also is pleased to have achieved approval

to a standard of quality that is not only recognised in Great Britain but increasingly in its important overseas markets.

The BSI advises that, "the primary objective of accreditation is to help industry to first improve and then demonstrate its quality capability. A distinctive national mark - the tick - is awarded by the Secretary of State to bodies who successfully achieve accreditation. The National Accreditation Mark will provide firms with a clear and public demonstration that their quality management systems have been certified by a competent and impartial certification body." ☼

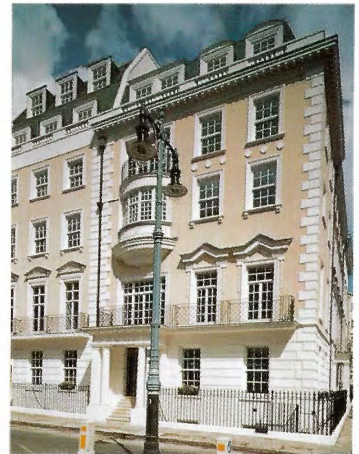
# GREEN CASE STUDY



The proposal from specialist lighting consultants Pinniger & Partners, involved in the project 84 South Audley Street, located in London's Mayfair, took into account not only the best current lighting practice with new technology light sources, but also addressed energy and environmental issues.

In the reception, where feature and effect lighting were required, the designers employed low voltage dichroic and cold cathode circuits controlled from Strand Multidim plug-in dimmers with a combination of manual, photocell and timer control. The timer turns lights on in the morning and off in the evening to minimise energy wastage outside of normal working hours. To balance the tones of the interior and natural exterior light the

photocell fades pink and blue cold cathode circuits to create a cool/warm atmosphere at twilight. All the low voltage circuits are under-run using the dimmers to extend the lamp life and further reduce energy.



Photos by Arcona Construction Services.

# MINNESOTA HISTORICAL SOCIETY



The Minnesota History Hall has several Premiere® systems controlling the lighting in all major exhibit spaces.

Premiere controls are linked to motion detectors in many light sensitive exhibits turning lights on only when someone is present, preserving artefacts on display.

The system clocks are used to select the museum's day and night settings including control of all the exterior lighting. The museum does much of their own control programming work using Premiere's Configuration Software. Recently Lighting Designer Richard Rumel has added a Lightboard® M and Mantrix® MX to the systems in the building to provide elements of theatrical lighting.



Photos © George Heinrich 1992

# TITTENHURST PARK HOUSE TRANSFORMED BY MULTIDIM



One part of the Multidim installation. Photo supplied by Keydial Ltd

Tittenhurst Park House set in 79 acres of Berkshire countryside has recently been refurbished by current owner Sheikh Zayed bin Sultan al-Nahyan at an estimated cost of \$40 million.

The Georgian grade II listed building, former home of Beatle John Lennon and then for twelve years fellow Beatle Ringo Star, has been turned into a dream palace more reminiscent of the Arabian Nights than an English country house.

The refurbishment, one of the most lavish ever carried out in Britain includes the extensive use of dimming control to create mood and atmosphere in all the major rooms and corridors in the house.

Reg Swain, Director of Keydial, the Electronic Systems Engineers for the project explained, "Because the building was listed, there were strict limitations imposed on control station size and cabling. Some rooms required individual control of up to 10 four preset dimmers from a UK standard 2-gang panel!

Our solution was to design a logic box that would sequentially step through the dimmers' presets, or select Off, from a single 12 volt two way rocker switch. With this approach, the control panel for the largest room only had to accommodate 11 switches, the 11th providing a master "Off" and "Restore" facility for the room. Using ELV (extra low voltage) control meant that a 25 core

signal cable could be used to link the controls to the logic unit simplifying the installation and satisfying the local authority.

Multidim is ideal for use with custom control panels as the Preset, Raise, Lower and Stop functions can all be activated from a momentary switch contact closure, in this case derived from the special logic box."

Over 130 Strand Preset Multidim units have been installed throughout the building to control tungsten, low voltage, fluorescent and cold cathode lighting loads, with control panels finished in chrome, bronze or brass to match the interior design.

Philip Rose marks the launch of the new Leko with a retrospective of...

# THE LEKOLITE - 60 YEARS ON



The Strand Century 1kW Axial Lekolite® Spotlight.

**G**o into any theatre in the world and ask for a Leko. You may not get it in the outer reaches of Mongolia but they will know what you want.

In its nearly sixty year life the LEKO has become the definitive beam shaping spot, still in as much demand as ever.

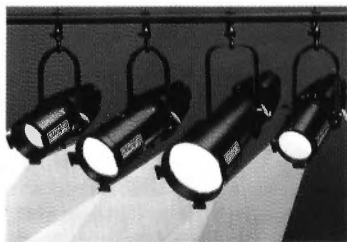
It was back in 1933 that Joseph Levy and Edward F. Kook, founders of Century Lighting, filed a patent for a new ellipsoidal spotlight, each giving half their name - LE and KO to their joint brainchild. At last a development which could utilise the known efficiency of the ellipsoidal reflector together with beam shaping and hard or soft focus lenses.

Towards the end of the twenties the use of directional lighting became increasingly popular mostly based on the use of plano-convex lensed spots. However, the demand for better, brighter and more versatile spotlights increased as every new show opened.

Earlier in the decade Frank Benford, a lamp physicist with GE published a number of studies on sources, reflectors and lens design. These encouraged Century and Kliegl who were deeply involved in theatre lighting development. At last, in just about the two years 1932-34, GE produced a tubular Bi-post projector lamp with a

concentrated filament near the end of the envelope. From the Aluminum Company of America came a patented aluminum finish (ALZAC) with reflectance of better than 80% and from others, metals capable of surviving the high temperature at the gate focus.

The first lamp to appear was rated at 120V 1500W designed to locate the filament at the reflector focus whilst keeping the base outside the reflector. A pre-focus 500W version soon appeared.



Strand Century 1kW Axial Lekolite® Spotlights 4 1/2" to 10".

Needless to say the appearance of the LEKO was not uncontroversial, the argument soon developing as to 'who was first' with an ellipsoidal spot. The British took the holy view that in any case, it all started with the Stelmar reflector system made by Strand Electric in the twenties. However, this is not the time or the place to get side tracked into this debate.

Century's LEKO and Kliegl's Ellipsoidal were first listed in their respective 1934 catalogues.

However, as with most new product, the spots were well in use before the publicity had caught up.

What was happening at the British end is another story but it was nearly another 30 years before a suitable base up 240V projector lamp appeared. The physics of Tungsten and other constraints make it more difficult to produce such a lamp for 240V.

The Lekolite range steadily expanded as the wattages of available lamps broadened, however the 500W (which eventually became the 500/750W) became the most popular highest unit volume spot ever made.

The arrival of a practical Tungsten Halogen lamp in the early sixties brought all round improvement in efficiency to theatre and studio lighting particularly in respect to maintained lumens throughout life. Soon after this a new 500/750W LEKO appeared. This brilliantly designed and engineered pressure die cast aluminum unit, prompted by Strand's successful Pattern 23, was developed at Century's Los Angeles plant by a team led by Louis Erhardt. It set new standards in spotlight mechanics rarely equalled since.

With all the concerns over brightness and optical efficiency it is easy to overlook considerations of size, mechanical strength, heat control and ease of use. Stages and Studios are not the easiest places in which to work and are not particularly friendly to equipment of any sort. For an electrician to rig, set, colour and focus a light when hanging by the finger nails from a pipe calls for a sound understanding of the working environment on the part of the spot designer and maker. There can be no doubt that throughout its long and successful life the LEKO has more than passed this test. ☺

*Philip Rose, a Director of the old Strand Electric, moved westward in 1959 to develop Strand's North American activities. After the Rank acquisition of Strand and then Century, he was appointed President of Strand Century and moved to L.A. He returned to the U.K. as International Marketing Director in 1974. He is now retired and living in Hampshire.*

**T**he most recent version of LEKO dates back to 1979 when it was upgraded to 1000 Watt by fitting a 1kW FEL lamp axially in a redesigned elliptical reflector. This 'easy to use and adjust' version has been in production since that time. The 1000W LEKO became the subject of review as it was time to consider replacing tooling that was reaching the end of its working life.

The decision of whether to re-make the tools, or commission a new design concept was reached quickly: there was to be a new LEKO, code-named LEKO 3.

The starting point was a natural one for the designers - the theatre itself - and all available comments, compliments and criticisms were collated, checked and fed into the design specification.

For performance and quality, the LEKO was considered the best in its class, especially at 1000W. But the cost of production had become too high. The previous design simply had too many parts which not only increased material cost, but was too labor intensive in assembly. So came the question, how do we improve on an already established success? Well, there were a few features such as a rock-solid lock off, easier lamp exchange, simpler focusing, removable iris that were identified and agreed as important goals in the design brief. In the bottom of the filing cabinet lay the hardest requests of all. They were called the "WIBNIs" - "wouldn't it be nice if..." "there were over-range shutters," or "you can change the lamp without re-focusing".

During the next twelve months the new LEKO was born. The optics remain true to the original design concept - there's no need to change what had taken a lifetime to perfect. Die-cast parts and plastics were integrated in the design to reduce the component list. Back in Kirkcaldy, Scotland, the mechanical team developed ideas that were so novel that patents were immediately filed. Each answered a 'WIBNI'.

The first concerned the focusing system ①. The lamp socket assembly was developed to slide in a cylindrical housing in the rear of the lamphouse. A knob at the side positions the lamp in the reflector to adjust from peak to cosine distribution. If the lamp has to be replaced, the lamp socket assembly can be removed by a bayonet action against retaining springs leaving the adjustment actuator locked in the pre-set position. Refitting the lamp

# LEKO® - THE TRADITION CONTINUES

is the opposite bayonet action ensuring that the lamp is replaced at the previously selected focus position.

Lamp centering used to be done by a hand operated "joystick". To simplify the process with the new LEKO, a hole was provided in the rear handle of the lampholder ❷. When a screwdriver is inserted to loosen the central locking screw, the pivot action of the screwdriver, bearing on the hole in the handle, slides two plates in an X-Y plane to precisely center the lamp. The screw is then re-tightened with no fear of upsetting the lamp position. This gives a simpler, quicker, more sure and cheaper method without the risk of burning your hand!

The third novel idea concerned the gate ❸. The conventional die-cast gate with multi-layer plates, springs and shutter blades was replaced by a two part pressed spring gate assembly with an accessory slot for drop-in iris and gobo holder. This ingenious design gave the possibility of overlapping the blades to provide a greater range of cut angles, making an expensive rotating gate unnecessary. The shutters would not pull out unless assisted by the twist of a screwdriver.

The lock off used for the new LEKO was born from the vast experience gained with other die-cast luminaire developments ❹. The handle compresses a dish spring inside a cup formed in the body casting, and as the handle is turned, the spring expands and produces a positive lock so the LEKO stays aimed exactly where it is set.

The balance and stability is so good that you can stand the new LEKO on its nose ❺, with the yoke horizontal, and it doesn't tip over - a useful feature during rigging or



de-rigging a show for example.

Apart from the optical design and mechanical operation, two other important areas for a design team to address were safety, and how to manage heat within the luminaire so that the LEKO could take a 1000W lamp and obtain appropriate agency approvals. How often have 1000W lamps been squeezed into an instrument rated at 750W to get that extra light output?

So without compromising safety, an affordable solution is now right there. In fact, we are so pleased with the result that we are including a 1000W FEL lamp with

every new LEKO, to show we endorse LEKO's use as a 1000W fixture - just in case our customers have any doubt that such an exciting new design can solve the thermal problems and still fit the cost-conscious budget.

So what have we done about the price? You'll be amazed what modern design and manufacturing techniques can achieve when they try hard... But that's another story; one to talk to your Strand dealer about.

*Footnote: The new LEKO will not be initially offered in Europe, but the existing 6" European LEKO range will continue for the present.*



❺ RIGHT: The new Leko® can stand on its nose with the yoke horizontal without tipping over



❶ Lamp replacement without focus loss.



❷ Faster, easier, positive lamp alignment.



❸ Revolutionary shutter system.



❹ Absolute tilt lock off.

*It was a most unlikely alliance that was to spawn the future corporate image of the entertainment giant.*

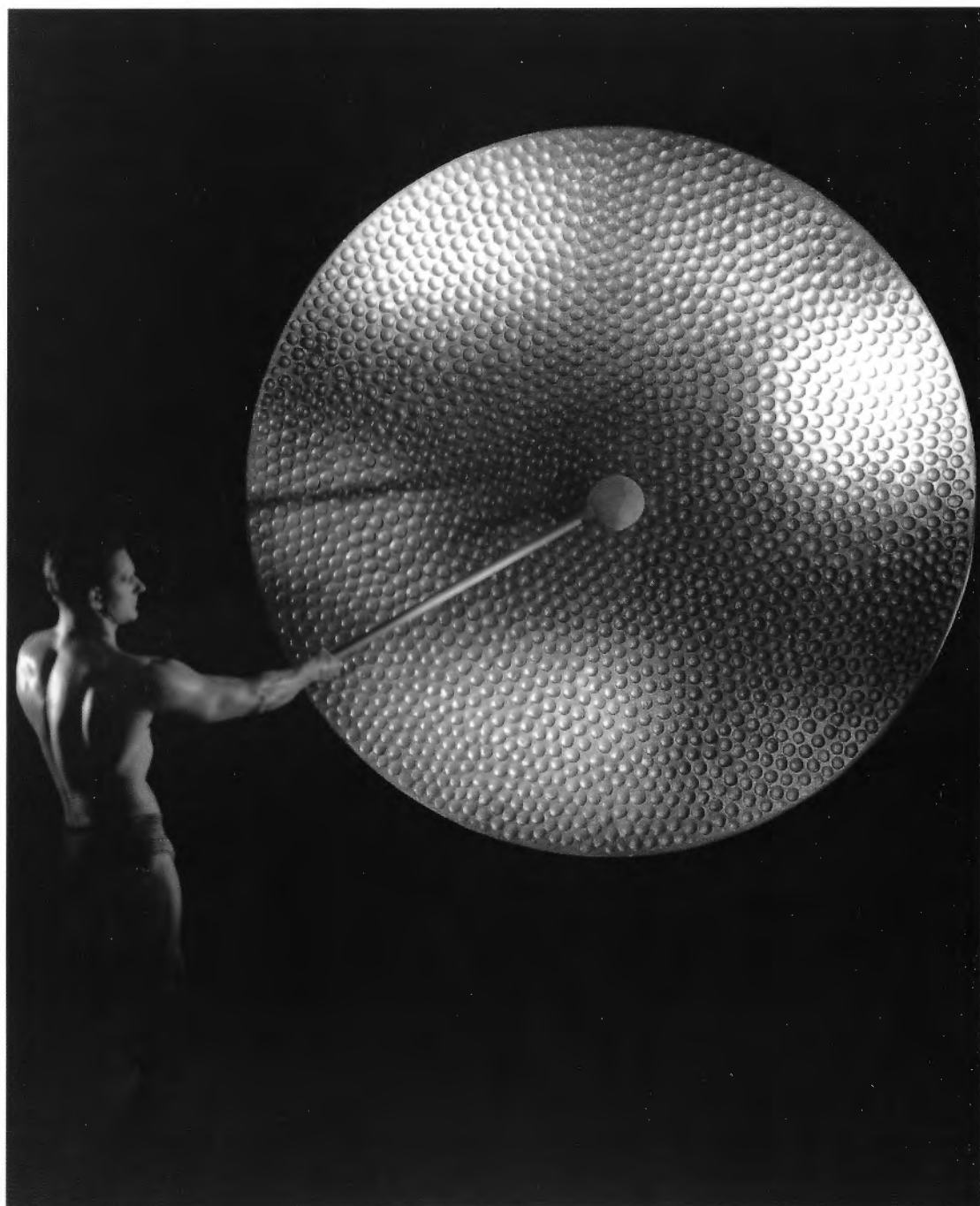
*A wealthy Methodist miller, an ex-British heavyweight boxing champion and a long gone crew of film technicians. Their paths crossed one day in 1934. The 14-second film clip they produced was the first link in a celluloid chain that stretches to the present day. Brian Hartley researches...*

# THE MAN WITH THE GONG

In the 1930's Joseph Arthur Rank made religious instruction films. His company was called General Film Distributors. A trademark that would rival those of the American Studio giants was needed.

Billy Wells, then in his mid-forties, was looking back on a most extraordinary career. Born in 1889 he had joined Britain's Royal Artillery early in the 1900's. Achieving the rank of Bombardier (that's a Corporal) he served in Mountain Artillery Regiments in India's Punjab and at Quetta. In the dust and heat of Britain's "Jewel in the Crown" he became all-India Boxing Champion. He was bought out of the army by an enterprising manager in 1911. Wells held the British heavyweight title for eight years - longer than any man until the advent of Henry Cooper. Billy won the coveted Lonsdale Belt outright. It is now in the custody, quite rightly so, of the Junior Leaders Regiment, Royal Artillery.

At Walton Hall Studios Billy Wells became the first gongman. On a Sunday afternoon in 1934, the stage was set. Billy, a huge plaster gong, a kettle-drum stick and a veteran soundman - together with a camera crew went to work. James Blades the soundman, would go on to carve his own place in history for quite another reason. Five years later he would record the famous V-for-victory signal that would



*Ken Richmond, the longest serving gongman from 1955.*

introduce BBC radio messages to occupied Europe during World War II.

Wells lived on to enjoy his fame. In fact in 1960 he was photographed - this time with his frame outfitted in dark suit and tie - with the famous gong. He was aged 71. The negative is a treasured souvenir and housed at Denham Film Laboratories.

But film clips wear out and techniques change. Enter gongman No. 2 in 1947. Not much is known about Phil Nieman except that he was an all-in Wrestler. His version endured until 1955. Ken Richmond was a worthy successor to the task of beating the gong. As an amateur

wrestler and discus thrower he had won medals at national and international level - including the Olympics at Helsinki in 1952. Wearing orange panchromatic make-up Ken shot the scene for black & white, colour, and for wide screens. His back and arms were liberally oiled. This is the 13½ second intro that exists today. A fourth version, shot in 1978, was for reasons unknown - never used.

This then is the story of the Gongman symbol. It has long outgrown its screen role, becoming the trademark of The Rank Organisation - an internationally respected name in leisure and entertainment.

Strand Lighting is proud to be a part of this family - sharing a heritage that began with a Methodist minister who preached on peaceful Sunday afternoons, and a giant of a man who sweated in a mountain gun position in an outpost of an old empire. It's a story worthy of the screen in its own right. ✪

*Lights! acknowledges the valuable research assistance of Cyril Howard, Managing Director and Norman Marilew of Pinewood Studios together with Chris Horrocks, Managing Editor, Soldier Magazine, Aldershot.*



Have you ever looked back on a favourite show and wished you'd captured it on film? Freelance author and production electrician Robert Halliday offers some advice on ...

## RECORDING THE LIGHT



"A Place with the Pigs" by Athol Fugard. An example of the extremes of contrast that often appear in theatre - a bright face against a completely dark background. The exposure was set by zooming in to the face (since that is the important part of the shot), metering, then re-composing the picture.

Photography is used in theatre for a wide variety of purposes - from the glossy black-and-white shots actors use to get parts, to the pictures sent to the newspapers to pull the audience in. But what the word photography actually means is "recording light", and this can be one of its most valuable uses - as a record of the lighting, set, and costume designs of a show.

Sadly, many small-scale productions are never recorded in this way. Lack of time means that a bright state is put up and a few posed shots taken for the press. Once the final curtain falls, the production is lost forever. And that's a shame, because although taking in-performance shots under real lighting conditions is a little harder, it needn't take up any more time.

manual control of exposure is essential), a lens and some colour film. The most useful lens is probably a 35-80mm or 35-135mm zoom since these allow for a wide variety of shots without having to fumble around changing lenses. Most reasonably priced zooms aren't very "fast" (meaning that they don't allow very much light through), and so quite a fast film will be required - at least 400 ASA, and possibly up to 1000 ASA. This means that the pictures will be a bit grainy - they'll be fine as a record of the show, but some black-and-white posed shots will still be needed for publicity purposes.

The best time for taking production photos is normally the last dress rehearsal, since by then all of the elements of the show should be finalised. And, basically, it's then a matter of knowing the best moments and being in the right place to capture them. The problem is, the light-meters on most cameras are designed for taking pictures outdoors, where the entire scene is at about the same brightness. On the stage, there is a huge range of contrast - at an extreme, a brightly lit singer in a followspot may be surrounded by black drapes. The meter will try to average out all of the dark areas, come up with an impossible exposure and suggest using a flash! Ignore it! Instead, zoom in to fill the entire frame with something brightly lit - like the singer's face. Then set the aperture and shutter speed that the meter suggests manually, and re-compose the shot as required. Print film will cope better than slides with the slight exposure errors which always result when working like this.

Some scenes might really be dim, requiring shutter speeds of 1/30th of a second or longer.



"Amadeus" by Peter Shaffer

This can lead to the picture being blurred either because the camera, or the person in the shot, moved.

A tripod will reduce camera shake although it makes it hard to move quickly to get the next shot - instead, try bracing the camera against a seat. Choosing a moment when the character is still overcomes the other problem.

Above all, don't be afraid to take as many shots as possible - wide-angles of the set, close-ups of the action, and some of the rig. You're not going to get a second chance. And get them developed carefully; minilabs don't cope very well with theatrical shots, and if you're not happy with the results you should demand that they reprint them. Then, with careful mounting in a good album, you'll have something to remember a well-lit show by, for years to come. ★

All productions at the Gulbenkian Theatre, Canterbury. Article and photographs © Robert Halliday 1992



"Cabaret" An element of luck again! The shot shows another different theatrical lighting condition - strong backlight. Here exposing for the central character's lit face has thrown the rest of the company into silhouette. This was the plan behind the lighting for the scene, so the picture has captured it well.



Scene from "Accidental Death of an Anarchist" by Dario Fo.

Lights! Interviews the man behind Broadway's best-known lighting rental company...

# "BREAK A LEG"



The show that changed our industry 'A Chorus Line'

Photograph by Colin Levy for Asylum Productions

**F**rancis P. DeVerna is a respected member of the New York Theatrical industry. Known to his friends as Frank, he is one of the third generation of a family to work in the "business". His father was a stage carpenter for Broadway plays and CBS Television, and his grandfather was a property builder for the Metropolitan Opera.

Frank, a native New Yorker, began his career, while still in school, working at the Ziegfield Theater on the production *Showboat*. In the 1960's, he was president of the Local No 1, I.A.T.S.E (New York City stagehand's union) and now heads a hire company, Four Star Lighting Inc., which for the past quarter century has provided lighting for the vast majority of Broadway plays.

When Frank joined Four Star there were three partners. One of whom was Peter Feller, a legend in the New York theatrical industry. In fact, The League of American Theaters and Producers awarded Mr. Feller a special Antoinette Perry Award (Tony) for his many contributions. Frank said, 'I learned a great deal from Peter, and he is still a good friend.'

In 1971, there was an amicable buy-out of the other partners, and since then, Frank

has been Four Star's President. He believes that industry confidence in Four Star is due in large part to the highly trained and experienced staff that it employs. He stated: 'We are in a service industry. I like to think that our success is due to the fact that over the years we have supplied lighting designers and producers with equipment and special effects that they wanted, and stayed within the budget for their shows.'

Frank said that there is great camaraderie in the New York Theater. He explained, 'There is such a personal involvement and commitment to the business that whatever the show, you are right there rooting for it on the first night. It does not matter which company provided the lighting, you want the show to succeed because it is good for the Theatre and you care about all the people who worked so hard to put the show on.'

One of my biggest thrills was the design of *A Chorus Line*, which changed our industry. Before that show, we were using resistance boards to control the lighting. Tharon Musser, the lighting designer of *A Chorus Line*, designed its lighting to include a computerized control system - and Broadway took a great leap forward. 'Since then, Frank has witnessed the general acceptance

of the Strand Lightpalette as the industry control system.

Frank went on to say: 'In recent years, I believe that the imported British musicals helped to stimulate our industry. The cost of putting them, any musical, on is high, and it takes a long time to put such a project together. But the rewards are high and long term if you have a successful show.'

To an outsider, Four Star's biggest problem would seem to be one of maintaining a sufficient stock inventory to keep all the static and touring shows well serviced. In addition to static shows on Broadway, the company may be hiring out (by the week) complete lighting and control systems for a show which may go on tour around North America for up to three years.

So how much stock does Four Star own? Frank raised his eyes heavenward. 'Don't ask! It runs into many millions of dollars. With some of the items - lighting control systems, for example - the investment is enormous. Similarly, so much cable is needed that Frank would not be in the least surprised if Four Star owned enough cable to encircle the Globe.'

In theory, the stock is housed in Four Star's plants in Mount Vernon, New York and Los

Angeles, California. However, in practice - and much to Frank's undoubted relief - the bulk of it is on hire and earning its living either on Broadway or on tour.

The success of major musicals on Broadway, with many shows later going out on extended interstate tours, has been good news not only for Four Star but also for Strand Lighting. The "partnership" between the two dates back to Four Star's early days, when Strand traded as Century Lighting. The result is that where Four Star are providing lighting for a show, it is generally with a Strand control system. Dedication to service has developed a bond between these two companies.

Apparently, Four Star has earned the respect of the industry. Many of the great lighting designers have used its services. To name a few (in alphabetical order): Martin Aronstein, Ken Billington, Andy Bridge, Pat Collins, Peggy Eisenhower, Jules Fisher, Gilbert Hemsley, David Hersey, Allen Lee Hughes, Neil Peter Jampolis, Natasha Katz, Tharon Musser, Richard Nelson, Dennis Parichy, Richard Pilbrow, Marilyn Rennegele and Jennefer Tipton.



Frank said, 'I have great admiration for the innovation of lighting designers. We are always learning from them.' Working closely with such professionals means that Frank and his staff must keep constantly abreast of developments in the industry's technology. But as Frank admits, 'I have learned much by osmosis. By sitting in on meetings and asking questions, you increase your knowledge. Particularly since 1976 when it became necessary to understand the operation of a computer board. Now, while not all of us could repair a board, at least we understand it.'

Strand Lighting has made the job easier. Their products are excellent, and so is the back-up that we receive from the company! ★

# GLENEAGLES - A PREMIERE HOTEL



When a Gleneagles meeting room is transferred into...

**G**leneagles Hotel in Scotland, known throughout the world as a five star hotel with excellent sporting and leisure facilities, now enjoys the benefits of a Strand Lighting Premiere® control system. Visitors come from around the world to play on the famous golf courses at Gleneagles, and with its leisure complex, equestrian centre, shooting school and falconry centre there is something for everyone to enjoy; all this set in one of the most beautiful areas of the Scottish countryside.

Gleneagles Hotel has been a conference venue for many years, indeed the Strand Lighting MMS lighting control was introduced at a sales conference held in the Ballroom in October 1973, although at that time the Hotel had no dedicated conference facilities. New management taking over from former owners British Rail constructed a suite in an under-used part of the hotel complex but the space suffered from a number of limitations; in particular the ceiling was low for a room of its size. Enter Strand dealers Northern Light who were invited to join the design team in 1991 to advise on the audio visual requirements for a new Conference Suite.

Although the decision had been taken to demolish the existing facilities and rebuild on the same site there were constraints as the area is surrounded on all sides by other buildings, including guest bedrooms imposing a limitation on height, plus strict requirements on acoustic separation.

The final design proposed a suite of 24 x 14 metres with folding partitions to divide the area into three for smaller meetings, with a small stage at one end and two control rooms for audio visual facilities. The new ceiling height varied from 4.4 metres at the lowest point to 8 metres at the centre rooflight in each area. But maximising ceiling height restricted service space in the ceiling void requiring careful planning for the layout of lighting, loudspeakers and other building services.

The requirements for the audio visual equipment were simple. Firstly all the A/V facilities that a conference organiser might reasonably require were to be included. Secondly the systems were to be easy for the user to operate - ideally a single pushbutton to initiate a whole sequence of events. It was decided that a full-time audio visual technician would be provided for technical backup to the conference staff which simplified the design as patch fields could be included for use by the technician.

The solution to the problem of controlling and coordinating all the audio visual facilities was a Strand Lighting Premiere® architectural control system. Careful planning, taking full advantage of the flexibility of the PC based configuration software enabled Premiere to become the heart of the control system. Premiere controls all the decorative lighting, four motorised screens with tilt facility for overhead projection, front stage curtains, window blinds, power sockets for slide projectors

and an electrically operated platform which lowers a video projector down from the ceiling.

This is achieved by a new addition to the Premiere range of control interfaces - the 2620 Relay Driver - which can be used to control either momentary or maintained relays or contactors. The interface also has 16 fully assignable inputs which in this case are wired to buttons on a custom room combination panel. The flexibility permitted by Premiere's room combination facilities allow both lighting and blinds to combine, while facilities that would not be used for certain room layouts are automatically disabled.

Premiere is linked to the fire alarm system so that in the event of an emergency, lighting is established, blinds opened and the screens retracted into the ceiling. The sound system is also linked to Premiere via a Programmable Logic Controller so that each area combines in accordance with the room combination. The sound system is also shutdown by Premiere in the event of the fire alarm being activated.

Premiere push button control stations are located at each entrance door, in each control room and in two lecterns. These panels are configured to control both lighting and other facilities. Infra red hand held controls with receivers are provided in each suite. Using Premiere's Macro facility, a single button on a hand held control will lower and tilt a screen, close the blinds, dim the lighting and switch on power to the overhead projector ready for a presentation. This same button will automatically change its macro function according to the room layout so that the correct screens and blinds are operated!

## STOP PRESS!

*As part of the EMAP Architecture Highlight Awards the Gleneagles Hotel has just won the "AJ Focus Award for the most innovative and ambitious use of a new product" for their recent Premiere® installation.*

Chandeliers on electric hoists are provided but it was decided that these would be operated independently of the Premiere system for set up before a conference or dinner in the suite.

A 60 way Strand EC90 HD dimmer rack is used for both the decorative and production lighting. The decorative lighting channels have dual multiplex inputs so as to allow them to be controlled from the MX48 production lighting desk as well as from the Premiere. Facilities panels around the suite provide multiplex input sockets, three-phase 32 amp outlets, technical mains, telephone, ring intercom, projector and A/V tie lines, loudspeaker sockets and sound desk inputs.

Mike Smyth of Northern Light commented that, "Construction of a building as complex as this is never easy and it was made no easier by the fact that there was only 16 weeks from the time the main contractor took possession of the old building in May to the first booking for the new facilities by HM Government in September." ✦

Photographs by Piers Cavendish



... a conference hall, Premiere® adapts to suit the new layout.

# THROWING LIGHT ON THE 1950's

by Richard Humphries



Strand Sirio HMI's on location in Scotland. Photograph by courtesy of the BBC

One of British TV's most surprising hit series, launched in the spring of 1992, has proved to be the nostalgic Scottish 1950's drama "Strathblair".

But there was nothing old-fashioned about the location lighting rig, featuring Strand Sirio

HMI 'daylight' luminaires. Lighting designer Alex Scott recreated such an authentic period atmosphere that the village of Blair Atholl in Perthshire, where the series is filmed, has since become a top tourist attraction.

Strathblair centres on the fortunes of Alec and Jennifer

Ritchie and their struggle to run the Corriebeg farm on the Strathblair estate despite having an antagonistic landlord, a 'wily devil' of a neighbour - and a workshy sheepdog.

The authentic-looking grocer's shop in the picture was specially built in Blair Atholl by a

construction team from BBC Scotland. Jars and packets on the shelves of the shop were either hired or copied from museum or private collections.

Alex Scott explained, 'Our main problem with the location lighting was that the weather was not terribly kind. In Scotland, if it is not raining, it tends to be cloudy-bright conditions.'

'For this reason we always diffused the HMI's because the light would have been far too strong. If the light was not diffused, it was 'bounced' to tone it down.'

'The other main problem was the contrast between the actors faces and the sky itself, so we also used a black 'Promus' filter in front of the camera. This allowed us to lose some of the sharpness you would otherwise get with video and spread the highlights. It gave it more of a filmic look.'

'The studio lighting was very straightforward, using items such as Strand Quartzcolor Mizars. The design was for four-wall sets with ceiling pieces to allow low-angle shots. This gave more of an authentic feel when the scene was supposed to be inside a building.'

'We tended to use one light coming through the window,' - a 2.5kW Sirio HMI with diffusers. 'We tried to use it as one light source. Generally, this worked very well'.

*Sometimes it's just surprising how much Strand equipment features in permanent display situations. The new format TCI magazine's launch issue listed equipment used at EuroDisney from which Lights! quotes here*

## GALAXY AT THE MAGIC KINGDOM

*"What equipment is being used at the performance venues at EuroDisney? Take a look below.*

### LE THEATRE DE CHATEAU, (CASTLE STAGE), STAGE LIGHTING:

**Control:** Strand Galaxy 3 for 768 channels, including theatre playback and standard back-up.

**Dimmers:** Strand EC90MD plug-in dimmers comprising: 54 - 25A, 340 - 10A

Some of the dimmers are installed with the Castle for control of floodlighting.

### Luminaires:

42 - Strand Cadenza 9/15 profile 2kW, 12 - Strand Leko 11, 8 x 13 profile, 1kW, 22 - Strand Leko 18, 6 x 16 profile, 1kW, 16 - Strand Leko 26, 6 x 12 profile, 1kW; 24 - Strand Nocturne floodlights, 1kW

### VIDEOPOLIS STAGE LIGHTING:

**Control:** Strand Galaxy 3 for 580 channels including theatre playback, full tracking back-up and PALS motion control panel.

**Dimmers:** Strand EC90MD plug-in dimmers comprising: 25 - 45A/10kW, 12 - 25A/5kW, 432 - 10A/2.5kW and 34 - 16A/3.5kW non dims

**Luminaires:** 20 - Strand Cadenza 9/15 profile 2kW, 40 - Strand Cadenza PC 2kW, 24 - Strand Cantata 18/32 profile 1.2kW, 12 - Strand Iris 4 cyclorama 4 x 1.25kW, 13 - Strand Orion 4 cyclorama ground row 4 x 625W  
**Special Effects:** 40 Strand PALS scrollers

### EXPLORERS CLUB STAGE LIGHTING:

**Control:** Strand MX24 with foot control pedals for cue operation by musicians.

### Dimmers:

Strand EC90MD dimmers comprising: 24 x 10A/2.5kW

### Luminaires:

2 - Strand Cantata  
8 - Strand Cantata Fresnel 1.2kW

### WESTERN COOKOUT (INDOOR AND OUTDOOR STAGES), STAGE LIGHTING:

**Control:** Strand MX24 (indoor stage) and MX12 (outdoor stage), both with foot control pedals for cue operation by musicians.

**Dimmers:** Strand EC90MD dimmers comprising: 36 - 10A/2.5kW;

**Luminaires:** 8 - Strand Cantata 26/44 profile 1.2kW, 8 - Strand Cantata Fresnel 1.2kW

### LUCKY NUGGET SALOON STAGE LIGHTING:

**Control:** Strand Galaxy 3 for 288 channels including theatre playback and standard backup.

**Dimmers:** Strand EC90MD plug-in dimmers comprising: 12 - 20A/5kW, 232 - 10A/2.5kW

**Luminaires:** 18 - Strand Cantata 18/32 profile, 1.2kW, 30 - Strand Cantata 26/44

profile, 1.2kW, 15 - Strand Prelude 16/30 profile, 650W; 40 - Strand Prelude 28/40 profile, 650W; 30 - Strand Leko 40, 6x9 profile, 1.2kW; 20 - Strand Cantata Fresnel, 1.2kW; 40 - Strand Prelude Fresnel, 1.2kW; 20 - Strand Cantata PC, 1.2kW; 40 - Strand Prelude PC, 650W

### FANTASYLAND THEATRE STAGE LIGHTING

**Control:** Strand Galaxy 3 for 192 channels including theatre playback and standard backup.

**Dimmers:** Strand EC90MD plug-in dimmers  
**Luminaires:** 48 - Strand Leko 26 6 x 12 profile 1kW; 60 - Strand Leko 40 6 x 9 profile 1kW; 24 - Strand Cantata Fresnel 1.2kW; 54 - 1kW; 96 - Strand Nocturne floodlights 1kW for cyclorama."

And this does not even mention Premiere Architectural Lighting Controls used in the entrance hotels!

# NEW OFF-LINE EDITOR



**S**trand Lighting has entered into an agreement with the New York based Lucida Corporation to offer a copy of Lucida's latest product, LightPort with every Lightpalette® and mini Lightpalette® 90 ordered after the LDI-92 exhibition in mid November.

LightPort translates LP90 files to text files which can be opened by any word processor for viewing, editing and printing. The software is available for all Macintosh and IBM-compatible PC's using 3.5" high-density floppy disks.

LightPort uses the USITT's new protocol "ASCII Text Representation for Lighting Console Data Version 3.0" to translate LP90 files to ASCII Text format files, and vice versa. With a cue file open in your word processor you can edit or create new cues simply by entering data using the easy-to-understand text format.

You'll begin the process by opening LightPort and selecting "LP90 to Text" from the appropriate Menu. You then select the LP90 file you want translated, and LightPort goes to work,

displaying a progress report as it proceeds. In a few minutes, you have a LightPort text file waiting to be opened by your favorite word processor.

If your word processor has "search" or "sort" features, you might use it to gather data, such as all cues containing Effects, or other attributes. You might want to print only certain cues, or to use a text comparison program to compare cues to others. But you will no doubt primarily be interested in editing your existing cues... do your homework. You can edit any element you wish to, using the appropriate rules.

After editing your show, just select the command "Text to LP90" from the appropriate menu, and the translation begins. If you have entered anything in an illegal syntax, LightPort will inform you of your error in its error log, and direct you to make necessary corrections. When your work is error free (no, it won't evaluate your artistry!), the translation will be completed, and you may transfer your disk directly from your PC to your LP90 for readback.

The software is not key-protected, but the user license specifies that a user may not use his or her copy on more than one machine at a time. The User name is embedded on disk and is displayed on-screen and on all printouts.

LightPort is also available as two versions, a read-only version, and a read/write version. Both are available from Lucida Corp., 245 West 52 Street, New York City, NY 10019 USA. Lucida also offers LightPort users additional copies of the read/write version which includes an upgrade offer for Express-Track™.



The Express-Track™ is Lucida's "top of the line" editor which produces on-screen displays very similar to those of the Lightpalette, allowing users to edit using Lightpalette syntax. This software tracks cue levels automatically, emulating the Lightpalette, and can sort data in a variety of formats for analysis, revision and storage. It is available only for Macintosh computers. \*

# THE EUROPEAN LIGHT SHOW 93

**T**he European Lightshow 93 marks a major step forward in the evolution of this established trade show into what promises to be the largest lighting exhibition in Britain during 1993.

Organised by The Lighting Association, with the full support of the Lighting Industry Federation, it is the industry's own show attracting most of the major companies in lighting and is also backed by CELMA - the Committee of European Lighting Manufacturers Associations.

The European Light Show is being held at Earl's Court 2, London.

flexible lighting control system - has proved its value in museums, theme parks, hotels, cathedrals, ocean liners, conference centres and prestige buildings. Also on display will be a range of lighting equipment from Strand.

## LIGHTING SEMINARS

Seminars will be an added attraction and these are billed to include a special preview of the new CIBSE (Chartered Institute of Building Service Engineers) Code for Interior Lighting which is expected to recommend a switch away from the old concepts of calculation dominated designs and instead promote quality, efficiency

and aesthetic consideration, with a strong emphasis on the value of lighting controls and dimming.

## LIGHTS! - SPECIAL TICKET OFFER

For *Lights!* readers we are able to offer complimentary tickets which will gain admittance to the European Light Show 93. Your personal invitation is included with this issue on the insert card.

Further information on bookings for seminars can be obtained from The Lighting Association, Bryn, Bishop's Castle, Shropshire, England. SY9 5LE. Telephone 0588 640658, Fax 0588 640669. \*



**T**he fourth international Showlight conference and trade show again returns to the UK in 1993 after its beginnings at the Barbican in London in 1981, followed by New York and Amsterdam.

Specialising in lighting for the performing arts, Showlight '93 is based around the twin venues of the National Museum of Photography, Film and Television and the Alhambra Theatre in Bradford, and runs from the 19th to the 21st April 1993.

For further information please contact Ruth Rossington, Professional Lighting and Sound Association, 7 Highlight House, St Leonards Road, Eastbourne, East Sussex, BN21 3UH. Tel: 0323 642639 Fax: 0323 646905 \*

## SEE STRAND LIGHTING'S PREMIERE® AT EUROPEAN LIGHTSHOW 93

The European Light Show will provide an excellent opportunity to see demonstrations of Strand Lighting's Premiere® Architectural Lighting Control System. Premiere - now recognised throughout the world as the most advanced and

**THE EUROPEAN LIGHT SHOW**

EARLS COURT 2  
L O N D O N  
FEBRUARY 14 - 17

**W**hen it was built as the centrepiece of the 1951 Festival of Britain, London's Royal Festival Hall was a revolutionary concept in concert hall design - as much a building of its time as Australia's Sydney Opera House would become later. Not surprisingly, Strand Lighting has featured large in the history of the RFH from the outset.

No one appreciates this more than Reg Bond. Who's he? The doyen of chief engineers everywhere, he will for ever be known as "Mr Festival Hall", having retired recently after more than 40 years keeping the place running.

During that time (which by his own admission was 'a wonderful life') he met Kings, Queens, statesmen and the great and famous from the world of music and entertainment. So closely was he wed to the job that he, his wife and son, had an apartment 'above the shop' - on the roof of the Festival Hall.

From here he was not only able to keep a fatherly eye on his beloved building for 24 hours a day, 365 days a year, but also had ready access to every concert and show held in the complex - absolute heaven for a music lover. However, there were occasional drawbacks. Even closed doors and an 11-inch thick wall could not keep the mellifluous (not his description) sounds of Pink Floyd at bay on one occasion.

More to his musical liking was the great Toscanini, who when he appeared in London was too frail to walk up steps to the RFH rostrum, and so a ramp was built for him.

So tight was the Festival Hall's budget in those early days that no money could be found to pay for construction of dressing rooms for the performers. Consequently they changed in corridors, backstage, and anywhere else they could find. Wash-basins were rigged up in any available space. 'When we had opera and ballet companies in, we had people dressing and undressing all over the place,' he recalls. 'In the case of the young ladies ... well, we all had to do the gentlemanly thing and look the other way.'

Reg started his career at the RFH as an approver-fitter with mechanical engineers Matthew Hall when the building was still under construction. He was just 19 and immediately fell in love with the place. He applied to be taken on the permanent maintenance staff and within a few years he had worked his way up to a senior position

## "WHO'S THAT MAN IN THE PYJAMAS?"



Mr Festival Hall - Reg Bond the Chief Engineer of the Royal Festival Hall

## "OH, THAT'S OUR CHIEF ENGINEER!"

by Richard Humphries.

The building was extended; further concert halls were added, and at the height of his reign, Reg headed-up a maintenance team with responsibility for everything from the massive boiler room (more like a ship's engine room) to the most inconsequential light bulb. Along the way he also played a decisive role in the project team designing the additional buildings of the South Bank complex, the Queen Elizabeth Hall and the Purcell Room.

But for a commendable streak of loyalty, Reg might have been looking back on a career at the previously-mentioned Sydney Opera House. When the antipodean concert hall was constructed Reg was offered a senior technical post there by a former colleague from London. However, Sydney's loss was London's gain.

From 1962-64, the RFH was greatly extended, which involved major construction out into the River Thames. From Reg's point of view, this was 'an extremely stressful time', since the RFH had to remain fully functional despite being one of London's largest construction sites.

Such is the respect with which the technical team at the RFH is regarded that when the adjacent Queen Elizabeth Hall and Purcell Room were constructed, Reg and his staff advised the engineering professionals on many aspects - and all their recommendations were implemented.

Over the years the RFH has been a continuing showcase for Strand Lighting products. In the early days, lighting control provided by a Light Console, followed in 1974 by an MMS. Now it is the state-of-the-art Galaxy, in all three concert halls.

Reg explained, 'To be honest, we have never had any real problems with the lights. If there has been any query or difficulty, we have got on to Strand and someone like Alan Luxford has always been there to help out. The service we have had over the years from Alan and his colleagues has been terrific.'

'Over the years, Strand has only been called in half a dozen times on our account. But the problem has always been with shows coming in. Touring companies generally want to use their own equipment and Strand would arrange for it to be rigged for us.'

Having his home on the premises since 1969 not only gave Reg and his family one of the most prestigious addresses in London but also gave one of the grandest-possible views across the Thames to the City of London. But there were drawbacks.

'One Friday morning we woke up to find that the whole of London, as far as we could see, was deserted. There were no cars, no trains - and no people. Then we discovered that they had dredged up a huge wartime bomb from the river and that everywhere had been

evacuated while it was made safe. Unfortunately, the police had forgotten to tell us!'

Reg's principal problems with lighting came with the famous orchestral conductors of the day - people like Sir George Solti and Mantovani. They would invariably blame him for inadequate lighting on the rostrum desk, making it difficult for them to read their music.

'There was not a great deal I could do to improve their lighting. The truth of the matter was that they were too image-conscious to wear their spectacles during a public performance,' he recalls.

The very nature of his job meant that the general public was totally unaware of the behind-the-scenes dramas being dealt with during performances. For example, there was the time an expansion joint ruptured in the roof void above the stage 20 minutes into an important concert. With the prospect of the orchestra and audience being unexpectedly showered with water as they played, Reg climbed into the void armed with sacking and sawdust, made a temporary repair and mopped up the overflow. The show went on.

He was not so fortunate, however, on another occasion. He woke one morning after a late night working, to find water flooding into his flat. Still dressed in his pyjamas he decided to trace the cause and set off around the building. He hurried through one particular door... and found himself in the auditorium, to the extreme delight of hundreds of school children attending a morning concert.

But he admits, 'I had one of the best jobs anyone could ever have. This building was way ahead of its time when it was constructed. The old London County Council had some wonderfully innovative staff working for it in those days. It was a privilege working here and being able to work alongside such talented people as the technical staff from Strand Lighting.' ★



**Footnote:** Further reminiscences of the Royal Festival Hall are to be found in Fred Bentham's recently published autobiography, *Sixty Years of Light Work*, Chapter VII: King Street Again - Festival and Export 1948-64. See page 17 and 19 for further details.

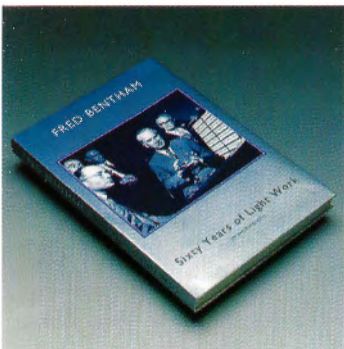
The Fred Bentham Column

## THREE EXITS FROM BOW STREET

**T**his Summer was to see the departure of the famous Police station from Bow Street. Here in Covent Garden opposite the Royal Opera House and Floral Street (the home of Strand Electric during the 1920's and 30's) was the birthplace of the Bow Street Runners in 1748 - our first real police force.

The present building dates from 1881; the same year as the Savoy theatre, just down the road from Strand, was "Lighted throughout with Electricity". One gathers that over the decades, many were the distinguished names who found themselves 'lodged' overnight in Bow Street thanks to the influence of alcohol.

It is Summer 1964 which should be of interest to the readers of *Lights!* Firstly because of the departure of the pioneer Strand 1934 remote clutch-control and its replacement by a 240-way Strand thyristor dimmer system. Secondly, for the manner of the exit of the splendid bronze lamp brackets outside the main entrance to the Royal Opera House. Visitors may have wondered at their replacement by six incongruous plain glass ball brackets. True, the architect for alterations up in the balcony-gallery area at that time was Peter Moro, who thought modern, but he was as pained as the rest of us at their departure. The truth is that it was literally a case of daylight robbery and in full view of Bow Street police station opposite. The burglars, disguised with workman's overalls, appeared with ladders and took the brackets down. I wonder where they are now - the brackets that is? ❖



*Sixty Years of Light Work* is Fred Bentham's autobiography and available exclusively from Strand Lighting. See review on Page 19.



A scene from "Jelly's Last Jam"

Photo © Martha Swope

## SIX TONY AWARDS FOR JULES FISHER

by Susan Dandridge.

**A**s one of the most influential lighting designers, theatrical consultants and producers working today, Jules Fisher usually gets what he wants. In 1984, Mr Fisher specified that the new lighting system going into *Wolf Trap* (*Lights!* Vol. 3 Issue 1) provide a control channel for each of the 714 dimmers to be installed at the theatre, thereby providing complete flexibility. Strand Lighting responded with a major redesign of the Lightpalette®, making it the first memory system in the U.S. to offer such high channel capacity.

*Wolf Trap* was only one of many projects on which Jules Fisher Associates and Strand Lighting have collaborated. Mr Fisher knows Strand best perhaps through his long history on Broadway. Of his six Tony Awards for outstanding lighting design, four shows ran on Lightpalettes: *Dancin'* (1978), *Grand Hotel* (1990), *The Will Rogers Follies* (1991) and most recently, *Jelly's Last Jam* (1992). A fan of the Lightpalette move fade philosophy, Fisher states that the Palette, "enables us to do the fluid cueing that is so important in musicals today, and just isn't possible on any other board". He adds that the Lightpalette series has aided his lighting designs

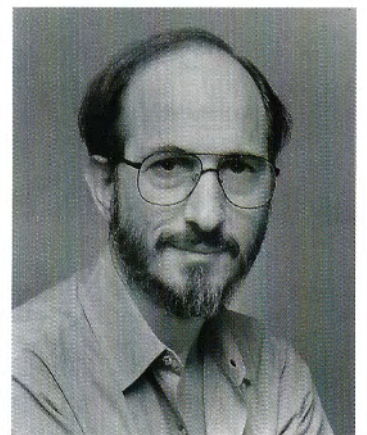
tremendously in the past eight years.

Associate Lighting Designer, Peggy Eisenhauer found the new Lightpalette® 90 to be a tremendous benefit during the cueing of *Jelly's Last Jam*. "There were things we had just been waiting to do that we couldn't do before, like being able to have as many cues and effects going at the same time as we wanted. And programming speed on the board is tremendous, which is so critical." Ms. Eisenhauer found the new special effects capabilities and the ability of those effects run on submasters to be helpful, as well as the new macro keys: "We developed a worklight cue using the macros, where all channels except scrollers and worklights would go out. That saved us time, and wear and tear on the scrollers too."

But it isn't just the Palette series that wins favour with Jules Fisher. In addition to his Broadway work, the theatrical consulting firm Jules Fisher Associates and the associated architectural lighting consulting firm of Fisher Marantz Renfro Stone, find the entire wide range of Strand's products useful. Lightpalettes, and countless CD80 dimmers and Strand luminaires have gone into the acclaimed Joyce Theatre in New York, the Auditorio Nacional in Mexico, Carnegie Hall and numerous

others. Strand's architectural product line is also well received in Fisher's office: in 1990, Fisher Marantz received the Illuminating Engineering Society's award for best lighting for the Rainbow Room at the Rockefeller Center, a Strand Environ installation.

Jules Fisher is now involved in a number of international assignments including projects in Singapore, Jamaica, Egypt and Mexico. As his international work continues to expand, Strand's offices worldwide will be there to continue the collaboration. ❖



Jules Fisher Photo © Henry Grossman

### Footnote:

At the time of writing, some twenty four shows were on Broadway. Seven running with LP90's, all others, with the exception of one, use Lightpalette® I's or II's.



MX and Mantrix MX - A Manual with Memory System

## MANUAL DEXTERITY OR MENTAL AGILITY?

By Andy Collier

Once upon a time dare I say in the dim past, lighting control desks were either 'manual' or 'memory'. The concept of a memory desk is now commonly understood: the memory being used to record the lighting intensities (and in some cases position and colour), plus the time taken for the change, to adjust, re-record and to perform the lighting as the designer intended. A manual desk was, in those far off days, considered as 'everything else', and generally taken to be a multi-preset desk which demanded the attention of more than one finger.

But, as ever, we couldn't rest there, and taking a look at a current catalogue reveals terms such as 'memory with manual' contrasted with 'manual with memory'. Have we missed the 'memory with memory' and 'manual with manual' or is everyone confused? So let's take a look at what all this is about.

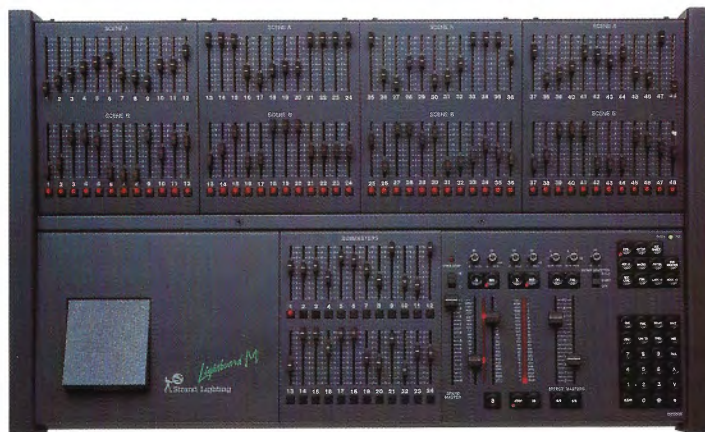
First take a manual desk, for example an LX (Mantrix LX in North America). This gives two presets of faders with the added sophistication of dipless crossfade (so that lights at the same intensity in both presets don't dim during a crossfade), timed fades which automatically progress the crossfade to complete at a time you set, and channel flash (bump) buttons. If, after setting the lighting on a preset of faders you have thought 'wouldn't it be nice to press a button and record this automatically', you are thinking of a manual with memory desk like the MX (Mantrix MX). Although

the memory part of MX is a complete mini-memory desk, and is very powerful in its own right with recorded timed fades, patch tables, MIDI interface and programmable effects, each lighting state is created by moving the individual channel faders. During the performance, the memories are replayed in a similar way to using a manual system crossfader, but the memory is in the background, setting each new 'preset' in turn. In addition, MX also provides the feature of having the memories replayed on the bottom preset of channel faders. In this case, the faders become individual memory submasters.

Now let's take a memory desk. It offers fast setting of channel levels by typing in numbers on a keypad. It records the lighting levels in memory, and offers many ways of performing the lighting

changes through playbacks or submasters. Add to this a two-preset manual desk so that you can set individual channels manually if required, or to adjust 'specials' separately from the running multi-part fades or to vamp a one-nighter that doesn't warrant the full memory treatment. There you have a memory with manual desk like the Lightboard M.

So if you are clear about the purpose of a manual desk, and a memory desk, the manual with memory description refers to manual fader level setting and a memory system to assist with the performance. The description memory with manual implies a comprehensive memory system with keyboard entry of channel levels with a manual fader section for direct control of channels as and when needed. ☺



Lightboard M - A 96 channel Memory with Manual System

## NEW MX TERMINAL DISPLAY



Strand's popular MX range - comprising 12, 24 and 48 channel 2-preset manual with memory control desks - now includes additional software to drive a terminal monitor or a PC with terminal emulation software.

The Monitor follows the status of the LCD display on the MX's control panel, and gives a total of four variations of screen information:

### 1 OUTPUT SCREEN

This is the 'performance' screen. Current output levels are shown on the top part of the screen, and in addition, the playbacks A, B, C and D, fade progress and times. The six effects playbacks are also displayed, with their respective effect numbers, current step progress and times. The lower section of the screen shows the desk status which includes a MIDI link, Master faders, and record mode, blackout etc.

### 2 SCENE MEMORY SCREEN

In place of the current channel levels, the display shows the 'blind' memory selected, for modification or presetting.

### 3 HELD CHANNELS SCREEN

This shows the current channels 'held' when using the faders in scene master mode.

### 4 PATCH SCREEN

The channel information is replaced with a display showing the channel to dimmer patch, with the relative proportional levels. This makes the setting of either patch tables a simple operation.

All new MX desks are supplied with version 'B' software for direct connection to a monitor terminal, and also there is a 3.5" floppy disc with instructions for the user to connect the MX to a MS-DOS based personal computer. Existing users can update to the new version software at a nominal cost.

Contact your Strand Representative for details. ☺



# SCHOOLS GIVE TOP MARKS TO STRAND!

**D**eer Park School in Cirencester has been the location for a brand-new performing arts centre as part of a Gloucestershire County Council Build Project.

The result of this project was an octagonal drama space with a pitched roof, and a balcony around seven sides with the eighth side used for lighting and sound control, which complements the school's other performance facilities in the main hall and the drama studio.

Strand's technical specialists Richard Harris and David Wilkins were involved at an early stage, and advised on the use of standard 50mm barrel for the

balcony structure to give added flexibility for rigging luminaires. A seven-sided lighting bar above the balcony line provides easily accessible lighting positions from the balcony itself. A central lighting grid, 5m square, provides acting area positions.

The complement of luminaires, which includes twenty four Prelude spotlights, is controlled by a 24-channel Strand MX 2-preset manual and memory desk, linked to four Act 6 dimmer packs.

Stage Electrics of Bristol, a Strand Main Distributor, supplied and commissioned the lighting and sound equipment, which electrical contractors Lee Beesley installed. Ⓢ

**S**trand's Northern Main Distributor, Futurist Light & Sound Ltd of Dewsbury, West Yorkshire have recently completed the installation of a major project at a brand new secondary school in Newcastle upon Tyne, one of the best equipped drama departments of any school in Britain.

Mortimer Comprehensive school has put Performing Arts at the very heart of its curriculum and has several purpose built venues within the school complex.

Futurist specified Strand equipment exclusively as the school thought it was important that the students use the same equipment as found in professional venues.

The 250 seat Arts Theatre is equipped with an internally wired grid and fitted with a complement of luminaires from the Strand Coda, Prelude and Cantata ranges. The Permus dimmer rack installation is controlled by a 48 way MX, together with a sound system with communications, drapes and tracks.

The school has found the MIDI facility of the MX very useful when using keyboards and sequencers from the music laboratory and has provided a valuable link with music and drama within the learning process. Ⓢ

*Lights! asked a teacher to comment on Strand's resource pack...*

## STEP INTO THE LIMELIGHT

"At lunchtime, I run a stage lighting course for 14 to 15 year old boys for which I use the Strand resource pack. It is an ideal introduction for pupils and students with an interest in the theatre, particularly those following a drama course at any level.

As an after school activity, those in the next year learn how to handle the lighting equipment in actual productions, as assistants to Sixth Formers. These older students then take full responsibility, under my guidance, for all technical aspects of the production. Throughout, their education in stage lighting is greatly enhanced by the resource pack; in particular, by the excellent posters.

The whole resource pack has a 'professional feel' about it and the emphasis, order and presentation are just right. An eminently

readable, well-structured booklet is complemented by a series of clear and attractive posters. The possibility of photo-copying the notes, which has been freely granted to schools by Strand, is very useful. A set of lighting design accessories, which I have found invaluable, completes this 'mini-course' which I thoroughly recommend."

*Edward Glynn  
Master-in-charge  
Stage Lighting  
The John Lyon School  
Harrow, Middlesex*

*Lights!* would be glad to hear of other teacher's experiences of using *Step into the Limelight* as part of a stage lighting course. Please write to Andy Collier at Strand in Isleworth. Ⓢ



### YOUR CHANCE TO OWN A TEACHING RESOURCE PACK

The pack provides a complete stage lighting teaching programme and includes 15 wall posters in colour; a 24-page illustrated teacher's booklet; colour filter samples; a scale

design stencil; a technical drawing pen; photocopy masters of scale lighting plan, plot sheet and patching chart. All for £37.75. Ⓢ

# SPECIAL OFFERS FOR LIGHTS! READERS

**T**o order any of these items, please use the attached order card, or alternatively write to Wendy Ellis, Strand Lighting Ltd, Grant Way, Syon Lane, Isleworth, Middlesex, TW7 5QD, UK, with your order and cheque or postal order made out to Strand Lighting Ltd. Alternatively, you may order by phone with a Visa or Mastercard credit card by calling Wendy on 081-560 3171.

#### SIXTY YEARS OF LIGHT WORK

Fred Bentham's autobiography *Sixty Years of Light Work*, which is reviewed on page 19, is only available from Strand Lighting. This is a must for your bookshelf, and will make an ideal Christmas present! £12.95 plus £1.55 P&P.

#### SCIENCE OF LIGHT

An extract of Joe Thornley and Brian Fitt's new textbook *Lighting by Design* (see the review on page 19) has been re-printed by Strand especially for *Lights!* readers. Called *The Science of Light*, this 50

page booklet, which includes a comprehensive colour filter comparison chart, describes the theory of light, starting with the eye's response to electromagnetic radiation, colour perception and the application of colour filter media. £2.95.

#### CLOTHING OFFERS

Our top quality T-shirts, sweatshirts and tracksuits are suitable for both men and women. T-Shirts in black or white with *Lights!* logo, sizes L and XL: £5.00. Sweatshirts in size L, red only

with *Lights!* logo: £11.80.

Tracksuits black, in size M, L and XL with embroidered Strand Lighting logo: £24.95.

#### LIGHTING DESIGN STENCIL

This 1:25 scale lighting design stencil has been specially produced for students and amateurs. £4.95.

#### STRAND PEN

This technical drawing pen from Staedtler has a 0.25mm nib for use with the Strand stencil. £4.20.

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A regular feature in which we look back at some of the lighting innovations introduced by Strand and Century over the years. Here we continue charting our...

## MILESTONES IN LIGHTING HISTORY

1932 *The Shakespeare Memorial Theatre, Stratford-upon-Avon: the only 'modern' theatre built in Britain between the Wars with facilities FOH and backstage that we have come to expect today. Stage lighting included Stelmar spotlights out front, cyclorama colour mixing and a 56-way Grand Master board (Strand's second, the first was in Halifax in 1931). The twenty-year-old Fred Bentham joins Strand Electric in Covent Garden! In the USA, Century Lighting develops the Leko ellipsoidal principle for Stanley Kingsley's "Dead End" on Broadway, but it was to be several years before it found its way into the catalogue.*

1933 *Strand's first demonstration theatre (in Floral Street) is opened by C.B. Cochran, and used by Fred Bentham for Colour Music recitals and a Research and Development laboratory.*

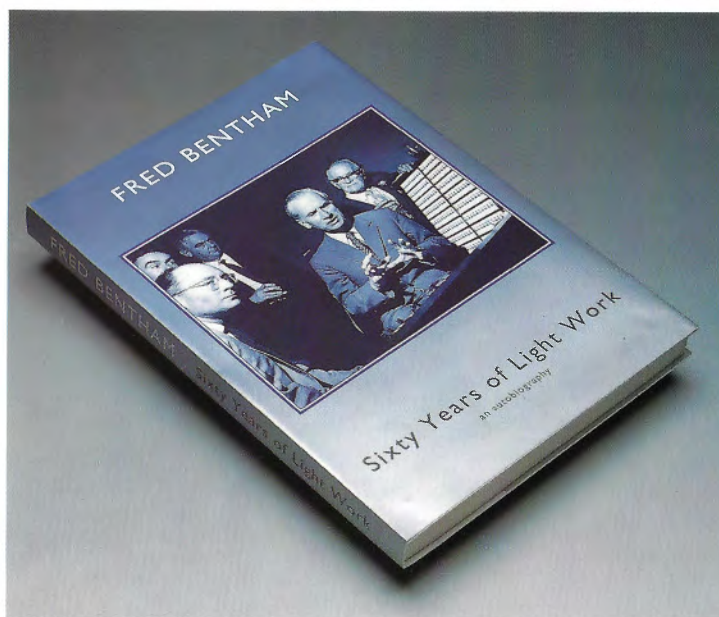
1934 *The new permanent installation for Sir Thomas Beecham at the Royal Opera House was Strand's first job on a 'Continental' scale. The stage lighting load was 700kW AC and 150kW DC controlled by Mansell clutch driven dimmers from a unique 120-way remote control panel located on the perch.*

1935 *The Strand Light Console is inaugurated with a recital of Colour Music in the Floral Street demonstration theatre and has national press coverage. It was the first lighting control in the world to use not merely a moveable console but the organ principle of 'select and play'; the common basis for today's memory control systems. Century's latest catalogue announces "New Type Incandescent Lekolites - A new application of an old light principle", to replace "standard arc-carbon-fed lamps." This advanced spotlight used an ellipsoidal reflector, base-up 1000-1500W lamp, and listed at \$155.*

to be continued...

# SIXTY YEARS OF LIGHT WORK

by Fred Bentham. Published by Strand Lighting



**F**red Bentham needs no introduction in the pages of a Strand journal. As the successor to the widely read *TABS* (which informed and influenced a generation under Fred's editorship), *Lights!* is

proud to have the opportunity of publishing Fred's long awaited memoirs, and offering it directly to its readers.

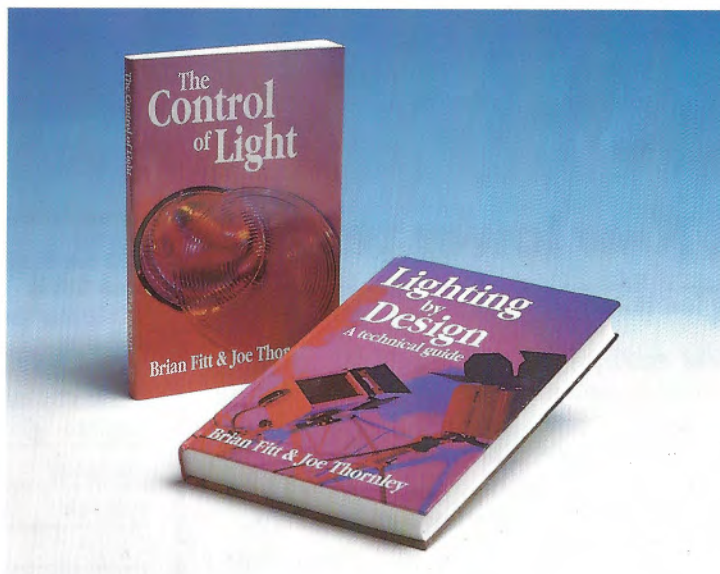
Fred's career with Strand began in 1932, but that was not his first encounter with stage

lighting. A passion for a model theatre, and his appointment in 1928 at the age of 16 as "Scenic and Lighting Manager" for a local amateur company in West London sparked the flame that has never diminished.

This autobiography charts not only Fred's personal career in lighting, but the development of the art and science of entertainment lighting itself. Fred Bentham was the motivating force within Strand for over forty years, inventing and developing many of the products we now take for granted all over the world. This alliance of art and science is probably the common factor in everyone's attraction to this subject, and for Fred, the art was exemplified in his demonstrations of 'colour music' on his invention, the Light Console. This book is the classic Bentham in top form, and a copy of *Sixty Years of Light Work* is a must for your library. An exclusive offer to *Lights!* readers is included in this issue. Turn to page 17 for ordering details. ☘

## LIGHTING BY DESIGN and THE CONTROL OF LIGHT

Two books by Brian Fitt and Joe Thornley, published by Focal Press



**H**ow often do we meet characters in the lighting business that we look up to in awe of their extensive technical knowledge, practical experience, and reliable wisdom usually accompanied with a funny (but suitably educational) anecdote, and think.... "if only I could

distil all this knowledge, experience and enthusiasm and pack it in a book"? Sadly, most of the industry's 'backroom boys' disappear from the business leaving the next generation to invent yet more square colour wheels.

Joe Thornley has been involved in the design of stage,

studio and film luminaires for most of his career. Brian Fitt has been a BBC lighting director, studio design engineer and lighting consultant. *Lighting by Design* is a comprehensive text book which is unique in its breadth of description of the technical side of a lighting system. Joe and Brian explain what light is, how it is harnessed and used for theatre, film and TV; they give advice on electrical systems, controls, dimmers, planning an installation, and even how to choose equipment and to prepare a tender document.

Also, there is one place to find all those useful facts such as lamp types, world voltages, measurement formulae, luminaire and colour filter comparisons. What makes this text book unique is that it is written in that anecdotal style which informs, educates and entertains at the same time. For those specifically interested in controls and dimming only, the relevant chapters are published separately in a paperback companion volume entitled *The Control of Light*. ☘

LANDMARKS IN LIGHTING

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