LIGHTS!

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Strand Lighting

THE DIGITAL THEATRE COMES OF AGE

In this issue of *Lights!* we examine another Strand landmark step in the evolution of lighting control desks. The advent of GSX as our new entry level memory system adopts the approach familiar to users of Personal Computers, where application software is available separately from the hardware platform on which it is to operate. This enables the user to choose a system which both meets his needs and his budget. The foundation software package which we call Genius can be bought in sizes to suit the small school stage up to medium size professional venues, but without compromising the level of functionality. Extension software packages are available for specialist features. Kaleidoscope - for control of colour scrollers and effects and Communiqué - for advanced communications. As we say - now there's the soft option.

The arrival of GSX with Genius completes the line up of products which enable an affordable "digital" theatre system to be available at all levels, when linked with LD90 digital dimmers and Strand's System Wide Control. We have produced a colourful poster to illustrate the new age of the "digital theatre".

Another landmark - this time for *Lights!* - is the launch of a German language version. Until now we have published in English and run an accompanying version for the USA and Canada. We extend a warm welcome to our new readers in Germany.

Reporting from Germany we have news of two major projects. The MMC TV studio in Cologne and a "digital theatre" - the Hannover Drama Theatre. In England we continue Strand's long association with the rebuilt Savoy Theatre, from Hong Kong there's news of a Premiere architectural system in Central Plaza, Asia's tallest building, and from the USA there are items on the NASA visitor's centre, and the Grand Ole Opry in Nashville.

Following the success of the "Euro System" last year, we are pleased to announce its replacement for 1994 - the new "Strand System". The aims are the same - bringing you the basics of stage lighting at affordable prices - but Strand System extends the programme with new products and opportunities.

You will find plenty of news about the latest products, being unveiled around the world in 1994, and for the first time in *Lights!* we have included a reader enquiry card for further information.

There will be plenty of opportunities to view Strand Lighting products during 1994 at some 22 trade shows and exhibition venues around the globe. Plus *Lights!* readers are offered the unique opportunity to own the new "Strand on Show '94" T-shirt, with Strand logo and listing all these world wide venues!

Finally, a word of thanks to everyone who completed the questionnaire in the last issue. Your views are appreciated.

The St. Martin's Theatre - Home of London's longest running stage play, Agatha Christie's "The Mousetrap" - has just been re-equipped with Strand products by Playlight Hire Ltd. The photograph shows Maev Alexander, Paul Bacon, Pamela Lane, Nicholas Courtney, Beth Tuckey, Richard Brimblecombe, Michael David and Nigel Fairs in the 1993/1994 production.

Strand Library.

GSX with Genius - revolution through evolution on page 6.

Photo by Mike Robertson.

"West Side Story". A fresh look at lighting musical theatre on page 14.

Photo by Matthew Weinreb.

Savoy Theatre London. Partnership with Strand for the 4th time in 60 years on page 15.

Strand Library.
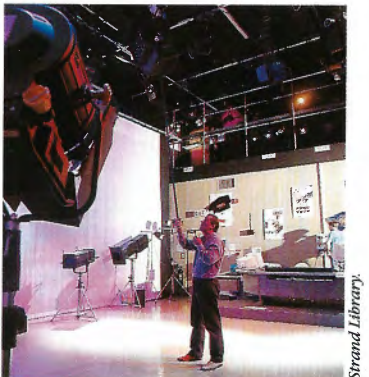
Strand's newly-equipped London showroom on page 21.

Front cover: Gemini Command Module at the NASA Johnson Space Center. See feature page 8.
Photo by: Paul Hester.

LEKO™
NOW TO EURO STANDARDS

Lekolite, or as more usually known, the Leko, has been the definitive lighting instrument in North America for over sixty years. Owing its trademark to a combination from the names of its mentors - Levy and Kook - Leko has become synonymous with both Strand Lighting and its predecessor Century Lighting. In fact the current Leko is the third design to carry the name since 1933. The latest model was introduced in November 1993 - at the LDI exhibition in Dallas, and was described in detail in *Lights!* Volume 3 issue 3.

Differences in statutory safety requirements, not to mention alternative working practices, meant that the Leko could not be sold in Britain or Europe initially. Now a version complying with British lighting practice and safety standards will be in production from Spring of 1994.

In Britain, prior to the introduction of variable angle zoom profiles in the 1970's, lighting designers relied on fixed angle spotlights like the Strand Pattern 263 and 264. Zoom spotlights offered an immediate and understandable advantage - a multipurpose spotlight, covering a wide range of angles. Fixed angle spots became a variant of variable angle designs and because they carried the cost penalty of being a compromise, dropped out of favour.

However, the need for a small, lightweight and economic ellipsoidal spotlight hasn't diminished, as witnessed by the batteries of Pattern 263's still to be seen in theatres throughout Europe. With the introduction of Leko (an affordable, purpose-designed fixed-

Leko 40   *Strand Library*

angle profile) lighting designers and theatre planners have a choice between the flexibility of the zoom at the regular price, or the punch, ease of focusing and economy of a Leko.

The European Leko ellipsoidal range is available with a choice of 15°, 20°, 30°, 40° and 50° beam angles. It is designed to meet EN 60598 2-17 which means that there have been modifications to the earthing of the body, a different cable type and re-designed handle, and other safety measures such as colour frame retention and a lens guard.

But the Strand Leko is no ordinary ellipsoidal. A specially designed gate allows the shutters to overlap (we call this a high angularity gate). The lampholder (which takes a 220/240V CP77) has a bayonet fitting into the Leko body, so that the focus is not disturbed when the lamp is changed. Lamp alignment is easy with a screwdriver which releases the adjustment and acts as a joystick control to centre the lamp. An economy fixed angle it may be, but there is no compromise on performance, safety or operational benefits. Leko is now set to become a firmly established favourite as much this side of the Atlantic as in North America, where specifying Leko is automatic. And remember only Strand Lighting make Lekos!

Strand is branching out into touring dimmers with the introduction of new Andi DX Portable Dimmer Racks. Available in two standard configurations, 24 x 2.5 kW and 12 x 5 kW, Andi DX uses an LD90 digital processor module driving plug-in modules. The dimmer modules are hard-firing and include good rise time filter chokes suitable for studio, theatre or rental applications.

By integrating the intelligence of the LD90 processor, a wide range of control features and options have been brought to the Andi DX, including DMX patching, a choice of dimmer laws, selectable response

ANDI DX 220/240V PORTABLE DIMMER RACKS

time, and internal preset memories which can be accessed through the System Wide Control (SWC) network.

Available with a choice of load sockets suitable for the UK, France or Germany or with multipin connectors for multicore cable installations, all Andi DX touring dimmer racks are designed and manufactured in compliance with mandatory European safety regulations. The incoming mains supply is provided by a CEE 5-pin standard connector on the rear of each rack. Andi DX is in production now and extends our already well established base of Andi permanently installed dimmer racks throughout Germany.

Andi DX touring dimmer.   *Strand Library*

Andi DX housed in robust flight case.   *Strand Library*

NEW DIMMER PACK WITH DMX - ACT 6+

Act 6, Strand's ever popular range of budget-priced 6 unit 220/240V dimmer packs will soon be replaced by Act 6+. The 'plus' stands for DMX 512, the digital multiplex protocol which is an option with all Act 6+ packs.

Until now, the Act 6 range has been available in two basic versions: with double sockets and analogue control voltage, or single sockets and D54 (Strand's analogue multiplex control signal).

All Act 6+ dimmers will now have double sockets per dimmer (in versions for the UK, France, Germany, Switzerland), plus CEE17

16A sockets and a blank panel version for custom multi pin connectors), +/- 10V analogue control and a push-button test switch per dimmer.

By plugging in a Multimux module, any Act 6+ can be additionally controlled from either a D54 or DMX512 multiplex signal. Analogue and multiplex signals can be used simultaneously, combining on a highest level takes precedence basis. The multimux module also includes a clever feature which provides a selection of pre-programmed chase effects.

The new Act 6+ range will be available from March 1994, and also replaces Act 6 in the EuroSystem scheme (re-named 'StrandSystem' for 1994), so contact your dealer soon for some exceptional prices.

GOOD-BYE EURO SYSTEM.

STRAND SYSTEM

HELLO STRANDSYSTEM.

The popular Euro System scheme, which offered the best of Strand's basic stage lighting products at down-to-earth prices when purchased through Main Distributors, has made way for the new 1994 scheme called "StrandSystem".

The name and products have undergone some changes, but the

economy pricing levels remain the same, showing Strand's commitment to bringing you all the elements of a basic lighting installation at a price you can afford.

Replaced are the Act 6 range of dimmers, and the M24 and M24FX memory desks - the new Act 6+ packs and GSX with Genius consoles take their place in the new StrandSystem line-up.

New to StrandSystem are Minim F and PC spotlights, Nocturne floodlights and the Cantata followspot. The remaining Euro System range of Quartet spotlights, Coda floodlights, LX and MX controls, Act 2 and selected LD90 dimmers is also included in the new StrandSystem. Contact your Strand Main Distributor now for advice of pricing and availability.

Act 6+   *Strand Library*

STRAND LIGHTS "SUNSET BOULEVARD"

Beamlite 1000 and Beamlite 500.

Strand Library

What has Strand Lighting and Sir Andrew Lloyd Webber got in common? The letter "L", which stands for London, Los Angeles and Lighting.

Sir Andrew's latest hit musical, *Sunset Boulevard*, opened at the Adelphi Theatre in London last summer and subsequently in Los Angeles in December.

Coincidentally, Strand has offices in both London and Los Angeles, making it ideally placed to provide the Lighting - which was spectacularly designed by Andrew Bridge - for both the British and American productions.

The latest version Lightpalette 90 controls both shows, connected to LD90 digital dimmers in the UK production. The stage lighting complement includes Strand Optiques and low-voltage Beamlites on both side of the Atlantic.

DUAL LAMP OPTION FOR A NEW GENERATION OF QUASARS

One of the most significant new products from Strand's TV and location lighting manufacturing facility in Rome in recent years has been **Super Quasar**. Since the first production build in July 1991, Super Quasar has become one of the most popular products in the field of motion picture lighting. The high output from this small-bodied spotlight, in comparison with an equivalent rated Fresnel, makes Super Quasar useful for both long throw, narrow beam or closer bounce light situations.

1994 sees the introduction of improved versions of Super Quasar and it's big brother, the Quattro Quasar . The 2.5kW Super Quasar II and 4kW Quattro Quasar II are high intensity location 'Parlights' using Single-Ended HMI or MSR daylight lamps and are supplied with integral ignitor and pushbutton on/off controls, yoke with 29mm spigot, set of four lens holders, 40cm feeder cable and separate 8m extension cable to ballast. They operate as either a conventional system with magnetic ballast or 'flicker-free' system with electronic ballast.

The new models have improved ventilation and lamp fitting (the specially-made lampholders now have a lamp clamping and release mechanism), and offer the flexibility of dual wattage operation. When used with a suitably rated ballast, Super Quasar II can be used with either a 2500W or 1200W lamp, and with the Quattro Quasar II, either a 4000W or 2500W lamp may be fitted. Carrying the world famous Quartzcolor name, Strand are confident that the new generation of Super and Quattro Quasars will prove even more successful than the pioneering versions they now replace.

Quattro Quasar Mk 2

Strand Library

STRAND ON SHOW 1994

Lights! readers will be accustomed to news of lighting projects around the world, but will perhaps still be surprised to discover how many opportunities there are each year at which to view new Strand products.

During 1994, Strand is planning to exhibit at some 22 events, so why not check out the list and visit us when there is a venue convenient to you?

New for 1994 are the "Strand On Show" T-shirts, produced in black with the famous Strand logo on the front and a list of the shows and venues in cerise and yellow on the back. These are definitely collector's items and excellent value for everyone working on lighting. T-shirts are available in XL and Large. Junior T-shirts for the embryonic stage hands (with "Lighting Crew" legend on the back) are available for the children as well! See order card for more details.

Junior "Lighting Crew" T-Shirts.

Strand Library

"Strand On Show" T-Shirt.

Strand Library

Where to see Strand Lighting's exciting new products in 1994:-

THE DATE - THE EVENT - THE VENUE

30 Jan - 2 Feb, *European Lightshow 94,* Earls Court, London.	**7-11 May,** *Pro Audio/Light/Music,* Beijing, China.
13-16 Feb, *SIEL Paris,* France.	**1-4 June,** *Broadcast Asia '94,* Singapore.
6-10 March, *SATIS,* Paris, France.	**7-10 June,** *Luminex '94,* Hong Kong.
16-18 March, *The Television Show,* London.	**11-14 June,** *ShowBiz Expo '94,* Los Angeles, USA.
16-20 March, *Musikmesse,* Frankfurt, Germany.	**16-18 June,** *World Light Fair,* Tokyo, Japan.
21-24 March, *NAB '94,* Las Vegas, USA.	**20-24 June,** *Electrotech,* NEC, Birmingham.
28-30 March, *ETA,* Bournemouth, England.	**6-8 July,** *Pro Audio/Light Asia,* Singapore.
14-16 April, *USITT '94,* Nashville, USA.	**11-14 Sept,** *PLASA,* Earls Court, London.
21-22 April, *ABTT,* London.	**16-20 Sept,** *IBC,* Amsterdam, Holland.
4-6 May, *LightFair '94,* New York, USA.	**13-15 October,** *ABTT,* Manchester, England.
4-6 May, *BTT '94,* Bregenz, Austria.	**18-20 November,** *LDI'94,* Reno, USA.
	See you there!

GSX™

WITH GENIUS...™

Designer's Remote for hand held control.

Loading software.

GSX Lighting Console.

M emory lighting control consoles have reached a level of sophistication where even the techno-enthusiasts find it increasingly difficult to compare the benefits of one sparkling feature with another, and even when they've reached a decision will they ever make use of all the functions? The race for ever more gadgets and widgets on lighting controls seems unending, but Strand's GSX with Genius console has at last broken the traditional mould.

The problem was a simple one for us to identify. If we created a new entry-level lighting console, should it keep up with the race and include all of the known and anticipated functions and features of current memory consoles (and burden the user with the complexity and additional cost involved), or should it be designed within the budget of even the smallest venue, without the frills needed for a full-scale musical?

We looked to the computer world for guidance. If we created a console which would accept individual application programs, users would be able to buy what they needed now, at a price they could afford, and add functions and capacity later, simply by purchasing the required software packs. The way lighting consoles were sold prior to GSX was like buying a PC with software for word processing, spreadsheet, database, graphics, desktop publishing, accounts and CAD all built in. GSX is showing the way of the future, and here's how.

The GSX by itself is an extremely attractive stage weight. It does nothing at all except look pretty and draw crowds. But open a pack of software called *Genius*, insert the 3.5" disk, and GSX transfers the software into its internal ROM memory. This is only done once. The 'foundation'

program, as *Genius* is known, brings the GSX to life as a basic memory lighting console. Mind you, this is still a system of considerable capability. The version of *Genius* chosen depends on the channel capacity required; either 25, 50, 75, 100 or 125 channels. All GSX with Genius consoles will control up to 512 dimmers (using DMX), 384 dimmers using Strand's European D54 Mux protocol, or 192 dimmers with AMX protocol.

Once the foundation has been loaded, the GSX is ready for action. The only additional task is to register the copy of software with Strand Lighting. After registration a code number is given to the user to override the 28-day software protection clock which closes down the recording function as part of its copy protection feature.

GSX is a compact, lightweight ergonomic console with 24 submasters, two playbacks - manual and auto - a level & rate wheel, an auto playback. It has 'Go' and 'Stop/back' functions, 3 Effects playbacks with 'Go', 'Stop/back' and manual step, soft function keys and a Grand Master fader and Blackout. An LCD display on the console panel provides detailed information and describes the functions of the 'soft' (unassigned) keys at any time.

As you would expect from a new Strand memory console, the GSX with Genius has a powerful specification. GSX continues Strand's philosophy of ease of use, and even has a choice of how you enter the information (you may prefer to type in percentages rather than digits). To help with setting the lighting, the channel control can mix channels, cues and submasters, undo any change, switch off lighting fast using REMDIM (remainder dim) or solo.

Recording is made easier than ever with auto selection of the next

free cue number, recording with and without submasters, renumbering, updating features and undo. For the performance, there are two playbacks, automatic and manual, plus 24 submasters. The submasters can have programmable fade times, and up to 12 can be set as inhibitive. Simple chase effects are available with 3 effects memories. A total of 10 macros provide short cuts to more complex actions of up to 32 key presses. Macros can also be used for automated control triggered through the keypad, submasters, handheld remote or by date and time.

There are two proportional patches, and show storage and retrieval on MS-DOS compatible 3.5" disks offers automatic backup copies of the show, plus the usual copying of cues, submasters, effects and set-up memories.

The power of the GSX with Genius is impressive by itself, and for many users the Genius foundation software answers all their needs and more. But what happens when a new show requires more dimmers, and you need more channels? Simply purchase as many Genius 25-channel upgrade packs as you need to make up the difference.

What do you do if the lighting designer wants a selection of effects, up to 30 effects memories, audio control of effects and macros, scroller control? You buy a copy of *Kaleidoscope*, the GSX with *Genius* extension program which adds a wide range of effects, and direct 'intelligent' control of scrollers. *Kaleidoscope* gives accurate scroller control that is not possible from ordinary DMX 512 intensity control desks used for this purpose. See the specification summary opposite.

The options don't finish there. GSX with *Genius* is capable of much more through its connectivity with other systems. And this is available

Attractive and ergonomic console.

for the price of the second extension program called *Communiqué*. *Communiqué* is for applications where the GSX is to be operated as part of a lighting network. *Communiqué* provides an additional 12 external submasters, macros triggered by external +10V signal or by configurable serial input or ASCII control and ASCII remote go, MIDI, MIDI Show Control, plus DMX-input to accept another desk's control signal.

The awesome power of a fully expanded GSX, is explained in our "Digital Theatre" brochure which opens up to show GSX connected to digital dimming, System Wide Control, remote control facilities and MIDI. Space doesn't allow us to go into any more detail except to say contact your dealer for further information or fill in the enclosed reply card, and make sure you see GSX with *Genius* soon. Strand lighting will be showing GSX with *Genius* at 22 major trade shows around the world in 1994, so make sure you get along to one. ✍

THE SOFT OPTION FROM STRAND

GENIUS™
FOUNDATION SOFTWARE

Genius opens up the world of GSX and provides the basic features expected of a modern console.

Features include
- Control of 25, 50, 75, 100, 125 channels
- 512 dimmers or scrollers
- 2 soft patches
- 200 Cues in memory
- Cue numbers 0.1 to 999.9 available
- On-line prompts and help screen
- Real time date and clock on screen
- Intensity Channel Control
- Recording & updating Cues and Submasters
- Automatic Playback
- Six simultaneous fades with separate fade and delay times
- Manual Playback
- 24 submasters
- Chase effect with 3 effects memories
- 10 user-programmable macros
- Show storage & retrieval using 3.5" disk
- Dimmer output DMX 512, AMX 192 or D54
- Support for full-function Designer's Remote
- Monitor displays including help screen
- Support for popular printers: HP, Epson & IBM

KALEIDOSCOPE™
EXTENSION SOFTWARE

You can extend the basic effects features included with Genius, and add an extra dimension in intelligent colour control.

Effects
- Build, Cycle, Flicker and Random effect types in addition to Chase (available with Genius)
- 30 effects memories
- Auxiliary control of effects from audio or MIDI input
- Step time & effect fade in time override with wheel
- Audio/MIDI sensitivity control with wheel
- Macros triggered by audio input
- Submaster used as audio input master

Colour
- '@ Colour' facility to select scroller colour frames directly
- Colour channels with frame numbers on screen
- Combined illumination and colour instructions from the channel control
- Intelligent Colour Control software manages potential conflicts between submasters, playbacks, channel control and Grand Master to avoid unwanted scroll resets

COMMUNIQUÉ™
EXTENSION SOFTWARE

An optional software package which gives you connectability to external interfaces for remote control, automated effects and 'hands-off' control.

Submasters
- Up to 12 external submasters or macro switches
- Master control for DMX IN

Macros
- Macro triggered by submasters
- Macro triggered by configurable MIDI input
- Macro triggered by configurable RS232 ASCII serial input
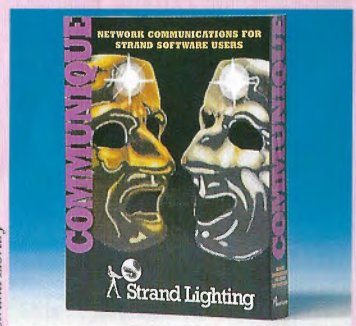
External Interfaces
- DMX IN (channel or dimmer modes)
- RS232 for remote PC
- 12 remote +10V analog inputs for submasters or macros
- MIDI Show Control
- MIDI In / Thru / Out
- MIDI for tracking backup with another GSX console
- Configurable MIDI "GO" command
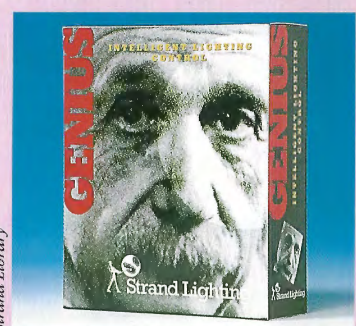
Genius™ Foundation Software.
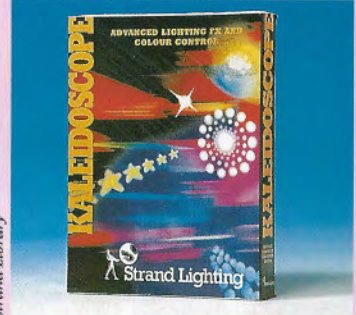
Kaleidoscope™ Extension Software.

Communiqué Extension Software.

STRAND'S DIGITAL THEATRE

One of the most important features of the new GSX system is its comprehensive connectivity. The ability for the GSX to be the communications hub of a modern lighting control network is illustrated by the new poster "The Strand Digital Theatre".

The main diagram depicts a ghosted, cut-away view of a small theatre, showing the various lighting control locations; lighting control room, dimmer rooms, auditorium positions, foyer, backstage and overstage. The integrated network includes distributed digital dimmers, simultaneously controlled by two DMX signals (the GSX and Premiere houselighting systems). Remote control of the GSX is provided by the designer's remote positions around the theatre, through the MIDI interface to a music keyboard or sequencer, or by remote submasters or macro buttons. The DMX signal from the GSX console is also used to control Colour Call scrollers, and effects scanners.

The installed digital dimmers provide another important network feature - System Wide Control. The diagram shows how a separate SWC network is routed through the theatre, providing a direct link between all the dimmers and a series of push-button wall stations to call up preset states programmed inside the dimmers themselves. Backstage, and in the auditorium, the panels are used to create a lighting state for concerts or presentations; in the control room, the SWC panel can be used as a houselight control or as a backup system.

The theatre's houselighting requirements - both in the auditorium and in the foyers and bar areas - are fulfilled by the Premiere architectural control system which treats each area individually, providing local and general control from any wall station.

The reverse side of the poster introduces you to the capabilities of the GSX system including its three software applications; Genius, Kaleidoscope and Communiqué. For a free copy of "The Strand Digital Theatre" poster please call your dealer, or return the attached request card. ✍
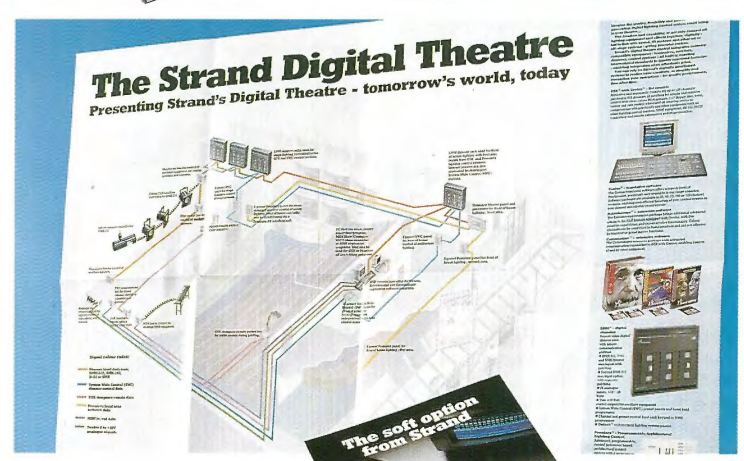
The Strand Digital Theatre Broadsheet.

SPACE CENTER HOUSTON

Larry French, of S. Leonard Auerbach and Associates takes us behind the scenes of NASA's new exhibition facility.

The new visitors center for the NASA Johnson Space Center in Clear Lake, Texas, provides a hands on experience of the adventures of human space exploration in a visually dazzling environment.

The project was on an extremely fast track. The lighting design team S. Leonard Auerbach & Associates in San Francisco, co-ordinated by Larry French in collaboration with Clive Grout of architects Waisman Dewer Grout Carter and Bob Rogers and Chuck Roberts of BRC Imagination Arts, had just five months from beginning the design development to completion.

THE PLAZA

The Space Center Plaza is a large atrium which holds the original lunar module trainer and a full scale mock up of the Space Shuttle cockpit. Off the Plaza are IMAX and IWERKS film theaters, a 570mm film theater, a "live" format theater showing communication between Houston Mission Control and space shuttle crews, an interactive experience area with space shuttle flight simulators and a live orientation show, called "Living in Space".

Luminaire mounting locations in the Space Center Plaza were limited to the exposed truss-work. All exhibits were illuminated with a mixture of 5°, 10°, 20° and 30° Leko fixtures using tungsten halogen sources and luminaires with PAR 64's. Theatrical glass color filters were eventually installed, after initial color trials using gel color filters, to ensure color stability over time.

SPACE CENTER THEATER

The 870mm film theater is fully automated and is one of a few in the world incorporating both the IMAX and IWERKS film formats. All incandescent circuits are dimmed on a centralized system which receives automated commands from a show controller.

MISSION STATUS

The Mission Status Theater often uses pre-recorded segments of film and video to provide information about current space missions. When a live mission is in progress, these pre-recorded segments may be pre-empted by the moderator at any time to live link footage with the astronauts. Both general lighting and console lighting using Leko spotlights dim automatically from a centralized system based upon pre-recorded or live commands initiated by the moderator.
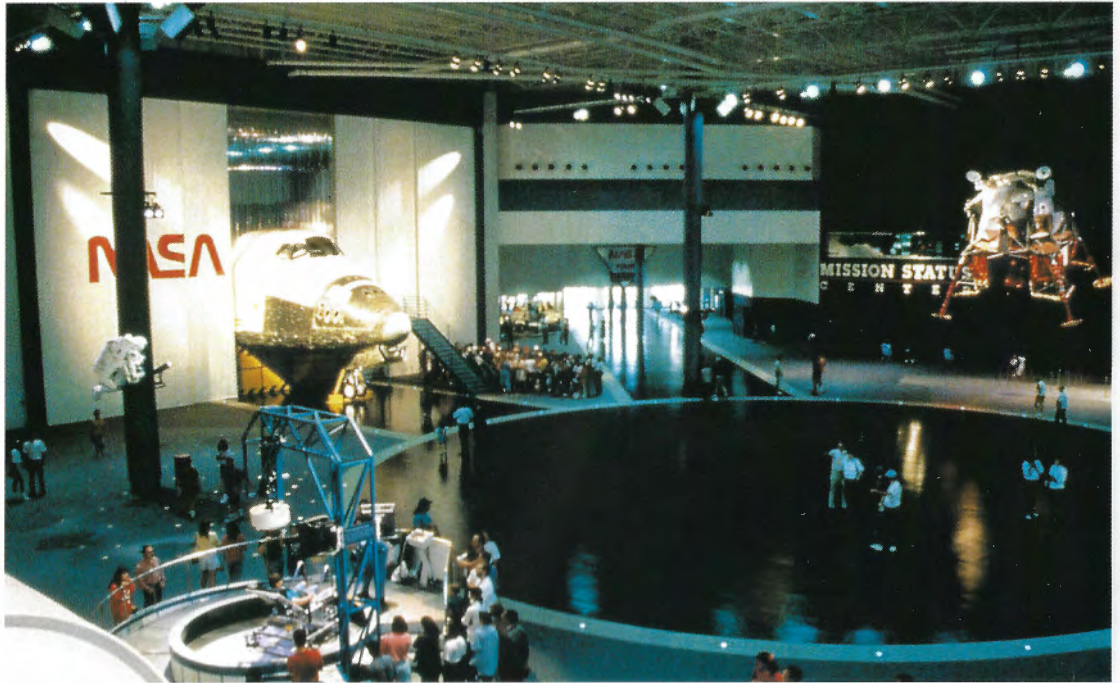
The Space Center Plaza.

STARSHIP GALLERY / DESTINY THEATER

A fibre optic star field containing a night view of the earth's surface with sunrise are a background to several space artefacts.

The isolation of humans in space was evoked through careful use of angle, source and color. Color was used to produce a "cold outside/warm inside" feel for the artefacts. A rim light effect for the "sun" side or key light for the artifact exteriors was created through use of a high focus angle and a pale cold blue color. The "dark" side of the exteriors were lit from low angles wherever possible and with very saturate blues. In some cases, the heat shields were subtly warmed with orange reds. All exterior lighting was accomplished using both mini zoom and 6" fresnel theatrical fixtures with glass color media.
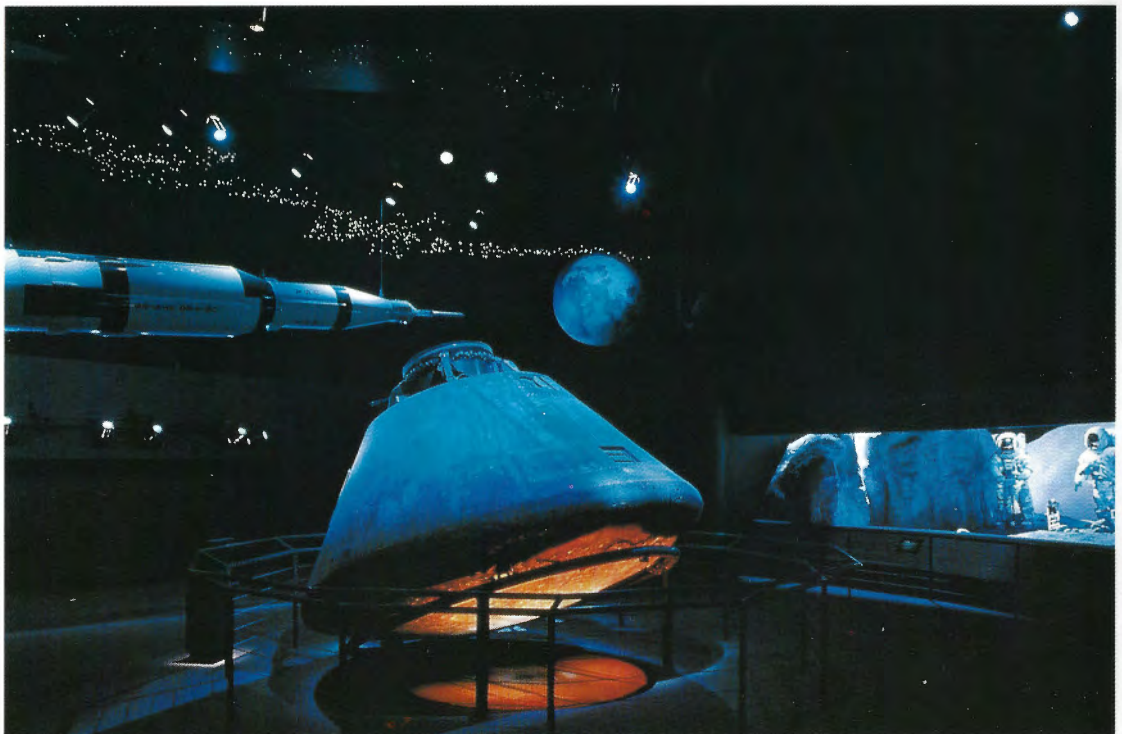
Amazing exhibits are skilfully lit to convey the effect of space.
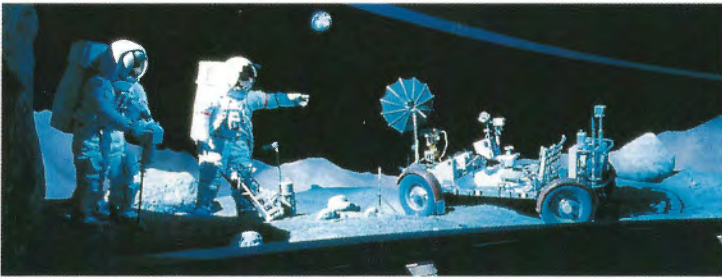
The Moonscape diorama.

MOONSCAPE

The visual expectation is that light on the moon will be single shadow, cold and harsh. Ideally, this would be accomplished using a large single source projector located a good distance from the subject. The Moonscape diorama, however required a series of fixtures to light the foreground as the curved proscenium and low ceiling height did not allow the use of a single fixture. Custom designed HQI Linnebach projectors provided the very precise control to eliminate multiple shadows caused by beam overlapping and spill outside the proscenium or onto the background.

SKYLAB

The original Skylab trainer, a full scale mock up of the actual spacecraft, had been stored in pieces in a NASA warehouse since the end of the program in 1974. Lighting both the interior and exterior of an object that large also posed problems of operatic proportions.

Eventually a decision was made to focus all light on the object and to keep light on the surrounding room surfaces to a minimum. The walls and ceiling were painted black to assist in making the room recede from view.

The general exterior was lit with mini zoom fixtures and very saturate color.

DIMMING SYSTEMS

Each of the spaces indicated above was controlled on one of two Strand Premiere dimming systems controlling centralised CD80 dimmer racks. Each space was identified as a room, or several rooms, within each system. In the case of the static exhibits, lighting presets were switched on in the morning just before opening and off in the evening after closing with the internal time clock. Another preset, with all channels at full, was activated for 45 minutes each night to ensure that the tungsten halogen cycle of the dimmed quartz sources was activated. A worklight preset, activated by a keyswitch in maintenance closets adjacent to each room, allows clean-up and work crews to turn lights on and off without access to the complex dimming systems.

More complicated systems were used in the automated film theatres. Each set of channels required to fade independently was identified as a separate room. A series of contact closures activated by a show control device caused various actions to be taken by the Premiere controller.
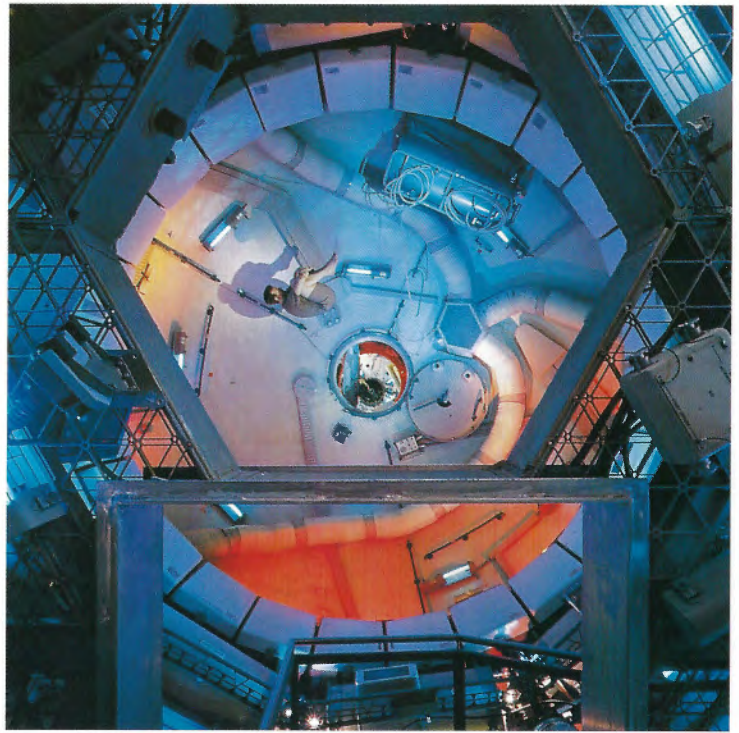
Lighting of the surrounding room was kept to a minimum to emphasise the exhibits.

In most cases this action was a "Go" command which cycled cues in a continuous loop. A "Reset" command caused the lighting system to go back to the beginning of the sequence. An "emergency" command accessed a preset to bring all channels in certain rooms to full. Other commands such as "flash" and "microphone on" were used to identify exits with lighting and to bring up lights automatically when microphone keys were depressed.

In the 'Living in Space' exhibit off the main plaza, a mock up of the interior of the proposed Freedom space station lights up one section at a time. The lighting for each section is controlled by a master of ceremonies who pushes a button on the floor at appropriate times during the show. The Premiere system prevents the sequence from backing up if a prior button in the sequence is depressed by accident.

Remote jacks were located in each space in the building to allow programming of presets through a portable master programming station. As late breaking changes were a major feature of the weeks leading to opening, the system programming flexibility and independence from other control devices proved invaluable. The ability to adjust software rather than hardware to solve functional problems in a rapidly changing setting proved its worth.

Through a very theatrical approach to the lighting of the exhibits, the monumental achievements of man in space were emphasised. The incredible technical accomplishments are revealed through story and appropriate illumination of the artifacts. The rich and dramatic content of the lighting aroused the emotional responses of the visitors to the exhibits. From all reports, the original mission statement of the project "..to inspire... and instil a sense of pride.." has been met.

Credits:

Architectural Lighting Design
Larry French & S. Leonard Auerbach.

Show & Exhibit Lighting Design
Larry French &
Patty Glasow.

All photographs by
Paul Hester.
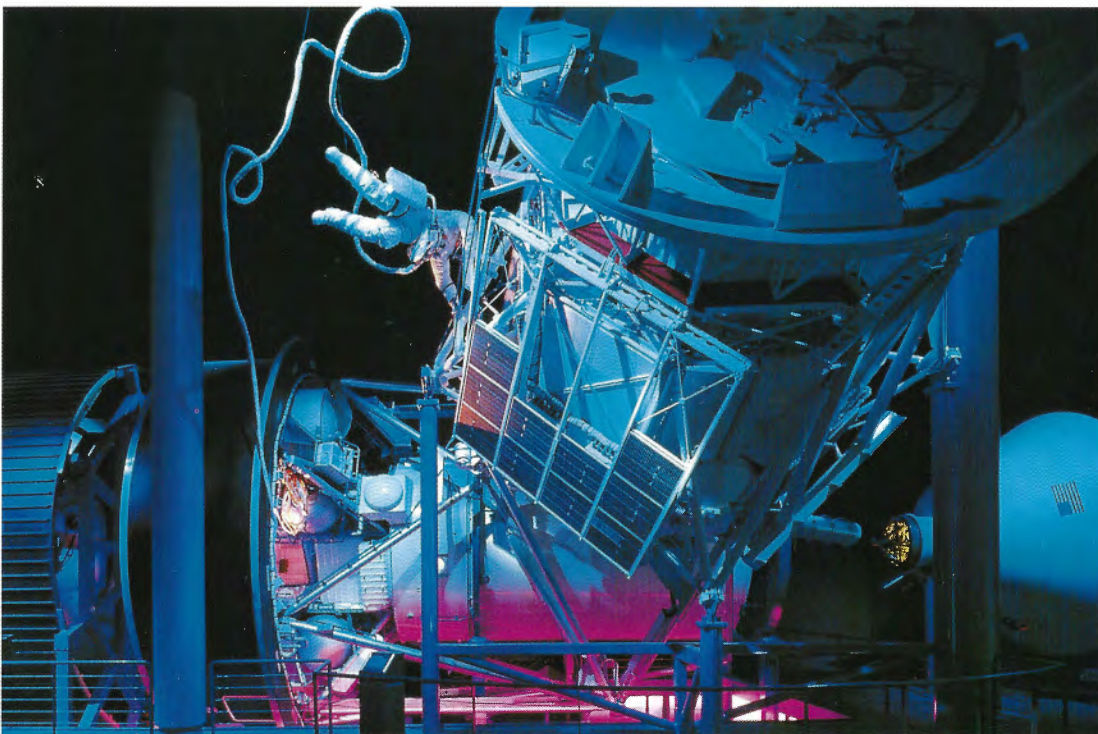
This most spectacular exhibit is the original Skylab trainer, a full scale mock-up of the actual spacecraft.

MEGA PROJECT FOR STRAND GERMANY:
THE MMC STUDIO IN COLOGNE

The German TV market is positively booming. The reason for the boom is the success of the private programming companies which have been allowed to operate in Germany for the past few years and are, quite rightly, challenging the established public organisations. Their rivals for the public's attention having been identified, an offensive has now been launched which has resulted in a severe shortage of studio capacity. In Cologne in particular, huge studio complexes have sprung up; this provincial capital having established itself as the stronghold of the broadcast media - and there is no sign yet of demand being satisfied.

One of the more sensational developments of recent months is without doubt the studio of MMC, the Magic Media Company, in Hürth, just outside Cologne. A TV studio had been in operation on this spot for several years, and this has now been considerably expanded in scale. The origins of the studio date back to a factory building which was converted with the help of Strand Lighting GmbH. As the capacity of the studio had already been inadequate for some time (RTL and SAT 1 in particular both constantly needed more space), a new building housing three studios has been added. The floor areas of the three studios are 600, 1100 and another 1100 square metres respectively. A further studio, the Maxima (a double studio of 1740 sq. m.) also needed equipping.

The entire project management of the new building was entrusted to Strand Lighting. Planning permission was obtained at the end of March 1993 with the first programme being produced on September 6th; an extremely tight schedule for a project of this size. Especially as it had to encompass not only construction and installation but also pre-planning and detailed scheduling. The CAD planning department at Strand's offices in Wolfenbüttel, which has been equipped with the very latest technology, now proved its worth. The crucial planning phase of the project coincided with ShowTech trade show in Berlin, at which Strand traditionally exhibits. On this

occasion, it had been intended to demonstrate the potential of the CAD department, and as the planning work for the MMC studio had to continue, a complete CAD work station was set up at the exhibition so that the work could proceed whilst the exhibition was in progress.

But this, of course, was not the end of the story. A studio project of this scale requires a great deal of lighting equipment. Consequently, for weeks on end Strand's Scottish manufacturing unit at Kirkcaldy put special resource to work on this project for Cologne and our Italian colleagues in Pomezia had their work cut out producing all the studio luminaires to schedule. Ulrich Kunkel, Marketing Manager of Strand in Germany commented, "The MMC studio project was only feasible because of close collaboration between Strand in Germany, Britain and Italy and in particular the experience and resources of UK based project management and production planning. It was a real team effort."

A total of almost 3000 individual dimmers have been installed in the MMC studios, in 38 Strand EC90 dimmer racks. Installation began immediately after ShowTech in Berlin and was supervised on site by the project leader, Bernhard Berger, with Jens Stuckmeier. These two Strand staff set up a production office in the old MMC building and supervised the project over a period of weeks, with great personal involvement. Naturally, one requires certain creature comforts in that situation; Bernhard Berger even saw fit to take his office chair with him from Wolfenbüttel.

The installation phase was speeded up thanks to the assistance of Malcolm White, the "Red Adair" of the studio division. Wherever he turns up there are "sudden conflagrations" to be dealt with. Malcolm needed to use his entire box of tricks in order to ensure that the installation was completed on time.

A few figures may help to illustrate the scale of the project. The MMC studios contain, amongst other things, three Strand Galaxy Nova control desks, the 38 EC90 dimmer racks mentioned above, 28 cyclorama hoists, 262 motorised self-climbing hoists (with remote control and patching capability for the movements) and 100 pantographs. There are also 450 Strand Quartzcolor Castor 2 kW spotlights, 225 Pollux 5 kW and 120 Polaris 1 kW in studios 1 to 3, plus a further 100 Castor 2 kW, 100 Pollux 5 kW and 100 Polaris 1 kW in the Maxima studio. All the dimmer racks and the requisite distribution equipment for studios 1, 2 and 3 are centralised in a room which, during the installation phase, gave any passing visitors the impression of being in a copper mine, such was the mass of gleaming metal cables.

DIGITAL THEATRE OF THE FUTURE –
HANNOVER PLAYHOUSE

For two long years, craftsmen from many countries busied themselves with the creation of a Temple of the Muses in the centre of Hannover which would do more than simply overshadow theatres of similar size. Since it opened in November 1992, the modern, gleaming white building with its asymmetrically arranged windows, sweeping facade, two-pronged roof construction and portholes, has caused a great furore for many reasons. Not least because great emphasis was laid on functionality and flexibility as far as the technical equipment was concerned.

The theatre has a fully digitised lighting system, thereby offering the staff unimagined possibilities. Comments ranging from "very interesting" to "quite fantastic" have been applied to describe the lighting technology, which, in conjunction with the dimmer technology, makes the theatre one of the most modern anywhere. All lighting control and dimming was furnished by Strand Lighting, Germany.

The head of the lighting department in Hannover is Thomas Nickson Smith, who is responsible for ensuring that the "temple" fulfils its potential where the lighting technology is concerned. An experienced lighting designer, Thomas was involved in the project from the earliest planning stage and was able to make the most of his wide-ranging experience in the standards he set out to achieve in Hannover. One example of this is the flexibility of the cabling system installed in the theatre, which even integrates the foyer into the system. There are concealed control panels and power points all over the place; in theory, control of the lighting could be shifted into the foyer. Another example is the selection of the Strand Lightpalette 90 control desk and of the dimmer system. Equally worthy of mention is the installation of a total of 30 connection panels for remote use of the control desk, including one in each dimmer room. As these are cable remote control systems, there is a genuine feedback of the lighting system on the display. Thomas comments, "the remote control points in particular make for really efficient operation in our theatre, because it means that several lighting members of the crew can work at the same time, whilst the designer can concentrate on complex tasks."

Head of Lighting, Thomas N. Smith.

Thomas N. Smith studied lighting design in New York, amongst other places. "The model and the foundation of the course there, was and is work carried out on Broadway. On Broadway, in turn, a lot of people use Strand's Lightpalette 90 and as a result I had gathered a lot of experience of this desk. I think it's absolutely wonderful and was very glad when I found out that it was available in Europe, or rather in Germany, so that I can work with it here," says Thomas of his decision to install the Strand Lightpalette 90 in Hannover. "During the rehearsal period in particular, the speed of the system is very important indeed. Lightpalette 90 and its latest generation of software offers us all possible options and yet in my opinion it is still easier to handle than many other control desks."

Even if the lighting control system can in theory be moved into the foyer, it is normally housed in the auditorium, above the raked stalls seats. This is where the Lightpalette 90 is located, consisting of a main control console with dual electronics and an auxiliary desk. The full capacity of the Lightpalette 90, 1152 channels operating 1152 DMX outputs, is designed into the scheme to access not only the

500, 5kW and 30, 10kW installed dimmers, but also for temporary dimmers, colour scrollers, mechanical dimmers, and any other special equipment using a DMX control interface. The performance required from the software, which has not been used anywhere else in this form, was a challenge even for Strand Lighting. Translated into reality, the system is, for Thomas N. Smith, at least, the system of the future; for a totally computerised control network has been designed.

The mechanical dimming shutter control for the HMI luminaires was specially designed and built by Strand Lighting in Wolfenbüttel. This unit is an absolute first in Germany, since it is directly controlled by the AMX 192 signal. In this way, the mechanical dimming shutters work significantly more accurately than they would currently be able to via dimmers.

The Hannover Playhouse installation has created a fully digital

system of the future. It is the first time in Germany that Strand's EC90 dimmer racks have been installed in a theatre of this size. There are a total of 17 of them distributed in three dimmer rooms. They control 550 circuits, of which 530 are exclusively for the stage lighting. The individual racks in the dimmer rooms are connected to an 800 Amp busbar with main circuit breakers located on each dimmer rack saving a main distribution panel, and also providing a useful solution where there are space problems. In the Playhouse, for example, where the bending radius of the rack power cable prevents its use with the ceiling height of the room.

The three dimmer rooms in Hannover are located on different levels, which correspond to their allocation to the stage, front of house and auditorium. Thanks to the SV90 Dimmer Supervisor program, there are no problems in monitoring the dimmers, despite the racks being distributed in three different rooms. The SV90 Supervisor monitors the function of each individual dimmer centrally from the lighting control. With its configuration of 17 linked dimmer racks, Strand has developed a monitoring system which is unique in the world. It offers the opportunity of remotely accessing all the features of the EC90, from response time and the allocation of dimmer curves via patching, the adjustment of the maximum voltage level (max. 240 Volt) to alphanumeric identification of each individual dimmer making Hannover a truly digital theatre.

Photographs by Joachim Giesel.

Joe Linett of Harry Forman & Associates, is our guide along the "Strand Freeway".

STRAND GOES TO

The July 1993 issue of *Lights!* (Vol. 4 Iss. 1) toured the NBC TV Studio in Burbank, Ca. and the CBS Studio Center in Studio City, Ca. Both facilities may be found along a stretch of the Ventura Freeway in the San Fernando Valley which could probably be renamed "The Strand Freeway" in recognition of the number of larger studios in the area using Strand dimmers, fixtures and controls.

Taking the Buena Vista Ave. exit of the "Strand Freeway" in Burbank one reaches the Disney Studios in short order. Disney has added a new dimension to portable dimming. At most studios space is at a premium. To defeat the problem Disney has taken 20 foot cargo containers and converted them into dimming rooms. Each container has been refurbished, outfitted with 5.5 tons of air conditioning, fitted with ports for power feed in and loads out, and waterproofed for that rare Californian rain.

The "Strand Freeway".

Strand Library

On Stage 2, the "dimmer room" is installed off the ground (soon to be followed by the transformer) freeing ground space for parking. The second "dimmer room" is ground installed in a narrow land freeing stage space for sets. Both installations have a mix of 2.4kW and 12kW CD80 rolling dimmer racks. Conceivably the "rooms" could be hoisted upon a flat bed trailer and taken on location - the "TRANSportable" dimmer room.

Continuing on the "Strand Freeway" to the next exit (passing the NBC studios) one reaches the Warner Brothers Studios on Hollywood Way. Warner Brothers is part of the Time-Warner Communications organisation and is one of the largest studios in Hollywood. Once the home of such picture stars as Humphrey Bogart, Edward G. Robinson and Audrey Hepburn and the site of films such as "Casablanca", "Petrified Forest", "African Queen" and last summer's big hit "The Fugitive", the studio has over 30 sound stages with all of the technical support services required to sustain an active filming schedule.

In the summer of 1993, Stages 7 and 8 were updated with dimming and control by Strand Lighting to start production on two television series. Bill Hawkins, Warner Manager of Lighting and Grip, his assistant Bob Horton and Gary Anderson, gaffer on stages 7 and 8, selected Strand's new CD80 Compact Rolling Rack for the three camera shows being filmed on these stages. Each stage has a penthouse built 50ft. above the studio floor and

has 4 racks of 2.4kW dimmers and 2 racks of 12kW dimmers. Control in both cases is by Mini Light Palette 90.

The next stop on the tour of the "Strand Freeway" is the mammoth Universal Pictures Studios in Universal City, Ca. Once the home of legends such as Alfred Hitchcock, Universal is today responsible for 1993's mega-hit "Jurassic Park".

Stage 39 has been converted to TV production and Terry White, the manager of Lighting, Grip and Electrical at Universal also selected the CD80 Compact Rolling Rack for dimming. Three Compact Racks of 2.4kW dimmers were mated up with a full size CD80 rack of 12kW dimmers purchased by Universal at an earlier time. Control is provided by a Strand board. The dimmers at Universal are likewise located in a cabin high above the stage.

Our tour of the "Strand Freeway" concludes another 1.5 miles west at the CBS Studio City facility. Strand's Hollywood story continues in the next issue of *Lights!* ✍

LIGHTING A SCHWARZENEGGER PREMIERE IN HOLLYWOOD

An interesting change from reporting the lighting of a movie is to look at the lighting for the première. This was the task entrusted to John A Chuck, President of Entertainment Lighting Services (ELS), a Strand Lighting Dealer in Hollywood, for clients Columbia Pictures. The occasion was the Première screening of the latest Arnold Schwarzenegger picture, "The Last Action Hero".
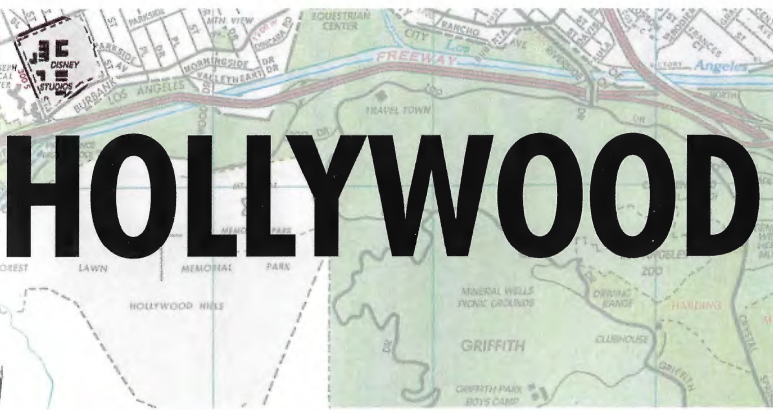
Lights! readers unfamiliar with the importance of marketing a movie might be somewhat surprised at the scale of the operation involved for Event Producer, John A Chuck. The credits list would do justice to the entire production of some lesser events, but here in Hollywood these are big occasions in their own right. A quick check reveals a full supporting cast. Production Director, Technical Director, Art and Lighting Director. Then caterers, tents and floors, pyrotechnics, lasers, balloons and figures, scaffolding support, plants and trees, neon, scenery,

The spectacular première of "The Last Action Hero."

orchestra, pinball machines, cranes, Mobotron, renderings and lights!

For the première portion of the event, ELS temporarily closed off streets in Westwood Village, and screenings were held at Mann's Village and Mann's Bruin Theaters. Red carpet was laid in the streets, which surrounded press pens, where the photo press and television crews battled for advantageous positions to get the best event coverage. Crowd control barriers held back screaming fans, and the event was relayed to them via the "Mobotron" - a huge mobile video screen provided by Sony. Adding to the atmosphere, a larger than life, positive - pressure balloon depicting the bust of Arnold Schwarzenegger's movie character, Jack Slater was installed on Mann's Village Theater. Lighting the event were a collection of Strand Quartzcolor Bambino fresnels, with control furnished by a Strand Mantrix® MX board. All in all, quite an event for ELS, but just one of the many tasks their expertise is called upon to provide. ✍

The entrance of Paramount Pictures Screening Theater.

Strand Library

PARAMOUNT PICTURES SCREENING THEATER

Premiere® lights premières at one of the world's most prestigious film and television studio's new screening theater.

When Mark Bauserman, Executive Director, Electrical Engineering for Paramount Pictures Studio Group searched for a lighting system for the new 500 seat Paramount Screening Theatre at Paramount Pictures, he had several non-negotiable goals in mind.

First, the system had to dim incandescent, fluorescent, low-voltage, and cold-cathode loads with an absolute minimum filament noise. The solution, Environ 2 dimmers with custom dual in-series chokes.

Second, the system had to provide control for a variety of different events, including screenings, première parties, VIP presentations, and press conferences. The solution, Strand Lighting's Premiere® controls. With audio-visual interfaces in the projection room (timed to seamless curtain opening in 16 seconds), a producer's command post, master

and entrance stations, lobby control; plus portable, podium and console receptacle stations the theater is completed with ten circuits of stage lighting and Strand luminaires.

Third, the system had to meet electrical and safety codes. The solution, UL listed Strand Emergency Transfer Cabinets connected to the UL listed dimming system to provide emergency power transfer.

Mark especially notes that, "the ability to off-line configure the Premiere® system and change it at any time with a disk load is really beneficial."

Strand Lighting is proud to know that when directors, producers and stars sit back in their plush seats and watch their latest creations, surrounded by the very best in projection, sound systems, acoustics, and environmental control... they will also have the very best in lighting.

Allen David Leibow with Wheel, Gersztoff, Friedman, Shankar Inc. was the lighting design consultant. Architects were Gensler and Associates. ✍

AN AMPHITHEATRE WITH A DIFFERENCE AT BURNING HILLS

Mention amphitheatre and you might think of ancient Greece, but not of the Bad Lands of North Dakota. Neither would you perhaps make an immediate connection with the 26th President of the United States of America. But then "The Burning Hills Amphitheatre", home of the Medora Musical is an unusual, if not unique enterprise.

For over thirty years, hundreds of thousands have witnessed the retelling of the legend of Theodore Roosevelt and his fabled Rough Riders at The Burning Hills Amphitheatre. A two hour action-packed celebratory performance in a Broadway style song and dance show, enables visitors to experience something of the spirit and life style of this famous American President. The show itself is described as a mixture of song, dance, comedy, Western heritage and tradition.

The Theodore Roosevelt Medora Foundation had ambitions "to build a larger, modern, more comfortable Amphitheatre, to install state-of-the-art lighting and sound systems and provide special effects with a new set and stage." Today replacing the 26 year old former Amphitheatre is a $4 million "high tech. engineering masterpiece." With seating capacity for 2800 in 'stadium style' individual seats, the audience can now reach the natural bowl from the hilltop parking lot by way of an escalator which descends the equivalent of seven stories. Caretakers of Medora - The Theodore Roosevelt Medora Foundation - took no chances in design and construction, appointing Bismarck architect Don Barsness to co-ordinate the engineering responsibilities. One aim was to blend everything into the surrounding hillside.

The challenge to the architect included stabilising the sometimes slippery clay hillside, correctly positioning the sound system towers and developing the escalator system. Hollywood set designer, Rene Lagler did the original design work up. The set opens to reveal the backdrop of the hills, lights are concealed in the water tower and the railroad depot to keep true to its historic theme. The lighting and sound systems have been described as "technical achievements that gives the Amphitheatre both concert hall acoustics and the ability to bathe a nearby hillside in rich light to create moods for the musical."

Ed Duepner of Strand Lighting's representative agency, Luma Sales of Minneapolis, Minnesota, was to provide the lighting equipment comprising Strand Lekos, controlled by a 48 way Lightboard M with color monitor and remote focus, CD 80 dimmer racks, plus Environ 2 dimmers and control stations. Construction took place during the winter months for a scheduled opening in June 1993.

Strand Lighting and Luma Sales were picked by the owner, architect and electrical engineer after careful evaluation of similar projects and discussions with both technical and lighting directors. The remote location and demanding environment dictated that only a manufacturer with the highest recommendations would satisfy the requirements. In Strand Lighting they found a company that met their needs. The people and equipment have provided backup and service to meet every requirement. The added safety factor of having backup cues stored in the dimming rack eliminates almost all our worries about the show going on. ✍
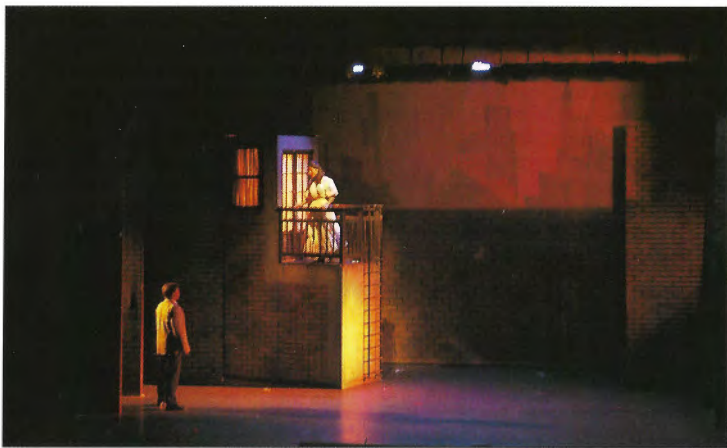

The dramatic setting for the Medora Musical.

North Dakota Horizons Magazine

WELSH LIGHT GLORY

Mike Robertson describes his lighting design for Leonard Bernstein's "West Side Story" at the Lyric Theatre, Carmarthen, Wales.

Tony and Maria convey their love for each other.

The dance scene at the gym is brightly-lit to convey the energy of the performers.

West Side Story is my idea of a dream ticket, its plenitude of locations, timescales and themes, coupled with beautiful songs, demand that its lighting is not approached lightly (no pun intended!).

As a piece of theatre it plays hopefulness and joy against painful and inevitable tragedy; also there is a good mix of exterior/interior, night and day scenes all making for a diverse range of aesthetic images.

I could have approached this show in one of two ways. Firstly I could have designed a saturation rig with a series of 'special' lanterns doing reasonably accurate predetermined jobs. Or I could visualise spatially. A series of pictures that represent different scenes, or even lines in a song and design rigs within rigs to light those moments in the show. If I had designed it in a "General Cover and Special" way I would be leaving a bulk of the design to the plotting session, where I would then begin to assemble my series of pictures. But by my "Multi-Scene" approach I commit myself to a number of lighting states that I consider follow the ideas and themes of the production at a much earlier stage. The problem that I feel about the "G C & S" way of designing lighting, is that it can easily become an obsessive exercise in symmetry and pretty pieces of paper. It is an easy 'get out' for not truly examining how the design process could work best for the piece.

It is all very well to wax lyrical about the "Multi-Scene" approach, but inevitably someone will say "What happens if you've conceived the look of a scene and when it comes to it, it doesn't work". The answer is to design enough safeguards within the plan to cover your back for any eventuality; this is all that I did for *West Side Story*.

Take, for example, the famous balcony scene where Tony and Maria

Gobo pattern projection is used to express the virtues of America.

sing "Tonight". Within the structure of a grubby neighbourhood we want to have a few clear moments of beauty where they convey their love for each other. But we must not lose sight of the obvious sadness that is to occur, so the visual beauty is heightened to look supernatural. The balcony at the tail end of this scene [*top left*] is lit from within the truck in a loving amber, from a low wing position in an orange - to suggest a setting sun - and the sky cloth is lit in a heavy pink, to suggest that for our two characters their love is spreading across the city. The scene is backlit in a heavy warm blue which suggests a sweep of serenity and by mixing with the ambers it further adds a pink tinge to the downstage where Tony stands. The song ends and the light from the truck reverts to a cool blue, the sky turns to a mix of chocolate and slate blue and a mercury discharge lamp with a high colour temperature comes on. Immediately the beauty is

gone and we are left with the harsh moonlight (the bluey white of the mercury) and the gloomy sky.

At the end of the "America" song [*centre*] one character starts by singing about the wonderment of living in Puerto Rico, although the rest of the assembled immigrants don't share her enthusiasm, but the key point is that she believes it! So the first lighting image was a complicated series of shutter cuts to provide this one character with her own serene light as she selfishly indulges in peaceful thought, whilst the rest of the company are uplit in a foul pale green to wash them in disgust. The soloist's light is complicated, for it had never to touch any of the others, else it would spoil her isolation. This was achieved by careful blocking and a few Strand Cantata profiles shooting off bars and trucks at bizarre angles. Then the company sing about the virtues of America. Unfortunately they only see the commercial icons

and therefore by the end, it is fitting that they should be engulfed in dollars (using gobo pattern projection) to the point of looking farcical, thus illustrating the superficiality of what they sing and what the audience believe.

Finally the dance at the gym is a fun scene because it is a change to be bright (there aren't that many in this show). Because it is a dance packed full of energy and conflict, it starts with the company backlit very strongly in a raunchy red (2k Fresnels) whilst the music builds. Then the lighting builds [*top right*]. It is simply two rows of Parcans at about 6 and a half foot high running up and down stage, providing the intensity needed in the scene, whilst an imbalance in colour on either side aids the idea of conflict.

In all, I conceived about 70 pictures in the rehearsals which were adapted to fit the fluidity of the choreography, blocking and physical nature of the set. By the time the show was on we had about 100 cues and a 140 luminaire rig built up "rig within rig" style and then cutting luminaires that were to be common to several pictures. There was a fair mix of conventional tungsten halogen luminaires with mercury and sodium discharge lamps to provide "real" moonlight and streetlight.

In the second week of the show's run, I phoned a chief electrician friend of mine to cheekily enthuse about the lighting of the show, the conversation was cheeky enough for me to say playfully "Well at least I'm young enough to come up with new ideas", to which she replied, "Yes my darling, but I'm old enough to tell you they've been done before"...

Photographs by Mike Robertson.

SAVOY THEATRE LONDON

THE STRAND STORY CONTINUES

On 28th December 1881, London's famous Savoy Theatre became the first to benefit from electric lighting.

Strand Lighting became associated with the history of the Savoy Theatre in the 1929 reconstruction, and again in 1960 when the 52 dimmer ways were replaced with 120 resistances and transformers remotely controlled from a Strand CD console, later to

be itself replaced by a Duet 2 in the early 1980's. Then on the 12th February 1990, fire destroyed the theatre. There was an immediate decision to rebuild, a task which took almost three years of planning and construction to faithfully recreate the 1929 Art Deco interior.

For the fourth time in the Savoy's history, Strand Lighting was chosen to supply lighting, controls and dimmers to the theatre. Theatre

Projects, under the direction of Jerry Godden, were consultants for the project, and Glantre Engineering of Reading was appointed to supply the new stage lighting system.

The Galaxy Nova control system is the latest version of a well proven control console that has become the system of choice in most major theatrical venues in the world. The EC90 MD dimmers represented the introduction of a fully digital
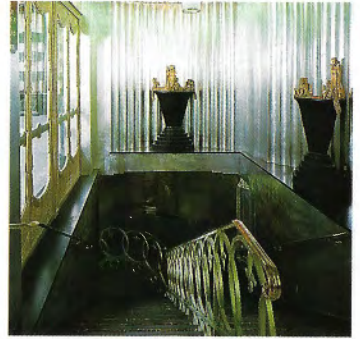
dimmer system, far removed from those original liquid dimmer pots of 1929!

The official re-opening of the Savoy Theatre took place on 12th July 1993 with a gala charity performance by English National Ballet.

Photographs by Matthew Weinreb.
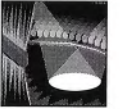
Central Plaza at night.

Strand Library

TOPPED-OUT IN STYLE

Hong Kong is well known throughout the world for its neon signs that display advertising for restaurants, hotels and tailors, but Central Plaza, the new 78 storey building dominating the city's skyline, uses neon as a bold statement of confidence and commitment to the city's continued long-term success.

Lighting designers Forma/ Lightsource Division are credited for illuminating the 1,228 feet (374 metre) building situated in the heart of the business district of Wanchai. The facade was designed to incorporate golden yellow neon in the curtain wall, drawing the eye from illuminated columns at the base towards the sky. Both the intensity and shape of the neon can be controlled from a combination of Strand LD90 Digital Dimmers and a Premiere Control System embellishing the silhouette against the night time sky.

On the top of the tower is a triangular shaped glass pyramid topped with a tall spire. The base of the spire is illuminated by multi-coloured neon tubes, located at four

levels. By using the Premiere control system and LD90 Dimmers, the neon lamp colours are dimmed to various levels, providing a multitude of colour mixes such as white, violet, green and yellow which can be changed at any time. The Premiere is currently programmed so that it acts as a "colour clock", changing the colour sequences of the four bands every fifteen minutes through 52 variations, synchronised via a modem link to the Hong Kong Observatory.

As the fourth tallest building in the world after the Sears Tower, World Trade Center and the Empire State Building, Central Plaza's dominant location and strong visible presence prompted the suggestion that the "clock" could be programmed as a public "broadcasting" beacon for messages such as typhoon warnings. The flexibility of the Premiere system certainly lends itself to this type of creative application!

A glass pyramid, located on the 75th floor will be used for functions such as receptions and cocktail parties, as well as a gallery for the most spectacular view of the city. Following the same concept used for the neon, using multi-coloured floodlights and more LD90 dimmers, the interior structure of the pyramid can be washed in a variety of different colours, creating an atmosphere of varying moods.

These colours are visible from the building's exterior, providing an ever-changing appearance throughout the evening.

There is no doubt that Central Plaza sets an important precedence for Hong Kong, illustrating that a building can maintain its dominant presence day and night through innovative exterior lighting.

Lights! looks at the products that make the "Architectural Focus" programme - a complete integrated system of control and dimming for architectural applications.

ARCHITECTURAL FOCUS

The Strand Lighting programme comprises controls starting with the simplest manual station through preset recordable versions to fully programmable systems.
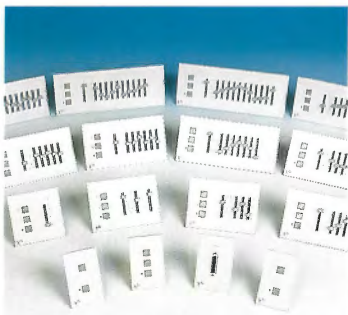
Accompanying the controls are various configurations of dimmers in two ranges, one to North American standards, and the other to European standards.

The chart opposite is a guide to which product is suitable for locations around the world.

MICROCONTROL™ MANUAL LIGHTING CONTROL

For the simplest lighting control requirements in meeting rooms, lobbies, bars or restaurants, Microcontrol Stations provide manual slider control for up to 12 lighting channels allowing lighting to be subtly balanced; with a Master slider providing overall control. Pushbuttons give instant full-on or off and all pushbuttons act as "Take Control", exchanging control between stations in the same area. Entrance stations allow the On, Off and Manual slider functions to be selected locally to provide control points where they are needed. Microcontrol operates a 0 to + 10 volt analogue control for remotely located dimmers.

OUTLOOK™ MANUAL & PRESET LIGHTING CONTROL

New from Strand is Outlook which expands the capability of slider control by the addition of recorded preset scenes. The Outlook range of control stations include sliders for manual control, pushbuttons for recall of preset lighting scenes, and sliders with pushbuttons for recording levels for future recall.

Accessories include wireless Infra-Red Remote Control, an Audio/Visual Interface for lighting control from external equipment, and Room Combination Stations for room partitioning - a feature not usually found in such an economical system. Each system can control up to 16 Rooms, with a choice of 3, 6, 9 or 12 control channels per room with 8 Presets, plus On and Off. As a protection against unauthorised alteration of a recorded scene,

Microcontrol control stations.

Electronic Fluorescent Ballast Controller.
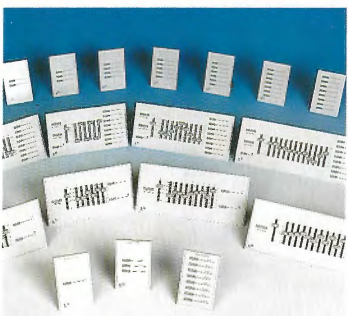
Outlook control stations.

Premiere control stations.

Outlook has a useful "lock-out" facility.

Outlook stations access, modify and recall the lighting scenes stored in Strand System 6, Digital Environ 120V dimmer cabinets or LD90 220/240V digital dimmers through a common data network. This minimises cabling and installation costs, making Outlook a very powerful mid range architectural lighting control.

PREMIERE™ PROGRAMMABLE LIGHTING CONTROL

At the top of the range, Premiere is probably the most advanced, flexible, yet simple to use lighting control system available. Recent installations include hotels, conference suites, theme parks,

museums, atria, restaurants, shopping malls, ballrooms, retail outlets and cruise liners. With over 30 versions of control station, functionality can be programmed to meet the customer's specific needs using Premiere's Off-line PC based Configuration Software with library storage using a 3.5 inch disc drive.

The Premiere Processor supports up to 64 control stations, 32 rooms - each with 128 programmable lighting presets, programmable fade times from 1/10th second to 9 hours and up to 512 dimmers with comprehensive patching.

An astronomical time clock, with sunrise and sunset offset and time clock events programming for up to 600 single or repeated events provides automatic lighting sequences and effects for dynamic lighting. Even macro functions can be programmed for the execution of multiple commands.

SYSTEM 6

System 6 is a compact, economical wall mounted dimmer cabinet with 6 x 15 Amp or 6 x 20 Amp dimmers suitable for incandescent or inductive loads. Switch options configure dimmers 5 and 6 as non-dims for switching external equipment, or combine them for dimming cold cathode, neon or fluorescent loads.

System 6 accepts analog 0 to + 10 volts for use with Microcontrol or Premiere (via an appropriate demultiplexer) and Digital Network Control for use with Outlook.

EFBC™ ELECTRONIC FLUORESCENT BALLAST CONTROLLER

The Electronic Fluorescent Ballast Controller (EFBC) is a self contained wall mounting interface for the Advance MkVII h.f. Ballast used for dimming a wide range of linear and compact fluorescent lamps. The EFBC controls up to 40 such ballasts from a 0 to + 10 volt dc analog control signal from Microcontrol stations or LD90 / Digital Environ Processor.

DIGITAL ENVIRON

Digital Environ is a versatile modular dimming system for architectural or entertainment applications. Cabinets have up to 24 dimmers with single, dual or quad Power Modules for incandescent, inductive, fluorescent and non-dim loads. The Digital Environ Processor (as with the LD90 Processor) has a keypad

and LCD display to advanced features and offers System Wide Control from a hand held controller. Control may be analogue, Digital Network and/or DMX 512 for use with Microcontrol, Outlook and Premiere respectively. Two analog outputs are provided for external devices such as the Electronic Fluorescent Ballast Controller.

EMERGENCY TRANSFER CABINETS

Emergency Transfer Cabinets automatically transfer load circuits to emergency power to maintain adequate illuminance when the normal supply fails; an essential requirement in public buildings. Cabinets are available for 2, 4, 6 and 8 circuits and fully conform to UL 1008 and NEC 230-83, 700 and 701 safety standards.

UNIDIM MANUAL UNIT DIMMERS

Unidim unit dimmers are available in 5, 10 and 20 amp ratings for 220/240 Volts 50 Hz supply with a "hard-fired" thyristor drive circuit for maximum output stability for all suitable load types, including tungsten, transformer-fed tungsten halogen, fluorescent, cold cathode and neon.

Unidim is suitable for "manual" types of remote control station or an external analog signal in the range 0 to +/- 10 volts dc.

MULTIDIM "PLUG-IN" MODULAR DIMMERS

The Multidim range of modular, plug-in dimmers - available in 6, 16 and 32 amp ratings for 220/240 volt 50Hz supplies - designed to be built into an integrated system with versions to control a mixture of lighting loads.

Multidim is designed for use with remote pushbutton (preset) or manual (slider) control stations.

MANUAL SLIDER & PRESET PUSHBUTTON CONTROL STATIONS

Manual Control Stations:

Intended primarily for use with Unidim and Multidim, the manual control stations with 1, 2, 3 and 6-gang plus master slider are designed for slider control of one or more remote dimmers via an analog 0 to -10 volt dc control signal. For control from multiple locations, a 1-gang slider with take control pushbutton is also available.

Pushbutton Control Stations:

Pushbutton control stations are for use with Multidim to remotely select the dimmer's four preset lighting scenes from multiple remote

locations. 1, 2, 3 and 6-gang stations are available including a 1-gang Up/Stop/Down pushbutton station for remote level control.

Photocell Control:

The Photocell and Amplifier Panel provide an analog control signal which can be used to control Multidim, Unidim or any analog 0 to -10 volt dc dimmer. Modes of operation include Constant Light, Positive and Negative Light Correction.

LD90 DIGITAL DIMMER

LD90 is a versatile dimming rack suitable for architectural or entertainment applications. Each rack contains up to 3 power blocks each comprising either 8 x 2.5 kW or 4 x 5 kW dimmers. The LD90 Processor (as with the Digital Environ Processor) has a keypad and LCD display to program advanced features and offers System Wide Control from a hand-held controller. Control may be analog, Digital Network and DMX 512 for use with Microcontrol, Outlook and Premiere respectively. Two analog outputs are provided for external devices such as Unidim or Multidim unit dimmers.

Museum and Theme Attraction lighting.

Atrium lighting.

Product Guide	UK & Europe	North America & Canada	South America	Asia
Microcontrol	√	√	√	√
Outlook	√	√	√	√
Premiere	√	√	√	√
System 6		√		
EFBC		√		
Digital Environ		√		√
Emergency Transfer		√		
Undim	√			√
Multidim	√			√
Control Stations	√			
LD90	√		√	√

Products suitable around the World.

16A Multidim modular dimmer.   *Strand Library*

Digital Environ dimmer cabinet.   *Strand Library*

LD90 220V Digital Dimmer.   *Strand Library*

Lighting layout for a Restaurant and Bar.   *Strand Library*

ROOM 1 BAR / LOUNGE · ROOM 4 STAGE AREA · ROOM 3 DINING ROOM · ROOM 2 RECEPTION

CIRCUIT KEY
COLD CATHODE
LOW VOLTAGE DOWNLIGHTS
TRACK CIRCUITS
RECEPTION TRACK CIRCUITS
CHANDELIER 1&2
CHANDELIER 3&4
COVE LIGHTING
DOWNLIGHTS
STAGE LIGHTING

Showroom lighting.   *Photo courtesy of Craig Roeder*

GRAND

Country music is booming. New country music dance clubs and performance spaces are outstripping other types of entertainment from New York to California and Chicago to Texas. To country music fans, the Ryman Auditorium in Nashville, Tennessee is known as the birth place of the art form. Celebrating the history of the "Mother Church" and the Grand Ole Opry that it housed for thirty-one years is a recently expanded, exciting new interactive museum in the Opryland USA Theme Park.

Born in 1925, the Grand Ole Opry is an American institute. Its roster of stars from the past evoke nostalgia for the way things used to be: the names Minie Pearl, Roy Acuff and Hank Snow, call to mind the familiar barn backdrop and homestyle music and comedy. Since 1925, the show has never missed a Saturday night radio broadcast. It was seen by millions of viewers on ABC beginning in 1955 and then on the Public Broadcasting System from 1978 until 1981. The Grand Ole Opry has helped to shape America's musical heritage.

The eight thousand square foot museum that traces the Opry's performers and their influence originally opened in May of 1992 with a series of displays including musical instruments, costumes, show posters and other memorabilia. Almost immediately however, plans were laid for a four thousand square foot, one million dollar expansion. New, more interactive forms of display were designed and a greater emphasis placed on the Ryman Auditorium's involvement in the Grand Ole Opry.

In the newly expanded and renovated museum, opened in July of 1993, visitors enter what appears to be the back alley behind the Ryman. The entry simulates the sites and sounds of the Opry's former home in downtown Nashville, complete with store fronts, apartments, and even an entrance to Tootsie's Orchid Lounge (a popular hang-out for some of the Opry's performers). Lighting helps create an outdoor mood as do sound effects of cars driving by, a baby crying and life going on behind the "windows" on the alley.

Further exploration of the alley reveals a simulated garage with the 1982 Buick Regal driven by Marty Robbins in stock car races. Around another corner, a ten by ten foot video wall plays vintage film clips of Opry stars and historical vignettes of

the Opry narrated by Porter Wagoner. From this exterior display visitors enter the exhibit space which is divided into separate areas highlighting individual Opry stars such as Patsy Cline and Hank Snow. In addition to illuminated display cases containing memorabilia, each section has interactive touch screen computers from which songs, biographical information, performance history and other details relating to the performers can be selected. Finally, the museum contains replicas of past and present recording studios, a small video studio, and a replica of the Grand Ole Opry stage which is also used for special events.

Museums provide an opportunity for their own form of crossover between full blown theatrical lighting and newer forms of architectural lighting control. The Grand Ole Opry Museum is an excellent example of this blending of disciplines. Richard Davis, Lighting Designer for Opryland USA states, "People expect to see more elaborate lighting now thanks to MTV." To create the desired visual impact in the entry area and on the replica of the Opry stage, Mr. Davis employs the heavy use of color media as well as a series of lighting cues to create movement and interest.

Use of more theatrical types of lighting demanded a different approach to the museum's lighting control. Mr Davis selected Strand's Premiere Architectural control system to meet the new demands. Prior to the expansion, lighting control was provided by a static preset in each display area. The inability to create and dynamically select presets appropriate to the activity in the museum was identified as a design impediment. Additionally, economies in lamp life, color media, and power usage were prime considerations.

After comparing the cost of the Premiere to simply expanding the existing preset system, Mr Davis was able to prove a more economical, as well as more powerful control system, justified not only its use for the expansion, but also allowed going back to retrofit this new control into the existing display areas. All museum lighting is now tied into the Premiere. Dozens of cues run automatically according to pre-programmed fade times. The system is centrally controlled from two #2300 Command Stations and a #2200 Display Station. Local override access is provided

two years ago, plans were in place for its expansion. Susan Dandridge reports on the newly-opened extension to Opryland USA theme park.

OLE OPRY MUSEUM

by a #2108 Recall Station, which may be locked out to prevent unauthorized access.

During the day, in "Show" mode, there are six presets common to all areas, but each area then has as many as thirty five additional presets to highlight and emphasize various displays and points of interest in the museum. These presets are programmed to run automatically, but may be selected manually as well.

An astronomical time clock determines what presets are available on each station depending on the time of day. At 11.00pm the control stations automatically alter their operation, giving the cleaning crew access to a single preset using only inexpensive worklights. The "clean up" preset then automatically fades to black at 3.00am. Clean-up crews no longer access lights which are fitted with color media or lamps in the display cases which are on only when the museum is open to the public. This simple programming function substantially reduces lamp and gel replacement, and attendant labor costs.

Because the museum can be rented to outside organizations for special events, macros were written to accommodate these exceptions to the normal operation. Davis programmed custom templates which disable the time clock functions and recalls presets appropriate for receptions and dinners. The templates are designed in such a way that it automatically resets the controls back to normal operation at nine the next morning.

Premiere's Configuration Software, a Windows® program designed to operate on a personal computer, enabled the lighting designer to work on-site to create the presets and fade times which were programmed via laptop computer in each area of the museum. Davis reports that initial set up of the entire system and all presets took approximately two days and that the system worked "flawlessly from day one". This on-site programming capability ensures that the Lighting Department can modify presets and fade times, or completely reconfigure control stations as new situations require.

Photographs by
Donnie Beauchamp.

Optique 1200W.

MORE POWERFUL OPTIQUES FOR QUALITY PATTERN PROJECTION

Strand Lighting's two popular Optique zoom profiles are now available with 1200W lamps for both 220/240V and 120V regions, to give an even more powerful performance.

Originally the two different variable beam angle Optiques (8° - 17° and 15° - 42°) were only available at 1kW, but recent upgrades to the design have enabled a 1200W lamp to be used.

The Optique differs from conventional zoom profiles and ellipsoidal spotlights as they have a condenser lens as part of the optical system, giving a flatter, more consistent field than a zoom ellipsoidal. By utilising white plate glass lenses, Optique also gives a whiter light than other spotlights. Strand's Optiques have become extremely popular for gobo and shutter projection, as the flat field and crisp beam produce an excellent image. See Mike Robertson's article on page 14 where he explains their use in a production of *West Side Story*. ✍

SET LIGHTING TECHNICIAN'S HANDBOOK
by Harry C. Box, published by Focal Press ISBN 0 240 80161 X

After reading this book, most of the mystique surrounding the world of Hollywood film production will be revealed. Anybody contemplating a career in this industry, whether based in Europe or USA, will find this both an invaluable introduction and ongoing reference handbook to the work and working practices of lighting for Film and Television in North America.

Starting right at the beginning the author clarifies who does what on the film set - Gaffers, Best Boys, Grip Department, DP, - and how they all work together as a team. He then describes general lighting equipment and the grip equipment used with the lights, explains theories and techniques of lighting, continues through a thorough explanation of electricity, supply and distribution on the set and finishes with useful chapters on specialist lighting equipment and the working practices required by the IATSE and NABET unions.

The chapter on Lighting Fixtures not only explains the basics of each type of instrument, luminaire, fixture or just plain light, but also provides some very useful tabular information on specifications of the major manufacturers' products. There is also an extensive section on HMI technology which is up to date with the latest developments in this field. Carbon Arcs are not overlooked and there is an interesting insight into these "brutes" for those of us unfamiliar with their operation.

Harry Box makes an interesting observation in his introduction to lighting techniques and theories when he states: " A film without sound is a Silent Movie.... A film without light is Radio !"

He covers the technical requirement for light by explaining

STRAND
● book review ●

Strand Library

film contrast ranges and film stock latitudes, f-stops and Depth of Field and the basic lighting requirements for a good picture. This is then all expanded with a chapter on how to manipulate the light to create the DP's artistic aims. He doesn't forget the often overlooked question of how to support the lights and associated flags, diffusers, etc., in all of those awkward situations.

None of this comes to anything if the electricity supply to the lamps cannot be reliably and safely provided and Harry Box's obvious experience in this area shows in the very thorough chapters on electricity and set distribution.

With the emphasis on special effects in modern films in mind, there is a very interesting chapter on the special circumstances and equipment required to help get these shots.

Finally, if, despite all this, you have set your sights on working in this industry, you ought to know something about the working practices and labor situation in North America. It's all there in the last chapter.

All in all, this is a very informative book and one that can be thoroughly recommended to any body with anything more than a passing interest in the business. ✍

ARCHITECTURE ACTOR & AUDIENCE
by Iain Mackintosh, published by Routledge ISBN 0 415 03183 4

Although at first sight this book appears to be a philosophical thesis written exclusively for student architects on the design concepts of theatres, a second glance opens up a subject which will fascinate everyone who has experienced live theatre and is eager to know more about the inner working of 'theatre'.

Architecture Actor & Audience gives a unique insight into how theatre buildings have developed. Iain Mackintosh, Design Director of Theatre Projects Consultants, is certainly qualified to discuss the subject from every perspective. He has published widely on theatre history, was co-founder and producer of the British drama touring company, "Prospect", and has been responsible for the design of many new theatres and restorations, internationally, during his time with Theatre Projects.

Mr. Mackintosh explores the contribution theatre architecture has made to theatre-going since the time of Shakespeare's Globe. He explains the different styles of theatre design, and the fundamental rules which link audience to actor. Contemporary designs from around the world are analysed and their success and failures are discussed in relation to the actors' and audience's responses. His anecdotal and authoritative style make this an interesting book for any technically-aware regular theatre-goer.

This book will fascinate and inform a much wider readership than simply those directly involved in theatre design, as it gives a detailed insight into the experience and attention to detail used to create the essence of any live theatrical venue. ✍

StrandCAD™ LATEST SOFTWARE RELEASE

We have been overwhelmed with requests for CAD drawing disks since the StrandCAD project was launched in the last edition of *Lights!* Our objective was to provide detailed, full-size diagrams of Strand spotlights in plan and elevation as a design library for use with CAD packages.

The StrandCAD disk 1 includes all the European (220/240V) theatrical spotlight range, and it is available in two MS-DOS formats, .DWG for AutoCAD™ users, and .DXF for other CAD and drawing packages. We will be announcing a Macintosh™ version with the drawings condensed on a disk in PICT format soon.

Use of the library is subject to a nominal licence fee, and details are available directly from your local Strand head office listed on page 23 or by returning the attached enquiry card.

Also, we are announcing StrandCAD disk 2 which provides the same diagrams as disk 1, but as outlines only (in 1:25 and 1:50 scales). These are particularly suitable for drawing lighting plots.

Every licensed user of StrandCAD disk 1 will receive the second release (disk 2) automatically, plus regular details of additions to the StrandCAD library. Future disks will include Strand 120V luminaires, control consoles, dimmers, suspension equipment and studio lighting equipment. ✍

Anyone interested in further information should return the enclosed card.

Strand Library

UNIQUE SOLUTION AT UNILEVER RESEARCH

Just imagine yourself as the Audio Visual Manager of a major research company, with responsibility for over forty conference rooms, one of them being a fully-equipped 180-seater lecture theatre which is used for any type of presentation from a lecture to a theatrically-staged product launch.

The management calls you one day and says that the lecture theatre is to have a completely new lighting and sound system, and it has to be specified, ordered, delivered, installed and commissioned in eight weeks.

This was the task facing Dave Colley for the lecture theatre at Unilever Research's busy laboratory complex, set in 1100 acres of beautiful Bedfordshire countryside in England, last March. Dave's first priority was to hit the deadline, which was imposed to meet the annual staff briefing meeting. And the stopwatch had started. This was not an ordinary company staff briefing, for each year Unilever follows a policy of keeping all their staff informed of company progress and future plans through an organised series of general meetings. These have earned the nickname of OBJ's - "Oh, Be Joyful".

Dave knew what lighting he wanted and where he could get it. His objective was to have a flexible rig which could be rigged and focused quickly and safely. The problem that existed was that in a permanent lecture theatre, with tiered seating, access to lighting positions was by ladder. Not only was it time consuming, but perilous. Dave knew someone with an answer - Brian Myers, Strand's Technical Sales Representative.

Brian knew Unilever Research well, as he had been involved in supplying equipment to the centre over the past 15 years and he knew the importance of getting the job done on time. Within a few days, and with the help of Eddie Souster from Show Contracts, Brian's lighting scheme was taking shape. Additional lighting bars were needed; dimming capacity would be doubled from 24 ways to 48, with an MX providing the control. To solve Dave's double problem of rigging and safety, Brian had a novel idea for a scheme of this size. Calling on the studio expertise of Vic Gibbs and Ian Sim, the additional lighting bars took the form of nine specially-made self-climbing hoists.

The result is impressive. Rigging and refocusing is now done quickly, simply and safely at floor level after each bar is electrically lowered.

Control Room (inset) and Self-Climbing Hoist at Unilever Research.

When rigged, the bar climbs up into the roof structure, clearing the sightlines of even the projection booth. Needless to say the system was installed and working on time for the OBJ. Dave was full of praise for Brian, Ian Sim and especially Eddie Souster and his team.

On 'The Day' all 1100 employees passed through the lecture theatre and adjacent meeting room (which had the presentation relayed by CCTV). Dave's final comment was, "Even if we had to do it all again, and were given six months this time, there is nothing I would change." A compliment indeed.

SHOWROOM TOURS - COME AND VISIT

Yes, there are some human beings at Strand! And to prove it, we are inviting groups of students, professional societies and amateurs to visit them in Strand's newly-equipped showroom at its UK head office in Isleworth.

The 1224 sq ft (115 sq.m) showroom has a 20 ft (6 m) grid, with a lighting gallery on two sides. On the gallery is a complete range of stage luminaires, plus a basic demonstration of a 2-preset manual control, and a memory system. Educational posters line the walls of the gallery.

The dimmer room, located off the gallery, is equipped with the latest LD90 digital dimmer racks which provide most of the dimming for demonstration lighting and house lighting. The 'brains' of the house lighting system - the Premiere processor - is on show too.

Hanging in the grid is hardware which makes both theatrical and television hearts pound. A basic theatre lighting rig is enhanced by six fully automated PALS units, intermixed with a comprehensive rig for a small TV studio. And to make it even more like a professional studio, the Strand showroom is equipped with the latest suspension equipment. Two self climbing hoists are on permanent demonstration, as well as motorised and pole-operated pantographs.

Pull back the 65 foot (20 metre) long cyclorama, lit by a battery of studio and theatre floodlights, and you'll see a selection of Strand's extensive location lighting equipment, from Reporterlight Kits to a Quattro Quasar 4000W MSR spotlight. All are ready to plug in and use.

An EC90 rack at floor level complements the LD90 dimming installation. All dimmers are connected through a common multiplex network to a selection of lighting consoles; LX, MX, GSX, Gemini, Lightboard M, Galaxy Nova and Lightpalette 90. The Galaxy is also equipped to control the PALS rig of automated lights, and responds to dimmer status reporting information from the EC90 rack.

The showroom is open for viewing during working days, and special facilities are available for professional and amateur lighting designers, students, school parties and overseas visitors to Britain, by arrangement. If you are interested in visiting Strand Lighting's London showroom, please contact Richard Bunting on 081-560 3171 (fax 081-490 0002) to make an appointment.

Strand's newly-equipped showroom at its UK head office in Isleworth.
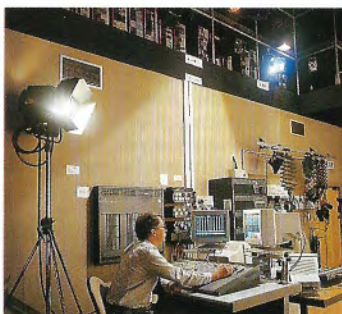
ILLUSION & REALITY

*An opportunity to learn the basic skills and techniques
of lighting for Television and Video production*

Strand Library

Bill Lee.

Located at Strand Lighting's demonstration studio in Isleworth, West London,

these 2 day workshop training sessions will seek to introduce video and cine cameramen and other associated professionals to the equipment, techniques and theories of lighting for video.

The workshops will enable participants to benefit from **hands on** use of a wide range of equipment in a studio as well as a typical location situation and will be under the expert tuition of Bill Lee, one of the industry's most experienced practitioners.

A series of two day workshop sessions are being planned throughout 1994. These are being sponsored and organised by Strand Lighting. For further details, please complete and return the attached reply paid card.

SEVEN SUPER DEALS ON QUARTZCOLOR LIGHTS

Strand Library

Super 7 promotional products.

The successful "Eurosystem" range of products at budget prices made it even easier to own selected Strand Theatre Lighting products. Since September 1993 it has become just as easy to own a selection of the very popular portable location lighting products from Strand's Quartzcolor range, through "Super 7" deals from Strand's European Dealer network.

The Super 7 deals encompass six of the most successful Quartzcolor portable lights including the classic and authentic Redhead and Blonde open-face lights and the tiny Mizar 300/500W Fresnel. Each Super 7 light comes complete with all accessories - barndoors, accessory holder (where appropriate), safety mesh

(or glass) and lamp - at price deals that make it more attractive for discerning lighting professionals to own the original Quartzcolor designs rather than inferior imitations.

The six products included in the Super 7 promotion are:

- ● **Pulsar 650W Open-face Flood**
- ● **Redhead 800W Open-face Flood**
- ● **Blonde 2000W Open-face Flood**
- ● **Mizar 300/500W Fresnel**
- ● **Bambino 1000W Fresnel**
- ● **Iadi 1000W Linear Flood**

You must now all be intrigued to know "why Super 7 when there are only six lights included?" The seventh item was to have been our most popular go-anywhere kit, the Redhead 3 kit of three Redheads, accessories, stands and lamps all in a convenient transport case. This is indeed the seventh item but added to it in the general category of kits we also have the 3 x 300W Open-face Reporterlight kit and the 125W HMI Reporterlight kits.

Talk to your Strand Dealer to find out more about these Super 7 deals. ✍

TEACHING LIGHT

National Vocational Qualifications (NVQ's), the AETTI, BTEC & GCSE qualifications, all have their own hidden mysteries. They may help us to judge the competence of candidates for work, but how do prospective students judge the competence of a course and whether it will furnish them with the necessary knowledge for work? Getting back to basics, if we had the opportunity to design a course to teach lighting design, what would we want and expect that course to cover?

A student's first question could be, how do we light the set? We can teach some basic rules of light - what actually happens to light, what it is and where it comes from. What does light do? It illuminates, it elucidates and it sculpts. It is emotive, suggestive and active. Where should we teach this? Anywhere and everywhere. What space do we need to teach it in? An empty space, a full set, a room, a theatre. Lanterns? Yes! Who teaches it? Lighting designers, directors, philosophers, scientists, artists? Who is taught? Anyone who is interested, hopefully. The question we haven't asked is why? The why will determine much of the above.

In Britain, the "why?" is being discussed in terms of a particular vocation in the theatre, either as a lighting designer (and anyone who is one will tell you that "lighting designers are born, not made"), or as an electrician working in a theatre space. We could simply answer the "why?" by saying because light is interesting. It is a facet of theatre and of life in general. It has the potential to be a life giving force and a life threatening force. Lastly, it fascinates human beings, whether as fire, laser or battery run torch.

The reason I am asking these questions about theatre lighting being taught in an academic forum, is simply that it is interesting. American universities have been teaching technical theatre skills for some years. Although such courses do not give graduates an automatic right to a

Photo by Christine White.

How do we light the set?

career in the theatre, the qualification is accepted by professionals in the industry, regardless of their own training. The argument for broader academic training, covering the arts and crafts of theatre, would be that a new interest in subjects traditionally not taught at this level, could help breed the development of the theatre industry. By this I mean, further interest in theatre and ideas of performance can only be enhanced by a broader based education of Drama and Theatre Studies. As with many courses, few subjects are taught as simple "chalk and talk" subjects. There is time and facilities for project work, interactive studies and student led research. No, we cannot replicate a large theatre production on which to learn a craft, but we can teach certain practices and the skills involved.

Christine White would be most interested to hear from anyone who could contribute ideas about what a course in lighting design might involve. From your response a pilot course to test the theories and ideas could be considered. If any Lights! readers would like to be involved with the project either in a learning capacity or as a tutor please write to :-

Christine A. White
English and Drama Department
Loughborough University
of Technology
Ashby Road
LE11 3TU

CHECK YOUR OLD CAPACITORS

Lights! has from time to time advised readers on the progress of electrical and safety standards legislation and pointed out the various obligations on users of electrical equipment to ensure it is maintained appropriately.

A recent piece of advice has been received from RIFA - manufacturers of capacitors of their type PME 271 produced up until 1990 - recommending that these should now be withdrawn from

service. These have been used in various dimmers including older versions of some Strand dimmers and we have prepared a leaflet explaining what action you should take to ensure the continued safe operation of your equipment. If you have Mini 2+, Micro 8 Mk2, MCM, Tempus, Permus, Environ, Mini Universal or Microdimmers; call 0582 471788, between 10 am and 5 pm until 11th March 1994 to receive your copy of the leaflet. ✍

MILESTONES

IN LIGHTING HISTORY

A regular feature in which Philip Rose looks back at some of the lighting innovations introduced by Strand and Century over the years.

1940 Strand's first Export of a complete Continental opera house installation, including a Light Console, to Teatro S'Carlos Lisbon.

1941-5 Although Strand was committed to War work, its involvement with flying and submarine simulators laid the seeds for improved optical and projection equipment post-War. The central Tactical Aircraft Trainer projector was the first to use remote control zoom objective lenses designed in Strand's pre-bombed Demo Theatre. Small things like the 'potters wheel' drive mechanics, and the use of high resolution photographic disks rather than hand-built mica disks for effects was a direct result of the War-time developments.

The real significance of this period was that it marked the turning point in technology. Before the War, stage lighting development was in the hands of the practitioners - mechanics, electricians and 'metal bashers' from the theatre. Low volumes and very little export meant that fundamental engineering designs, basic materials and simple production techniques were sufficient for the industry. It wasn't until after the War that Strand saw its first graduate engineer on staff, but in the early years even they needed the 'old brigade' at their side.

1947 George Izenour, a member of Yale University's Drama faculty and long-time Century consultant, had been working on his electronic control system from 1940-44 before it was put on ice. The working system, a 2-tube Thyratron dimmer and the CI (Century Izenour) 10 and 5 scene preset remote control, was demonstrated in 1947. The electronic age had dawned. During the next two years, Izenour with Century, developed the twin tube "L" chassis electronic dimmer and the 'five scenes' edgeways-on rotary preset module of which tens of thousands were made (and probably still exist!).

1949 In the UK, the electronic preset control emerged, based on 'Woody's' 3 tube Thyratron design. The first UK system was at the New Theatre (now the Albery Theatre) in London's West End. On the first night of the production *Twelfth Night*, the board operator got one cue behind in cross-fading which did nothing for the play, and even less for the new board's reputation!

Strand's London Palladium installation of 1949 is historic in that it marks the move towards more directional lighting. ✍
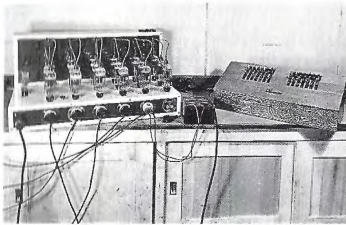
Test model of Woody's 3-tube Thyratron electronic preset control.

For further details on this period, see Fred Bentham's autobiography, **Sixty Years of Light** *Work chapters 6 and 7.*

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FREDBENTHAM

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PLAYING WITH LIGHT

Concerts remembering the death of Tchaikovsky 100-years ago are going on all around as I write. Another event 20-years ago might well be coupled to this; for it represented the end of a long association of his 4th symphony with Colour Music and Strand.

Back in June 1935 the dramatic 1st movement concluded the inaugural Light Console recital which had opened with Wagner's storm-tossed *Flying Dutchman* overture. Between these items was a solemn Requiem, a Nocturne, and in strong contrast Twelfth Street Rag. Such recitals (and there were many) proved that stage lighting if *played* solo could be expressive and an entertainment.

As stressed many many times before (not least in *Lights!* Feb. '92) the eye and the ear need totally different stimuli. Notes for the one mean flicker and fidget whereas for the other they are essential. However, one must add that occasional flashing is appropriate in much the same way as a drop of glissando or whatever does not come amiss, witness the opening of Gershwin's *Rhapsody in Blue*. What Colour Music has to do is to underline the emotions stirred by the music and help create relaxed concentration. Mind you the vast majority of real music is best left alone, it is a work of Art complete of itself - Hands Off!

Playing Light means modelling with the stuff and needs some sort of setting upon which to use direction, intensity and colour variation. A simple two dimensional screen hanging in the abyss will not do. Mask it properly so you cannot see where it ends and add an inclined plane along the bottom to hide the groundrow with 3-circuits and hang another 3 circuits of flooding at the top. The obvious colours are to use the primaries (Red, Blue and Green) and with six dimmers one is well away with expressive lighting under the fingers.

Access to a full scale stage is not necessary. Make a good large scale model and one can become an expert before using any real stage. The fact that our setting evokes a sky does not mean we are limited to dawn or sunset music, though this does remind one of the value of slow changes; indeed of the role for speed of change in interpretation. Although our art is called Colour Music, colour is the least important element. Next is direction; where the light comes from as it is used to model a 3-dimensional setting. Does the light come from above or below eye level and so on. A good starter is side lighting of the folds of plain drapes - even though they are black and officially won't take light. But they will in a richness and depth beyond imagination.

It is time I stopped, if your own creative urge has not taken off by now, Colour Music is not for you. If it is, then my Light Console or one of the modern multi-dimmer systems is not necessary for you to begin and enjoy. ✍
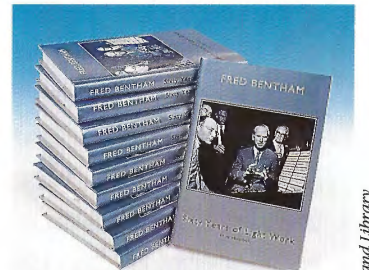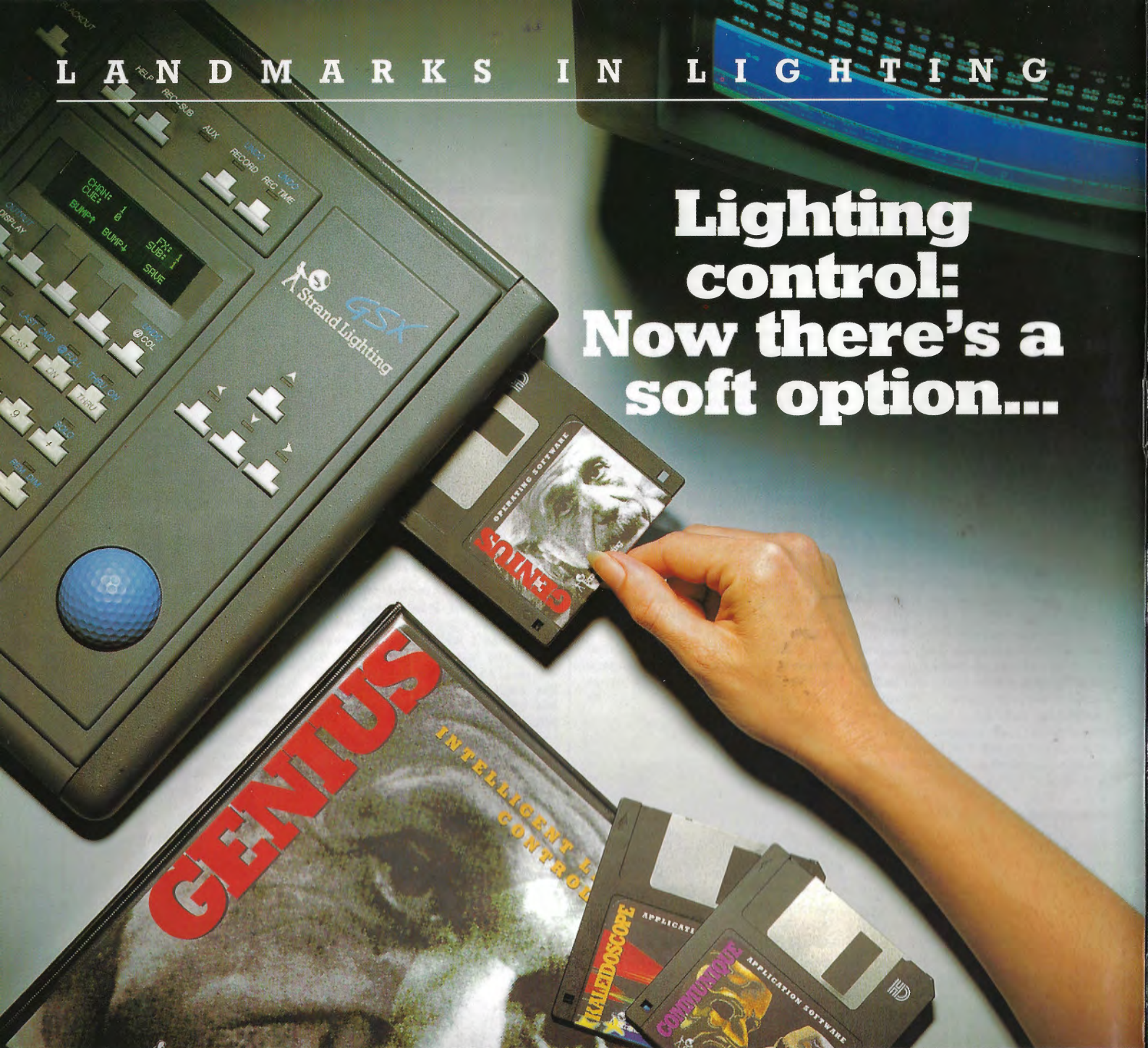

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Fred Bentham is giving a lecture and demonstration of Colour Music to delegates of the CIBSE National Lighting Conference in Cambridge on 27th March 1994.

The full story of Colour Music unfolds in Fred Bentham's autobiography, **Sixty Years of Light** *Work published by Strand Lighting. See order card for details.*