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LIGHTS!

THE JOURNAL OF LIGHTING FOR
ENTERTAINMENT & ARCHITECTURE

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**COSTNER UNDER
QUARTZCOLOR
ON 'JFK'**

 Strand Lighting

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

— No. 1 —



On stage



In the world of entertainment, where reputations are won and lost overnight, Strand Lighting has been at centre stage for over seventy five years.

And with exciting, innovative products like the MX and LX control boards, Light Palette 90 and Quartet luminaires, the Strand show continues to run and run...



Strand Lighting

Spreading the light around the world...

Lights! is primarily concerned with the creative application of lighting in entertainment and architecture – and with people, projects and products they use to realise their lighting concepts. Lighting is a creative art in its own right. When executed well it is not viewed as a creative work but judged on its effectiveness in lighting a play, show, building or film. When it is done badly, the lighting immediately becomes apparent.

Lights! has endeavoured to provide a forum for lighting designers to discuss how they approach a commission, to review some of the changes in technical affairs, look at new products on the market and their application. To talk to a variety of people involved in lighting, sharing their ideas and maybe providing inspiration to those just beginning a lighting career, or to broaden the knowledge of specialists working in a different area of lighting. And also to exchange views internationally amongst our world-wide readership.

In this issue we bring stories from Holland, America, France and Britain, plus a special report from Ireland. They cover a span of applications from lighting a Parisian Bistro, a Glasgow Boutique, a Glass Sculpture in Croydon, to the open air Wolf Trap theatre in America. We visit Ravensbourne College to see how students are training for a career in television engineering.

With the total lighting package for TV studios today demanding a greater system integration we review Strand's new range of suspension equipment which complements the luminaires, controls and dimming already offered. By contrast, reporter kits, using compact new daylight sources, provide a powerful new system for news reporting.

But not everything is new and much can be learned from the past – an area where Strand's long experience is unrivalled. Fred Bentham looks back at influences on controls and colour music and we touch on the subject of colour theory, a subject demonstrated by Strand during the 1991 Waldram lecture in Bradford.

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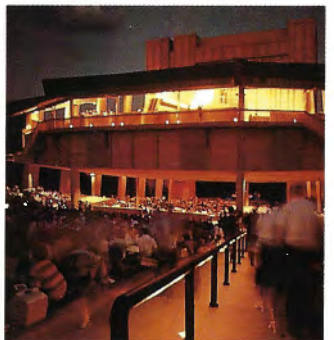
Strand Lighting has featured large in entertainment and architectural lighting for most of the 20th century. We look at some notable 'Strand Firsts'.



Religion and politics have divided Ireland for generations. But on both sides of the border, the lighting industry proves the old saying 'the show must go on'.



A new era dawns for suspension systems and new lights are designed for electronic news gathering.



A unique theatre has become a national monument in the United States. We look at the background to Wolf Trap.

Front cover: Kevin Costner stars as 'maverick' District Attorney Jim Garrison in 'JFK', the recently-released movie dealing with President Kennedy's assassination. Under the direction of Oliver Stone, the highly-acclaimed film was shot using a Strand Quartzcolor studio rig including HMI lights.

Photo: Warner Brothers.

Despite the impression created by television news, Ireland (the Republic and Northern Ireland combined) is one of the most civilised lands on earth. The performing arts reign supreme. In this special report, Lights! goes both sides of the border to find that...

THE SHOW GOES ON IN IRELAND

by Richard Humphries

For some reason sociologists have yet to fathom, – Ireland nurtures the extremes of human behaviour – the creative and the destructive.

Caught quite literally in the cultural and political crossfire are its theatres, thought by many to be the most spiritually fertile in all God's creation. Not for nothing was Dublin designated European City of Culture in 1991.

North of the border, and still woefully beset by 'the Troubles', Belfast, as the cultural capital of Ulster, refuses to lie down and accept defeat. All that the sectarian bombings and shootings have achieved is to strengthen Belfast's resolve that 'the show must go on.' In one theatre project, Strand Lighting is closely involved in a pioneering scheme which is bringing the traditionally warring factions together.

Strand Lighting's distributors on both sides of the border have just had an outstanding trading year. Their customers are quite clear why. In an uncertain world, the support they receive from their local Strand representatives has been constantly reliable.

In Dublin, the emphasis of the work carried out by the Stage Lighting Centre is very much theatre and studio. The company is run by two long-standing Strand men, Paddy Farrell and Pat Walsh. To complement the lighting service, for which Paddy is the learned engineer, Pat and his wife also run the company's stage curtains 'division'.

Culture figures large in the workload. One gem of a lighting installation completed last year was a 120-way M24 at the Siamr Tire cultural centre at Tralee, in Kerry. Further round the coast is the Bru Boru heritage centre at the

Rock of Cashel in Tipperary, where a 36-way Tempus controls a range of Strand luminaires and Permus dimmers.

As Paddy Farrell says, 'It is very much a personal service type of business. You can't put a cost on most of the work that we do. We do it for love.'

In Dublin itself, recent installations have included St Patrick's College and church, and a Galaxy 3 and five Gemini at the TV studios of RTE. Lighting installations in theatres include The Abbey Theatre, which along with its sister Peacock Theatre, is the National Theatre of Ireland.

A short distance from The Abbey is one of the world's most delightful theatres, The Gaiety, built at the turn of the century.

Stage manager George McFall, who has been there



Pat Walsh and Paddy Farrell.

for almost 45 years ('It's not a job - it's a way of life, and I think I might get to like it!'), recently saw the arrival of a Gemini 2 control desk.

He has also witnessed some of theatre's triumphs (Peter O'Toole in *Juno and the Paycock*) and tragedies – such as the time Richard Harris was boo-ed off stage in October 1959 from his role in the risqué *The Ginger Man* to cries from the unenlightened



Irish tradition under the spotlight at Bru Boru, Tipperary.

audience of 'Get that filth off!'

Until the 1970's, lighting control was by way of a Strand-installed Grand Master board – now very much a museum piece. Then the theatre switched to a Duet.

George explained, 'The problem was that we didn't know how to use the Duet. Until then, the lighting operator had been using bits of stick to reach the controls on the Grand Master to bring up the lights. When the Duet came in the whole world changed overnight. We were faced with a board with sliders and numbers on it. It was like having to use a calculator after using your fingers for counting. We panicked – until we were shown how to operate it.'

A short step from the Gaiety is the Andrews Lane theatre, a studio-style commercial theatre converted from warehouse buildings.

With 220 retractable seats telescoping back to reveal a floor area of 50' x 40', it has a dual role as a theatre and a popular venue for corporate entertaining. Its recent run of Ibsen's *A Dolls House* is typical of its programme of respectable theatre.

Strand Lighting Preludes, Quartets, Punchlites and old Pattern 223's, governed by a 36-way manual control desk, light a stage which at 32 feet across the tabs is virtually the same dimensions as more conventional theatres. With luminaires hung studio-style from a series of lighting bars, the theatre was designed with TV productions in mind.

Upstairs, a smaller studio theatre is used for less

demanding productions.

But as joint general manager Terry O'Dea ex-



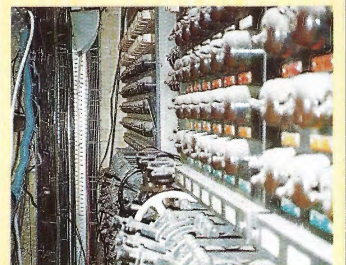
Dimmers set the mood – at Belfast's Europa Hotel.

plains, 'We see this as very much the way that smaller theatres will have to go. The business is approached very commercially to make the most of the space.'

The theatre also runs a part-time course at weekends for budding actors and actresses. Such is the feeling for the arts in Dublin that it is always well supported.

The Abbey was the first theatre in the world to instal, in 1982, a complete electronic lighting control system – having selected a Galaxy control board when it was still in the design stages.

Two years ago the Galaxy



The Gaiety's old Grand Master controls.

was supplemented by a Gemini control board, and this was followed by an up-dating of the original Galaxy to allow for a colour monitor.

If anywhere can be said to have launched and furthered the careers of Irish writers, it is the Abbey. Irish playwrights whose work has been shown here include George Bernard Shaw, James Joyce, Eugene O'Neil and Brendan Behan. One show originating at the Abbey, Brian Friel's *Dancing at Lughnasa*, is currently playing Broadway and London.

With a stage depth of 80 feet accommodating 42 flying bars, the facilities are nothing less than grand. Assistant Chief Electrician Mick Doyle is proud of the Abbey's complement of more than 300 Strand luminaires – including many Pattern 264's, 223's, 23's, 123's and 243's which



have functioned well since the present building opened in 1966.

The Abbey's current five-year replacement programme has just seen the installation of new front of house lights, including a bar of Cantata PC's. Old 264's will soon be phased out by Preludes.

The other theatre within the Abbey complex, The Peacock, is three storeys below ground level. A second Gemini here doubles up as touring board.

Mick Doyle is quite clear on the reasons for the theatre's loyalty to Strand. 'In my job, if I make a mistake, then I answer for it. But I know that when I operate a Strand lighting control board, it is the best there is.'

North of the border, the entire theatrical world was stunned almost speechless (a rare occurrence in Ireland) by the IRA's pre-Christmas bombing campaign.

A 1000-pound bomb in a Ford Transit truck was deto-

nated against the stage doors of the Grand Opera House in Belfast. One entire side of the theatre will have to be demolished and rebuilt; the explosion was so severe that it lifted the roof off the building, destroyed the entire back-stage area and ripped through the control room.

The only items completely unscathed were the Strand EC90 digital dimming units and the Gemini control board, despite the fact that they were in areas which took the full force of the blast.

Strand's distributor in Northern Ireland, GEP Limited, has represented the company for more than 25 years. GEP's Eric Allen explained, 'More than anything else this attack on the Opera House knocked the heart out of us all.'

'You learn to live with the threat of terrorism. But when it affects something you are personally involved in, it can be devastating.'

Technical manager of the 1000-seat Opera House, John Jordan, said, 'On the day the bomb went off I had been at the Strand factory in Scotland with Philip Marks and Eric Allen from GEP, various theatre technicians and Brendan Carson from the Arts Council. The very next morning I came round the corner on my way into work and saw the damage. That was the first I knew. I could have wept.'

So severe was the blast that the roof had lifted off, massive structural timbers in the roof void had split and the doors to the control room were blown from their hinges. They crashed in pieces around the Gemini control desk – without damaging it. The recently-installed EC90 – one of the first installations of the dimming system in Europe – was completely unscathed, despite being located in the roof void and protected by only a stud partition enclosure. The auditorium was saved from destruction only by the safety curtain, which held back flying debris.

The Ford Transit truck in which the bomb had been placed was obliterated – although one section pierced the Stage Door sign – and the windows of the Europa Hotel across the street were blown out. The pantomime *Babes In The Wood*, due to open a few days later, had to be cancelled in view of the structural damage, although John Jordan

was in favour of staging 'something...anything...even a man playing a banjo, just out of defiance.' Even he had to accept temporary defeat. But the theatre should open again in April.



John Jordan with the bomb-proof EC90.

Despite the set-back, John Jordan retains a typical Irish sense of humour. He said, 'Our EC90 is 'state of the art'. It diagnoses itself. When I came in on that Thursday morning and saw the damage, I looked at the EC90's display panel and half expected it to read 'Ouch!'.'

The Opera House lighting installation includes the 120-way 10A, 24-way 25A EC90, the Gemini 2+, with designer's control, 16 Cadenza 9/15's for FOH and four Cantata 11/26's.

Across the street at The Europa Hotel, the standing joke is 'If you want a room with a window you have a choice of glass, plywood or nothing at all'. It is 'the most bombed hotel in the world'.

The hotel is a popular venue for official functions such as dinner-dances. In the hotel's Emerald Suite, two special Strand Permus dimmer installations, one with 24 20A dimmers and the other with six 20A dimmers, provide mood lighting by way of 36 outstation controls.

North of the city centre in the strife-torn area often likened to Beirut, Catholic and Protestant zones are divided by a 'peace wall' containing steel gates which are closed at night to deter terrorist gangs from making assassination forays. Unemployment and bigotry fuel an atmosphere so heavy it could be severed – and often is – by a bullet. Which is why all eyes are currently on an experimental community theatre project aimed at bringing the two sides together.

The Golden Thread Theatre in the refurbished Brookfield Mill business centre was completed only last

summer. Its aim is to be 'cross-community', providing facilities for visiting and local theatre companies, music societies and groups. Volunteers run arts activities to encourage residents of the Ardoyne, Crumlin, Shankill and Falls Roads areas to rediscover their self-respect.

Arts director of the theatre, Ciara O'Hagan, does not doubt it is working. 'I have a lot of faith in the project. There is no finer way of getting people together.'

Strand's installation comprises an MX24 control desk, three Act 6 dimmer racks, and a mix of Quartet profile spots, fresnels and PC's, plus a battery of 500W Coda floods.

Out of Belfast itself, the road to Portadown passes The Maze prison. But thoughts of leaving 'The Troubles' behind in the city are short-lived. Portadown is within the District Council area of Craigavon, where the night before the *Lights!* visit, the police station was obliterated by a terrorist bomb, and 70 civilians were injured.

This does not, thankfully, alter attitudes towards the arts. Portadown Town Hall, now that local government has moved to Craigavon, has been converted to a theatre and entertainment venue.

Built in 1890, the Town Hall, as part of its refurbishment, has seen the installation recently of an M24 lighting desk, with effects panel, 60-way Permus dimmer racks



Ciara O'Hagan – high hopes with MX24.

and new front-of-house lights including 18/32 Cantatas and Punchedlights, slung in a concealed gallery in the roof void.

Theatre technician John Riddel explained, 'Only a minute percentage of people are responsible for the violence in this country. For the rest of us life continues pretty much as normal, particularly in the entertainment world. 'The show must always go on.'

Stylish Lighting For Scottish Haute Couture



One of Scotland's most important buildings, in architectural terms, has become a top attraction for the fashion-conscious following a magic touch which included Strand architectural lighting.

The Warehouse is now one of Glasgow's major retail attractions, specialising in high-quality clothing and accessories for both ladies and gentlemen.

Strand Lighting dealers Northern Light devised a system based on a series of conduit grids which look like part of the original building services.

More than 200 Minispots, with barndoors, plus a number of floods and wall-washers, along with Strand stalk spotlights, have been used to create a lighting scheme which highlights the natural American pitch pine floors.

TWO AMERICAN LIGHTING AWARDS FOR STRAND

American lighting designers have given Strand a top award for a film studio lighting upgrading system.

The award 'for outstanding achievement in engineering development' comes from the American Society of Lighting Designers (whose President, George Spiro Dible, was featured in our previous issue), for Strand's 18K HMI Retrofit kit.

The kit allows the 12 kW

Sirio HMI fresnel to be upgraded to take the new 18kW lamp. It includes a new igniter, dropped housing, a cooling fan and an 18kW ballast.

And at the 'Lighting Dimensions International' show in Reno, Nevada, Strand Lighting scooped the prestigious 'Product Of The Year Award For Lighting' for CD90. The award cited CD90's dimming system for its sophisticated array of reporting capabilities and programmable functions.

The system will remotely report dimmer output voltage, current delivered to the load, over temperature, excess DC and SR failure. It can be remotely programmed for five different standard or user-defined dimming curves and maximum output voltage as well as dimmer response speed. In addition, back-up states can be recorded in the dimming system and played back from remote wall control stations.

LIGHT OF THE WORLD

Illuminating the 'Light Of The World' was the tall order given to lighting director Christian Brean in the French stage 'spectacular' *Jesus Etait Son Nom*.

Dealing, as the title implies, with the life of Christ, the mammoth production involving live actors combined with film sequences and a pre-recorded soundtrack was lit with the aid of two Strand



BEAUTY AND THE BISTRO



Attractive mood settings devised with Strand Lighting luminaires and dimmers for L'Oenotheque, the Parisian haunt of actors such as Jean-Paul Belmondo, has won it a 'Bistro of the Month' award.

The top restaurant, in Rue St Lazare, has been a bar since the late 1940's.

Luminaires include Strand's low-voltage theatrical-style Minispot and Mini-spot profiles, transformers and Unidim unit dimmers, for use with manual control stations.

ARTIFICIAL SKY HELPS DESIGN



An artificial sky, installed at Britain's Building Research Establishment at Garston, Herts., and controlled by Strand architectural dimmers, is solving problems for architects and technicians.

The 'sky' allows the design team to study the effect of natural light in different conditions on scale models of new buildings. This helps to ensure that the greatest possible use is made of natural lighting – and to make final adjustments if it is not – before work begins on the new structure.

The artificial sky consists of 300 fluorescent tubes. They are spaced about 40 mm apart and suspended from a highly-polished aluminium surface in a ceiling void above 6mm opal acrylic panels. Mirrors line the walls of the 8m² room to ensure equal dispersal of light.

GLASGOW JOINS PREMIERE LEAGUE

The 300-bedroom Holiday Inn, rising 15 storeys above Glasgow, has become a showcase for Strand Lighting's Premiere lighting control system.

As part of a total refurbishment of the city-centre hotel,

Strand dealers Northern Light upgraded lighting in all public areas except bedrooms and the ballroom. Low voltage lighting has been used throughout, managed by a 24-channel Premiere system, with outstation controls in

various rooms. Two Permuss 12-way dimmer racks allow the lighting control system to be split between two parts of the building. The lighting management system is also interfaced with the fire alarm system.

EUROPE GOES FOR EC90

The revolutionary EC90 dimming system, launched by Strand Lighting 18 months ago, is proving to be a hit in Europe, following its success in the UK.

In Nijmegen, Holland, the municipal-owned Stadsschouwburg variety theatre has installed an EC90 modular system, coupled with a Galaxy 3 lighting control system, including stalls control, which has proved ideal for the many demands made upon the theatre.

Stage manager Sjaak Dielis explained, 'Our policy is to buy a new lighting control system every ten years. Strand's local distributor, Mechalectron, introduced us to EC90 and the Galaxy 3 and we were impressed by what they had to offer.'

'The way our theatre operates is to have a continuing programme of visiting companies. For example, we stage plays, musicals, ballet, opera – and we have recently had a visit by a musical company from Uganda. Most of these companies bring their own lighting staff and they need to know that our technical facilities can offer them everything they can possibly need.'

One of the selling points for the EC90/Galaxy 3 installation was that Mechalectron offered an intensive training course for new users plus a back-up 'technical explanation' service.

Another 'plus' for the theatre is that EC90 accepts the four most common protocols, AMX 192, DMX 512 - which is widely acknowledged as the European standard - the new Strand SMX and the present Strand standard D54.



Light Palettes. These handled the 300 special lighting effects required during the show. Following a successful run at the

Palais Des Sports in Versailles, the three-hours-long show is now set for an extensive world tour.

DRAMATIC EFFECT ON GLASS SCULPTURE



Architectural spotlights illuminate 'Square In A Circle'.

A stunning, 25-foot high glass sculpture has given a theatrical effect to a new luxury office building in England, with the use of Hilite 23 metal halide profile spotlights from Strand Lighting.

They have been used for 'highlight modelling' of *Square In A Circle*, a sculpture by Danny Lane. It forms the centrepiece of an 80-foot high atrium in the Seifert-designed building at Lansdowne Road, Croydon.

Lighting designer David Taylor, of Theatre Projects Consultants, was commissioned to light the exterior facades of the building plus the circulation areas – includ-

ing the sculpture.

Square In A Circle is created in distressed glass sheets, surrounded by a curved glass wall, with two benches of glass sheets standing on their edges.

Eight and a half thousand lux of white discharge light is thrown from six projectors at the atrium roof but both lighting designer and sculptor felt that the sculpture deserved more detailed treatment.

Altogether, ten Hilite 23's are used. Four are on discreet track fixings recessed into the high quality granite finishes and the remaining six are integrated into the architectural features on the atrium facade.

BRIGHT FUTURE AT CIRCUS THEATRE

Holland's famous Circus Theatre, close to the sea shore at Scheveningen, is looking forward to a bright future, following a lighting re-fit which has included installation of EC90 digital dimming, and both Galaxy 3 and MX24 lighting control desks.

The Circus Theatre was built in 1903 and until 1966 when it was completely rebuilt inside, functioned as a traditional circus in the holiday resort. Since then its in-the-round format has proved to be ideal for large-scale productions, including opera, ballet, musicals, pop concerts, snooker tournaments, cabaret, ice shows – and the occasional visiting circus.

Recent shows have included *Phantom of the Opera*, *Barnum*, *Evita* and *Les Miserables*.

Chief lighting engineer Ed Franso explained, 'Before the new installation we had a Galaxy 1 and an MSR desk, one of the earliest generation of memory systems. We have used Strand equipment here for about 19 years because we like the products and we get an excellent service from their local distributor, Mechalectron.'

'We have such a varied programme of events at Circus Theatre that it was important for us to have a versatile configuration. We are now prepared for any production.'



The British Broadcasting Corporation is renowned as a training ground for technicians in radio and television. Second only to the BBC is a college set in a leafy suburb between London and Kent.

Lights! looks at the place...

Where Lighting Stars Are Born

It says much about the condition of British education that what has become the UK's premier training school for TV technicians (after the BBC, that is) began life 26 years ago in a wooden shed tucked away out of sight on a college campus.

Conversely, there are some conclusions to be drawn about the current attitude of British industry. For as a result of some very generous donations of studio hardware, the same college is probably now equal to many professional television studios throughout the world.

Obviously, over the past quarter-century the world has become far more TV-minded,

all of which is good news to John Lisney. John is Head of the School of

Television and Broadcasting, part of Ravensbourne College of Design and Communication in the London Borough of Bromley. To him goes the lion's share of the credit for building up the school to the extent that it is now the largest department within the college.

The school is currently the focus of media attention with the recent official opening of its new purpose-built studio complex, the Howard Steel Memorial Studio (the late Howard Steel, of Sony Broadcasting fame, being one of the industry's pioneers). The total cost of the project is estimated at £8.5 million (\$14.3 million), which includes about £3 million-worth (\$5 million) of the latest equipment from manufacturers, including Strand Lighting.

Strand Lighting's input comprises a complete lighting rig for the principal studio (the

other is primarily a sound-recording studio), consisting of a Gemini 2 control desk and a full range of Quartz-color studio luminaires.

When the school started all those years ago, it was very much a subsidiary of what was then the main thrust of the College – graphic design. Now it is a household name within the industry as being second only to the BBC for the number of technicians it produces.

John Lisney, himself an ex-BBC engineer, who has also worked in industry with both Phillips and Cintel, has seen both his department and his profession grow beyond all reasonable expectations.

He explained, "The point is that we would not be where

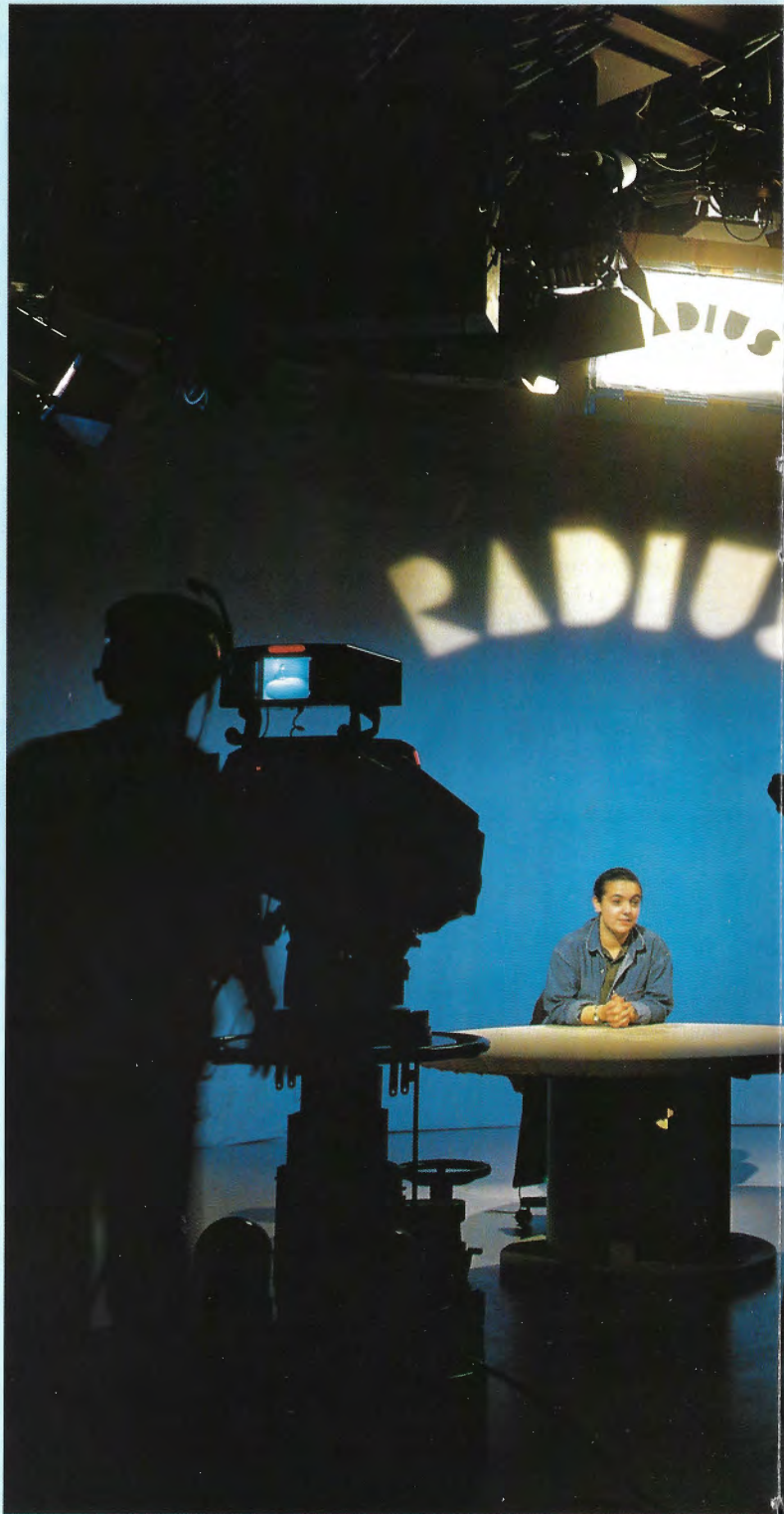
'The main buzz-words in the industry today are multi-skill and freelance'

we are now and we would not enjoy such a high reputation in the

TV and broadcasting world but for the help given to us by industry. The education system just could not afford to provide the level of technical facilities we need.

'It is to their credit that many sectors of industry now realise that it is to their advantage – and ours – for students to train on the same equipment they will come into contact with when they leave us as qualified technicians.

'From my own point of view there is another advantage. Many of the students I taught in the early days are now managing directors or in senior management positions with TV companies or associated industries. If they happen to be buying-in a new piece of equipment they will often ask if we would like their redundant hardware. Plus, of course, the fact that I am not too shy to approach them if I think they can help us.'



All the tension and drama of live TV. 'Kent Central' goes on air.

The School has not entirely cut loose from its 'graphic' beginning for it still has 12 of its complement of about 120 students studying TV graphics.

What it can boast, however, is the fact that once a year it operates throughout an eight-hour 'day' as a fully-functional television station, Kent Central. Not only does this enable students to put into practice all they have learned throughout the academic year but also gives them a 'baptism by fire' introduction to real-life working situations. And as anyone

knows, there is no substitute for the rush of adrenalin produced by working under intense pressure.

In the early days, the school took in entrants at 16 years old, for a two-year course leading to a College Diploma. In the more prosperous days of local government, about 12 years ago, the student/staff ratio was about 7:1. Now that ratio is about 12:1. The college is now a Higher Education establishment and students can be anything from 18 to 40 years old, studying for the Higher National Diploma



Photos: Frank Grainger.



Getting to grips with Gemini 2.

(HND) qualification.

Ravensbourne is pinning its hopes on the development of cable television in outer London. When the cable network is extended to the college's doorstep in Elmstead Woods, John Lisney would like to see his school being allocated a one-hour slot per day, to give the students continual practical experience.

OPTIONS

He explained, 'The main buzz-words in the industry today are 'multi-skill' and 'freelance'. Students here always have gone into all areas and we wrote the course with options built-in to give them three areas in which they might wish to major.'

Those three areas, cameras and lighting, audio, and post-production and editing combine classroom theory with a generous measure of practical experience.

At any one time the school has six full broadcast crews 'on the road' producing legitimate documentaries, news features and magazine programmes. Subjects covered recently range from AIDS to modern cars, but all with a local 'angle' – in just the same way as any other TV or radio station.

However, although the key word may be 'multi-skill', bearing in mind that the school intends turning out qualified technicians who have the skills demanded by the media employment market, specialisation is allowed.

'For example, if a student showed a particular flair for, say, lighting and wanted to do that above all else, we would not want to stand in the way of someone who may become the world's greatest lighting director.'

But didn't the fact that students are left to roam the byways of Bromley with thousands of pounds worth of camera and lighting equipment cause him sleepless nights?

'Not at all – and for various reasons. First, the students here are all responsible, mature people who are very keen to learn. The other point is that they know that if anything happens to the equipment, it will not be there for them to use the next day. And they want to learn.'

Course tutors have all come from industry and keep themselves very much at the sharp

end of the business. They work, in theory, a 30-hour week and from this they are only actively teaching for 17 hours.

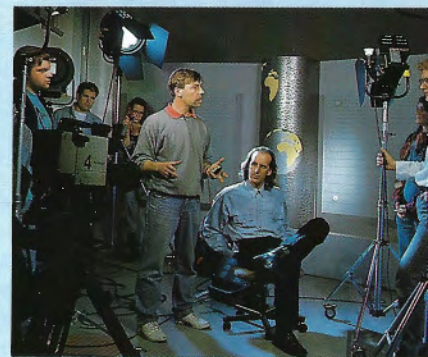
For the remainder of the time they are expected to take short tuition courses, study current journals and learned papers and visit manufacturers – in short, to keep their knowledge and teaching one step ahead of the industry. As with any teaching, the working week in practice is infinite, with a good deal of extra-curricula activity and tutoring.

Of the two new studios at the college, the 1200 sq ft Studio 1 is fitted-out with a level of luminaires and controls which would not disgrace any commercial TV station.

A Strand Gemini 2 in the control room operates a wide range of Strand studio luminaires, namely: four Iris 4 cyclorama top-lights, six 2/5kW Pollux's, six 2kW Castors, nine 1K Polaris's, five Arturo softlights, and both 1200W and 2500W Sirio HMI

suites containing, for example, a Rank Cintel Mk3 1" VTR console. Four separate laboratories cover electronics, computers, TV measurements and TV systems.

John Lisney's views on his



Expert guidance is on hand.

new facilities are quite clear. 'Let's face it,' he said, 'there just isn't the money available in education these days to do something on this scale.'

'Colleges are having to look more and more to industry for support in providing expensive hardware. And it works both ways.'



The final run-through before going 'live'.

spots. Cameras are ex-Limehouse Studios, rolling on a professional-standard resin floor.

Studio 2, at 500 sq ft, is principally a sound-recording studio, capable of accommodating anything from a rock band to a full concert orchestra. It also doubles-up as a 'flightcase' production studio.

Within the complex are post-production editing

'We are running vocational courses here. Both the college and industry itself, want to ensure that the people leaving here with a qualification are trained and suited to the job they will be doing.'

'But you can never over-emphasise the enormous contribution being made by Strand Lighting and like-minded companies in helping to train the up and coming generation.'



A vital but often unsung part of the total studio lighting package - suspension systems - has now been added to Strand Lighting's range of services. An agreement has been signed with Evans (Stage and Studio Engineering), under which Strand acquires the specialist services and design of suspension systems, to be provided through our Scottish factory. We look at the background.

NOW WE CAN KEEP YOU IN SUSPENSE

Efficient suspension systems are a key feature in production studios where fast rigging and de-rigging times are needed. Systems must also be versatile to meet the needs of lighting directors and studio managers. And who says so? Studio lighting technicians, whose experience has been used by Evans over the past decade to develop a new concept in lighting hoists.

Evans first set up their subsidiary in 1982 to provide a service to the television industry. At that stage they offered a range of grid-mounted barrel hoists with unique features; studio structure design skills, and a general supply service for TV studio hardware. The first 'single point' hoist was introduced in 1986, followed by self-climbing barrel-type hoists, plus many other products.

Modern production studios need to meet a wide variety of needs. From the suspension point of view, the answer is the saturation rig, using lighting barrel hoists with a comprehensive scenery hoisting system, or a single point system - telescopes and pantographs, for example. A powerful control system is also necessary to maximise the resulting benefits.

To achieve the best layout and design of the suspension system, all aspects of design must be closely co-ordinated

right from the initial concept. Production studios need a substantial structure if they are to support the roof of the building, the suspension system and the other building services.

One solution is the 'walk-over' grid system using a lattice truss arrangement. This allows hoists and mesh panels to be placed, creating a full walk-over grid, and without adding substantially to the height of the building.

An effective suspension system represents a considerable initial capital 'spend'. However, a system fully integrated with the building structure generally offers substantial financial and weight savings. Project involvement at the building design stage is therefore very important.

The facility must remain in use for as much time as possible. Equipment reliability and minimal maintenance and inspection periods are essential for an efficient operation.

European safety inspectors are becoming more involved with suspension equipment for entertainment industry. Similarly insurance companies are now more insistent on the regularity and thoroughness of equipment inspections. Hoists must typically be inspected at 12 monthly intervals. The system design must allow for quick and thorough inspection - and this is

a feature of Strand hoists.

There are many different forms of lighting hoist available. The main distinctions are between barrel hoists, telescopes and other 'single point' systems. There is always a great deal of discussion between lighting directors as to the best system. We have listened to many of these discussions over the years and also considered the engineering and operational merits of each type and designed effective products for each form.

A wide range of circuit sizes and fittings can be provided on each device for lamp supply, PALS operation and also technical facilities for audience reaction.

The range of lighting hoists is complemented by Strand's scenery suspension systems. These include portable and trolley mounted single point hoists, and grid mounted systems.

In order to maximise studio productive time, rigging and de-rigging must be completed as quickly as possible. The lighting and scenery suspension system in a new studio offers the opportunity to

provide this production efficiency. Close co-ordination between the architects, studio engineers and Strand at the design stage will lead to a highly efficient and cost-effective building/suspension system for your studio.

Managing Director Chris Waldron said that this agreement 'strengthens Strand's position as the leading supplier of complete lighting solutions. In addition to complementing our existing range of studio lighting products, it provides a key element in the development of the totally automated lighting systems that will be required in the future. It supports Strand's commitment to servicing the TV studio market through all stages of design and implementation.'

Evans products will be manufactured at Strand's Kirkcaldy factory in Fife, Scotland. The range includes:

Barrel Hoists, Telescopes, Pantographs, Scenery Hoist, accessories and hoist controls. In addition, Evans are able to design and supply special products for Studio use. ■

REPORTERLIGHTS MAKE THE NEWS

New Reporterlight and Remote Lighting kits have been added to Strand Lighting's Quartzcolor range of portable lighting, to meet the many lighting needs of ENG/EFP camera work.

Strand's new range includes daylight kits, with two heads available, powered either



from 125 or 200w single-ended daylight lamps through lightweight, easy-to-use electronic ballasts. Tungsten kits, for dedicated tungsten use, employ three other kits within the range, with mains or



battery power options.

The Reporterlight 125 and 200's provide all the lighting needs of the ENG camera crew in a range of easy-to-use kits. The generous reflector size provides high light output and evenly distributed beam angles. Focus ratios are adjusted by a thumb-control and the unit can be hand held, stand or camera mounted.

A number of Reporterlight and Remote kit options are available, including mains operated, battery or belt battery versions.

NEW STRAND DEALERS

New distributors have been appointed by Strand Lighting in Britain and Scandinavia. They are Cerebrum Lighting, based in Surrey (contact: Mike Fisher, tel: 081 949 3171); P & G Stage Electrical, in Manchester (contact: Jeff Demain, tel: 061 226 5858); Playlight Hire, in North London (contact: Mark Pitelen, tel: 081 965 8188); Oscar Lighting, in Stockholm (tel: +468 665 65 10); and Maho Lighting in Helsinki (tel: +358 0 406 211).

'There is plenty of work out there. You just have to go out and get it – and be prepared to be versatile.'

So says Alan Cohen, Southern Area Representative of the Merseyside-based Strand main distributors, A S Green.

As a company, ASG certainly believe in getting out to see their customers. For although it is a relatively small, family-owned business with just 24 employees, three of them are sales reps., permanently travelling England, Scotland and Wales and Northern Ireland to keep in regular contact with their customers.

The way the company is currently approaching business could well be the way the industry as a whole develops during the 1990's.

Lighting is just one part of A S Green's business. The company offers a full stage products package - literally everything from a pulley to a proscenium pelmet, and even the theatre seating. In between the extremes is a range of rostra, AV materials and screens, lecterns and so on. To fit out a building as a theatre, TV studio, conference centre or whatever, just takes a single call to A S Green.

One of the factors which makes A S Green something of a pioneer is that it has become one of the first UK companies of its type to be registered to the BS5750 Quality Assurance standard. This is the coveted official mark of approval to act as proof that all the company's business procedures are judged to be both consistent and of exceptionally high standard. Few changes had to be made to A S Green's established business procedures to meet the official rating. Quality assurance was already built into the business plan.

The driving forces within the company are managing director Stan McFerran and his wife, Marion. Stan is a former Rank Strand executive, who left some 20 years ago to start up his own business. He tied-in with a Lancashire joinery company, A S Green, and with his vision and foresight, changed the emphasis of the company to stage products. The two companies eventually separated.

The drawback to the job, at least for the sales staff, is that there is no end to the working day. The very nature of the job may mean that cus-

Across western Europe, the trade barriers will be coming down at the end of this year. Competition between the industries of the various countries comprising the European Economic Community – the 'Common Market' – is likely to be fierce in the current economic climate, to say the least. Here we see how one British company is helping the industry produce a...

BLUEPRINT *for* EUROPE



Knoulesley Tertiary College, Merseyside.

tomers need to be seen during the evening - a school Parent-Teachers Association, for example, or on a Saturday - such as with an amateur dramatic company.

But as sales representative Alan Cohen (another ex-Strand man) explains, 'Where we are lucky is that we work at our hobby. Our work is our enjoyment.'

So what sort of people are A S Green customers? Apart from the obvious theatres and schools, there are the leisure centres which are now becoming multi-functional to help pay their way, and, though it seems startling, crematoria and churches.

'When you think about it, they all need items like curtains and lighting, so they are all potential customers,' says Alan. Naturally, one of the company's most important type of customer contact is the architect or consultant who may be called upon to specify equipment.

He explained, 'There is a vast market with sports and leisure centres. Where these have been built they are very often the largest building of their type in a town. This

means that they are often the only building large enough to accommodate performers visiting the town and so they may need to be turned from a sports use to an entertainment use very quickly.

'The managers of many of these centres have realised that when the economy is restricted, they need to be adaptable to keep their centre operating. So they may need to double up as sports centres, entertainment venues and even banqueting suites. Any way you look at it, there will be a potential customer for us. The way in which A S Green frequently works gives the best 'deal' for customer and company alike. The usual scenario is for a customer to say: 'This is our particular problem. Can you design a scheme to solve it?'

At this point the engineering backgrounds of the sales and project team come into play and they relish coming up with workable schemes for seemingly impossible circumstances.

'Then, having solved the problem, you have the task of reassuring the customer that it is all going to work.

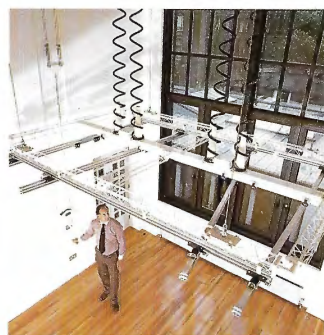
'We like to get involved in a scheme as early as possible. Often we find that a customer will say 'we want this, that and the other in our scheme' and when we tell them how this will affect the rest of their scheme, both physically and financially, they then have the opportunity to revise their plans if that is necessary.'

One typical scheme - if there can be such a thing at ASG - was at the Royal College of Art in London. Here, ASG designed and installed specialist electrical and mechanical services for five photographic studios and a Film Studio.

Three of the studios were provided with a manually-operated grid for suspending Lightrig tracks and luminaires, and the Film Studio incorporated a Strand MX two-preset manual/memory control system.

Sometimes customers are more specific. At Bearwood College, near Bracknell, the college authorities and architects came up with a detailed brief for ASG - which included Strand Permus dimmers - based on their experiences gleaned from an extensive study of school and college theatres around Britain.

Alan Cohen explained, 'Even after an installation is completed we still maintain contact with the customer. We always stress that just because a job has been completed does not mean that our involvement ends.'



Royal College of Art.

And the future? Alan explained, 'We have to strike a fair balance. If a job comes up in Europe we would not turn it away but at the same time we have to look after our interests in the UK.'

'On the other hand, there are very few companies in Europe to deal with project management as we are used to it. That is no doubt the market we will have to consider expanding into in the future.'

COLOUR - THE EXTRA DIMENSION

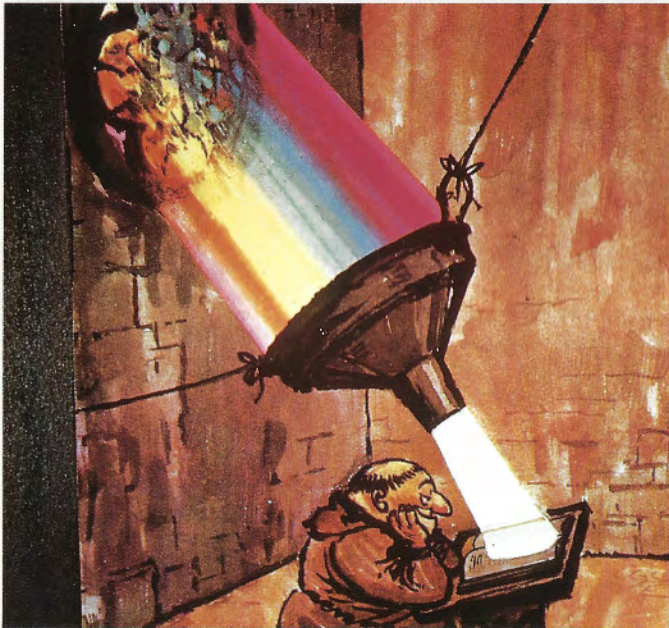
Of all the attributes of light, colour is probably the least understood. And yet colour is a vital element of visual information which determines the way we see objects.

This is easily demonstrated by our loss of visual information at night where illuminance levels can be very low. It is the subtle use of tints deployed in theatrical lighting which can be used, almost unseen, to convey emotions; warmth, coolness, fear and happiness. It works because colour is an essential part of the visual information that enables the brain to interpret what we see.

Early exploration of colour tended to seek an understanding of how we see and what in fact constitutes colour. Isaac Newton in his book "Optiks" published in 1704 drew attention to the comparison of white light, in particular how a prism could break a beam of white light up into its constituent colours - the well known rainbow effect. The colours

prising "rods" which are particularly effective in night vision and "cones", concentrated mainly at the fovea which are activated by brighter light and responsible for colour vision.

There is a direct parallel with film. Colour film for example works on the basis of three layers of emulsion which in effect create red, blue and green photographs



have different wavelengths and are diffracted to different degrees; the red least, the blue most - forming the familiar spectrum. However, Newton did not actually offer an explanation as to how we see the colour.

It was Thomas Young in 1801 who first developed an explanation of how we see in colour from this three colour sensation and together with later work by Helmholtz the so called Young-Helmholtz Theory was established. This effect has been well used in theatre for acting area and cyclorama lighting using colour battens with individual colour dimming to create a variety of hues.

Within the eye there are some 100 million receptors at the back of the retina com-

superimposed to give a richly coloured image. So, the three receptor theory in effect proposed the eye worked on a similar principle to film and TV. But does it? Because film and TV cameras react differently to the colour temperature of the light source. Lamps used in TV studios are carefully controlled to 3200 K and realistic pictures can only be obtained when used with daylight by the use of correction filters. Similarly for film; we have daylight and tungsten film, plus ranges of correction filters. It is necessary to correct for the colour temperature in which we are filming. But the eye doesn't see colours particularly differently despite variations in colour temperature. We seem to be able to

adapt and yet if we only receive information from three colour receptors this should not be the case if our eye responds to the wavelengths coming from the objects we view. If this were so the colour we see would be constantly changing as the illuminance changes creating a range of hues, but it does not do this. Colour stays constant.

The use of colour for effect was exploited with great success in the theatre of the 1920's by Aidrian Samoiloff. Samoiloff used colour to create illusion. By changing the colour of light we choose to illuminate a painted scene we can dramatically change its appearance.

Anything red, lit with red light appears white - it has no colour. But lit with green light it turns black. Clever scenery painting could thus effect an instant scenic change simply by the use of coloured light. A summer scene could turn into winter or a country setting become a town. Make up plays its part as well. The instant costume changes of minstrel shows with blacked up faces and wearing spotted waistcoats and striped trousers, on a lighting cue would be transformed into full evening dress. How simply by a careful choice of costume design and make up, and what became known as the Samoiloff effect, using colour to elicit the very different visual response and convince the audience with illusion that it was the costumes that had been changed in front of their eyes.

Such use of colour can be explained by the Young-Helmholtz Theory. But then something else happened which eventually led to an explanation of some other colour effects used in theatre. In 1955 Dr Edwin H. Land, who in 1948 had invented the Polaroid camera, gave a demonstration that did not fit in with this theory. What he did was to produce the sensation of colour from a black and white picture. If there was no colour there in the first place to reflect colour wavelengths, how then did the eye see in colour?

When a black and white slide of an arrangement of some common objects is pro-

jected on to a screen we see only shades of grey-variations in intensity, but no clues to colours. If we now insert a red filter - we have the sensation of a rich colour scene. But this is not a colour slide. No colours are present.

In fact the Land Effect demonstrated that the eye could receive a sensation of colour from light received from a surface which itself contained no colour information; only that the two black and white photographs were taken one through a green filter and one through red.

A theory was thus evolved that rejected the view that it was wavelengths reflected to us that enable us to see in colour. Instead it was suggested different areas of the brain deal with different visual tasks. Colour is received by receptors and then decoded elsewhere. Form, the other key factor is dealt with by another part of the brain and this led to another series of experiments. Without other reference we do not see colour consistently. We are tricked. A theatrical illusion.

The experiments indicated that we do not work out colours from wavelengths coming to our eyes, otherwise colour would be constantly changing as illuminance changes. It proposed that colour of a surface is thus a property of the brain; not of the outside world. Colour and form are intricately linked. How we choose to unite or separate them determines the effects of illusions we can create.

Colour is perhaps an extra dimension that could be explored more fully in architectural applications as well. Not just splashes of primary colour, but a more subtle use to enhance the environment and contribute to the ambience created by intensity controls by conveying additional feelings of warmth or coolness. A range of equipment is now available to provide the lighting designer with the means to achieve these ambitions, from the Strand Minispot with a choice of dichroic filters to remote colour changers used with theatrical spotlights to shape and form light or project patterns. ■



In the January 1991 issue of *Lights!*, we learned from David Lazell of the early experiments in music and light carried out by Professor Wallace Rimington. Here, the doyen of the lighting world, FRED BENTHAM, puts the record straight.

NO PROBABLE POSSIBLE SHADOW OF A DOUBT

'There seems little doubt that Professor Rimington's keyboard concepts were the forerunners of the Strand keyboard controls for theatrical lighting coming years later.' Coming across this in *Lights!* Vol. 2, Issue 1, in January 1991 I felt I should respond.

There is grave doubt – but no need to speculate. As the man who joined Strand Electric in June 1932 with the idea firmly in his head and a photo of a Light Console scale model in his pocket, I know what had influenced me. It was the cinema organ console with its rows of stop keys.

Select and play from keyboard-masters plus pistons as presets.

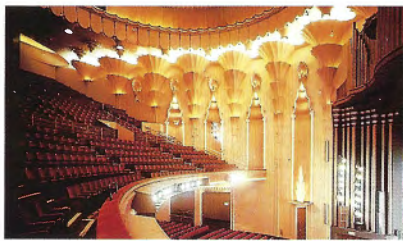
Hence the John Compton console and relay to control a Mansell-clutch dimmer bank. I shall not go into detail as there have been many descriptions since it was launched in June 1935 in our Floral Street demonstration

theatre. Items played then included: Wagner's *Flying Dutchman* overture, *Twelfth Street Rag* and Tchaikovsky's *4th symphony (1st movement)*.

Officially it was to facilitate the control of stage lighting by a single operator seated

with a good view of the stage. That was what got the three directors to spend the then unheard-

of sum of £1000 on it. Unofficially it was to pursue 'Light as an Art' – the title of my long article in *The Builder* of September 2, 1932. Why that *Journal*? The answer is that my own theories covered the whole visual ambience. The



Finsbury Park Theatre.

architecture of the auditorium was as important as the set on the stage.

Ultimately all this was incorporated in a veritable temple to my colour music in the form of the King Street Strand Electric theatre of 1939. After this was bombed in May 1941, the console and its dimmer bank went into the London Palladium that December for Robert Nesbitt's new show, *Gangway*, proving itself in its other role of stage-switchboard.

Where does Professor Rimington's influence as a 'patron saint' come in all this? The answer has to be: nowhere at all! That young Fred Bentham was intolerant of the theories of Rimington, Adrian Klein and the rest, when he read Klein's book: *Colour Music: The Art of Light*.

Visual equivalents of 'music notes' and like theories never had appealed. What some music inspired was a varying picture evoked by its changes of mood using mainly (but not always) dimmers. One was

tion of his book. This was a reprint of his original colour music book of ten years earlier, with a 13-page 'Introduction' added, to bring it up to date.

In the latter, four pages and three full-page plates were devoted to my original light console. In strict fact Klein staged a trial of his colour organ as an interlude at the Finsbury Park in London.

He says 'The show was a middling success'. Fiasco would seem to have been a more appropriate description.

The audience at this kind of super-cinema were not likely to be receptive to such high-brow theories anyway. However, the event was used by me to pretend that Strand Electric had a rival experimenter in the field of organ control of lighting.

There had been some dithering, particularly on the part of the third director (Mansell – of clutch fame) about spending all that money on my novel notion for control. To quote his own words in a memo to me: 'I think it hardly



Portrait of the author as a young man.

playing lighting variations on a suitable set of drapes, or whatever, as a theme.

In this, the ideas of Appia in the Wagner context were exciting. I suppose my earliest encounter with 'mood' lighting as a boy would have been the cue: 'Down to blues' for romantic numbers in musicals and variety acts on the stages of theatre or super-cinema. Or long before, when the sun happened to come out and shine through the tall church windows at just the right music cue during Sunday Service!

'Also it led directly to the Strand Light Console' – more nonsense. This time from Klein himself in the 1937 edi-

likely the directors will go to this expense. Certainly I would not be prepared to recommend it.' Dated 16th June 1933 and attached to his works quotation, that was that. Except that it wasn't.

Using press cuttings of the Klein experiment at Finsbury Park and stressing the connection between Major Bell and Strand's rivals, Major Equipment, I proved we had competition. That it only operated in conjunction with a very special projector was omitted.

A wily trick, perhaps, but it worked. The Light Console order went ahead, thereby proving that a lie can sometimes be a good thing. But it has to be a good one! ■

Only 16 miles from the high political drama of Washington DC, another type of drama (and opera, music and dance) is to be found in the rolling green hills of Virginia.

Nestling in a small valley, surrounded by lawns and wooded hillsides, the weathered wooden fly tower of Wolf Trap Farm Park for the Performing Arts rises into the night air.

Politicians and tourists, jeans-clad suburbanites and city sophisticates mingle before a performance. Picnic blankets are spread on the lawn while black ties and gowns take their seats in the comfortable open-air auditorium. Wolf Trap's popularity owes much to this blend of formal and informal, and to the enormous variety of its summer season.

The present theatre is the third to be built over the past 20 years, which is a tribute to the US Government, fundraisers and to Wolf Trap's founder, Mrs Catherine Filene Shouse.

Originally from Boston, from the family who founded Filene's department store, Mrs Shouse moved to Virginia in 1930 and bought a 300-year old farmhouse with 52 acres of land. She built up a thriving farm and dogbreeding kennels but in 1966 she donated 100 acres to the Government, plus funds for the building of a theatre.

Using her own observations made during a tour of European theatres, she briefed the architects on her concept for a multi-use performance building.

She explained, 'Programmes of all types were considered in the basic planning - jazz, dance, opera, concerts, operetta and popular performances - to provide for the interest of both younger and older audiences.'

'Also included in the concept was the pleasure of picnicking before a performance, which I had enjoyed at Glyn-debourne in England and which I knew would appeal to our Wolf Trap audiences.'

In an historic decision, Congress awarded the new theatre 'National Park' status. Unlike other National Parks, however, Wolf Trap was designed to reach audiences far away from North Virginia. Television was seen as the ideal way to make Wolf Trap a

One of the most remarkable theatres in the world has recently installed a Light Palette 90 lighting control system.

SUSAN DANDRIDGE tells the story behind the story...

DRAMA

-AND EVERYTHING ELSE BESIDES-

AT WOLF TRAP



national rather than a local theatre. As a result, care was taken in the design to ensure that the theatre would lend itself to live broadcasts.

But with the opening night only five weeks away, fire broke out on March 13, 1971, destroying 60% of the almost-completed theatre. Despite this setback, building started again and finally, the first performance was held on July 1 that year.

TRAGEDY

Tragedy struck again on April 4, 1982, when after 947 performances, the theatre was once more burned down.

The speed with which funds were raised and re-building was carried out were attributed to the reputation Wolf Trap had developed through its television broadcasts. More than 18,000 contributions and pledges came in from all 50 states, seven other countries, and two US territories. The project was re-designed and built in just over two years, opening on July 30, 1984.

Despite its history, the new theatre is again built of wood, but this time it is protected by a \$1.7 million fire detection and protection system.

Last summer's season, stretching from May to Sep-

tember, included performances by the National Symphony Orchestra, Mikhail Baryshnikov's experimental White Oak Dance Project, the Wolf Trap Jazz and Blues Festival, Bonnie Raitt, Ray Charles, Bob Dylan and The Temptations.

Wolf Trap is also home to the Wolf Trap Opera Company, Wolf Trap Institute for Early Learning through the Arts, and an annual International Childrens Festival. Strand Lighting's involvement with Wolf Trap began during the rebuilding during 1984. By then, Light Palette and CD80 had become the national professional standard for lighting control systems, with the majority of Broadway shows designed on Palettes. The decision to install a Light Palette at Wolf Trap was based on the knowledge that visiting designers would be familiar with the system.

Another factor was that at the time, Light Palette was the only system on the US market capable of providing a channel for each of Wolf Trap's 714 circuits, which would give complete flexibility.

However, over the next few years complaints arose from some of the visitors. Light Palette, designed for theatrical production, was at its best when recording complex moves for playing back cues night after night. It was less agile in situations calling for 'seat of the pants' lighting common to musical performances and TV production. The answer came initially with Light Palette 3, which blended TV and theatrical needs, and then with the latest system, Light Palette 90, which was installed in 1991.

According to Henry Parks, Head Electrician at Wolf Trap since 1984, the theatre's aim

'is to be adaptable to anything that rolls in the door, as quickly as possible.' Few productions are designed specifically for the stage at Wolf Trap. Bus and truck productions of Broadway shows, touring dance companies and popular music concerts all must have their original designs modified and adapted to the facilities. A standard rep. hang provides the basis from which incoming designers work. Plots showing final placement circuiting and specials are received as much as a week ahead of time - or occasionally, not until the day of load-in.

DEMAND

Although the majority of shows use the existing inventory and the house dimming and control systems, Mr Parks estimates that 35 per cent of incoming shows either bring additional equipment or full lighting rigs. The need to integrate additional control and lighting rapidly places great demand on the existing system.

Light Palette 90, combined with an upgrading of their CD80 dimmers to Advanced Electronics has many advantages. Digital electronics mean faster response times. More importantly, the dimmers now accept the input of multiple protocols. Both Light Palette and a touring desk can address the dimmers simultaneously, making the integration of house and touring systems much simpler. Additionally, individual house-lighting circuits can be selected on a show-by-show basis, to be run from the new Strand Premiere house-lighting control system, or through the Light Palette.

The installation here is the largest and most complete





Light Palette 90 system in operation. Three full control desks, a remote submaster wing and three hand-held remote control units mean a potential of six simultaneous inputs to the system. Six individual crew members, designers and assistants can, and often do, direct their commands to the electronics tower.

During set-up, all controls are operational as specified by the master control desk (known as 'God' to the crew). Crew members are each given sections of the lighting plot and work independently



to hand, rough focus and colour their section of the plot. The ability of the hand-held remotes to call up dimmers or channels without interfering with the command line of any other control point keeps communication confusion to a minimum. It also frees the designer to record cues without the accidental incorporation of lights activated from other control points.

At the close of the 1991 season, Wolf Trap's technical staff said they were pleased with the new system. But if history is anything to go by, their increased capability will soon encourage them to push the system to its limits – and beyond. ■

Since 1914 we have been leading the way in lighting innovation. Here we look at some of the:

Milestones In Lighting History

1914 Strand Electric begins as an office with workshop in Garrick Yard, St Martins Lane, in the heart of London's Theatreland.

1918 Theatre electricians Arthur Earnshaw (Duke of Yorks) and Phillip Sheridan (Strand Theatre), who founded the firm are joined by Moss Mansell, a manufacturer of arc resistances and dimmers in Cecil Court.

1922 *Round in Fifty* at the London Hippodrome marks the first use of the Sunray compartment batten. It becomes the backbone of any Strand installation. The use of these with filters instead of colour-dipped lamps was essential to Aidrian Samoiloff's scenic tricks using complementary colours.

1923 The Theatre Lighting department is started by LG Applebee, later to become Strand's first well-known lecturer writer. He ran it until retiring in 1957.

1924 The Old Vic of Lilian Baylis: Strand's first 'dead front' switchboard was installed. Until then, contacts and busbars had been mounted on the front of polished slate panels.

Shepherds Bush Pavilion (later to become The Gaumont, then the Odeon) was the first of the great 3000-seat super-cinemas to have full stage lighting and concealed colour-change lighting around the auditorium.

1924/5 Wembley Empire Exhibition: complete installation with cyclorama for Oliver Bernard's *Battle of Zeebrugge* in the Admiralty Theatre.

Except that its stage was a water tank, this single tier, steeply-stepped house anticipated by 35 years a form to become popular in the 1960's.

Special lighting effects were also created in the new stadium for productions of *Fire of London* and *London Defended*. Special effects in other exhibition pavilions, especially the optical projection of the British Guiana waterfall.

STRAND FIRSTS

MISS SYBIL THORNDIKE PRODUCTION
OF ST JOAN - 1924.

PHOTO BY BERTRAM PARK



PHOTOGRAPH TAKEN UNDER NORMAL STAGE LIGHTING CONDITIONS
APPARATUS FOR WHICH DESIGNED AND SUPPLIED BY
STRAND ELECTRIC ENGINEERING CO.

From the archives

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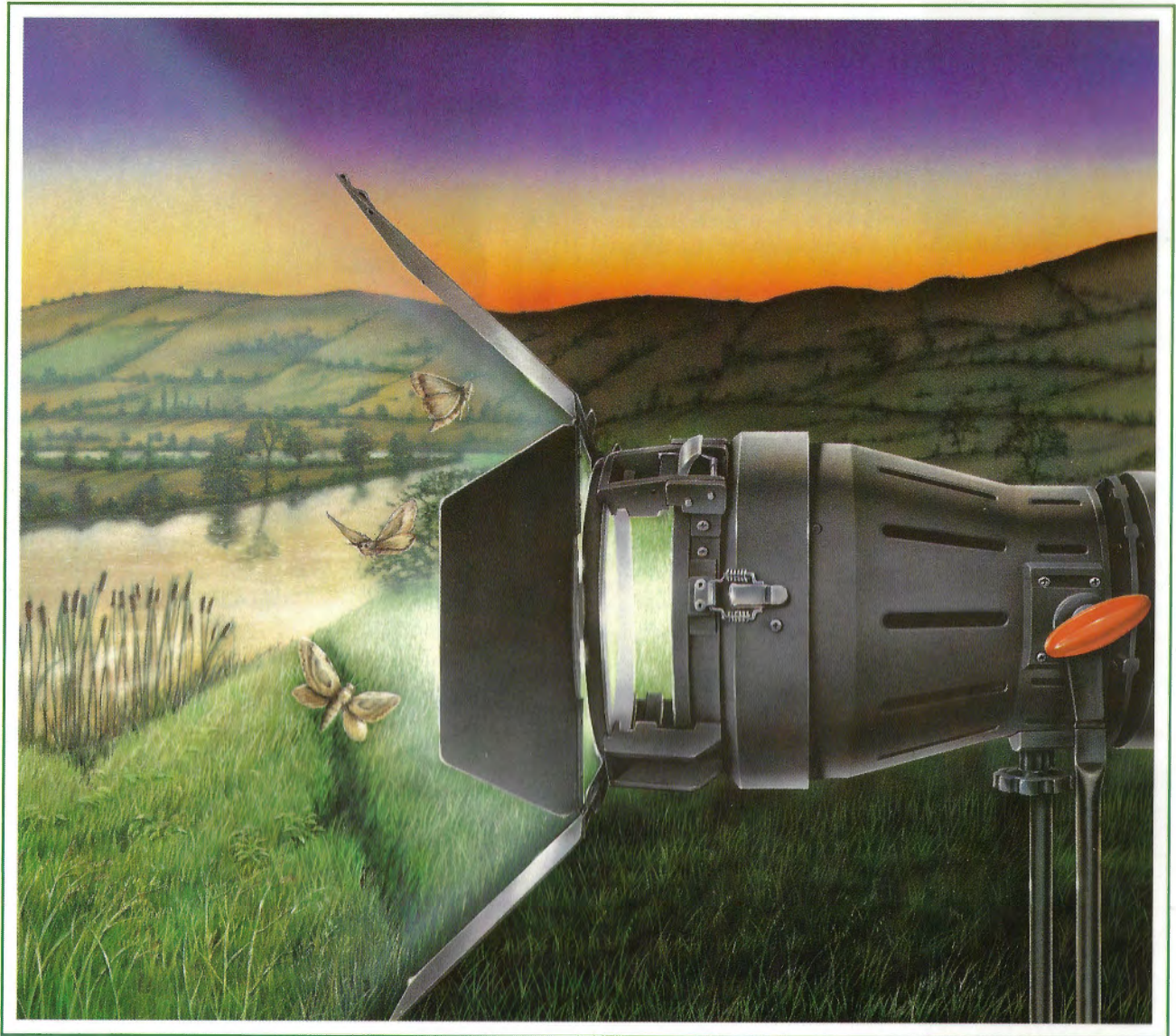
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S T R A N D S C A P E S

— No. 2 —



On Location

Impossible timescales; poor weather; difficult conditions; location work can provide the toughest test for lighting equipment.

That's why lighting crews all over the world rely exclusively on dependable, high-performance products like Super Quasar and the Reporterlight ENG kits, from the acknowledged leader in entertainment lighting...



Strand Lighting



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