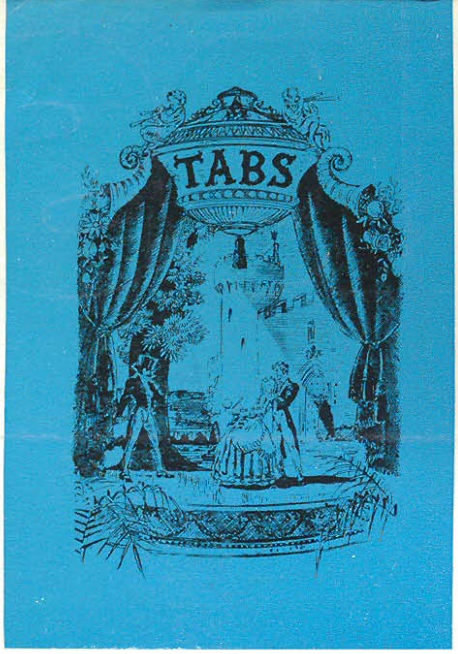
Tabs

Stage Lighting International

April 1974



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April 1974 Volume 32 No. 1

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Soft Words and Hard Arguments

The cover photograph shows the Tiller Girls at camera rehearsals for a live television production of *Sunday Night at the London Palladium*. The staff of both the Palladium and ATV have a well-planned overnight routine which enables them to prepare the Theatre for live presentation of the weekly Sunday Show to the highest TV colour technical standards. The photograph above shows how the existing battery of FOH lighting in the Palladium's auditorium is augmented for the transmission.

Editor: Francis Reid

No stage production should require a programme note to explain its purpose and meaning. The total information required for an audience to understand and enjoy should be encompassed between overture and playout, between curtain up and curtain call. It had been the new editor's intention that his first production of TABS should pop through the letterbox and make its own statement. However, banners bearing the words *hard*, *soft*, and *sell* have been hoisted in such prominent places as the pages of AMATEUR STAGE and TABS itself: perhaps an editorial statement is in the circumstances excusable and even desirable.

Support of TABS costs The Rank Organisation a lot of money and they could quite reasonably be expected to direct that the magazine be written with a view to promoting the sales of Strand products. They have never done this in the past, and with the re-shaping of TABS they have moved even further away from that possibility. The new editor of TABS is not a staff member: he is a freelance with an appointment letter which specifically states "as editor you will be solely responsible for the editorial contents of TABS".

Indeed, the editor of TABS is not quite sure what hard and soft sells are. He himself has *bought* a great deal of lighting equipment but he has never been *sold* so much as a colour frame. He has always wanted more lighting equipment than he has been able to get his hands on, and indeed has devoted a disproportionately large part of his life to cajoling money from reluctant theatre managements, arts councils, and similar bodies. Having got his hands on the doubloons, he has rushed off to exchange them for goodies at the nearest Rank Strand warehouse. He does not recall actually meeting a salesman hard or soft and he has never understood the bits about lumens and peak angles in the catalogues; but he does remember people like Eddie Biddle, Paul Weston, Woody, Peter Fitz, B and Fred telling him of their own and other people's experience with the equipment. These were often cautionary tales, and contributed a great deal to the editor's education in the art of stage lighting. Which poses the questions: How *does* one learn about lighting? Indeed, *can* one learn about lighting? Is this the function of TABS?

Like all other departments of theatre, lighting is an area where two people are unlikely to share the same ideal: a fact familiar to anyone who has plotted a switchboard while a three-man production team try to agree the levels for six colour circuits on a cyclorama. But the art of stage lighting does not merely consist of having likes and dislikes about lighting, it is not the art of conjuring up mental stage pictures, and it is not the art of achieving these pictures by chance. The art of stage lighting is the art of converting lighting ideas into reality. Anyone can do this given enough equipment and enough time; as his expertise grows the true lighting man is able to use less and less of both to achieve the same end product.

Note these final words about using less equipment to achieve the same end product: the steady rise in the quantity of lighting equipment used is not due to incompetence on the part of the lighting men but results from the aim towards a *better* end product. There is, however, a point in every staging when lighting growth must cease: that point is different for every production and it occurs where the lighting would get out of balance with the other elements in the staging mix. If there is a danger in being a lighting man, it is that one may cease to be a theatre man: a lighting man is just a general theatre man who happens to specialise in lights, but he must remain fascinated by and involved in the whole business of the stage.

How then does one learn to handle lighting equipment? The editor knows only the method which he himself uses: the relation of cause and effect. You see something and you think perhaps *ah!*, *mmm!*, or even *Yuk!* But merely to make this assessment is not enough for you must try to trace how it was done. If it was something nice then you know how to repeat it, if nasty you have found out how to avoid it in future. The ideal way to learn about lighting is by doing it, but doing your own thing in lighting requires the sacrifice of an awful lot of time, space, money and people.

Your editor's attempts at learning to light by this Dotheboy's Hall method have cast a shadow across the face of not a few productions of the last twenty years of English theatre, and as a result he has become increasingly interested in ways and means of communicating lighting experience.

He, therefore, sees the primary function of TABS as a journal of information on how lighting can be done: not advice on some definitive TABS way of doing it, just descriptions of some alternative ways that it can be and has been done.

TABS does not exist to promote the sale of lighting, hard or soft. TABS exists to promote the efficient use of lighting equipment to achieve maximum artistic effect. A not unnatural aim for the world market leaders in lighting for entertainment whose prosperity is linked not only to user satisfaction with the the product but to audience satisfaction with the user's use. And this quite simply is why Rank continue to sponsor and support TABS.

Tabs are used on a stage to conceal and reveal: the Editor pledges that his use of TABS will be only to reveal—and hopefully, to entertain.

Thank You, Fred!

"*No single person has exerted a stronger influence over stage lighting techniques in Britain during the past thirty years or so than Frederick Bentham. Being in technical control of a firm holding a virtual monopoly of the supply of our lighting equipment places one in a very strong position. But we must remember that Strand Electric have won and retained their position largely as a result of Bentham's insight into the art of Theatre and its technical requirements.*

Of course, in our pubs and on our perches, we have often muttered dark thoughts against the man . . . But Fred Bentham understands the theatre and cares deeply about it and many of the things that we have muttered about have turned out to be for our own good in the end: such as the rationalisation of the lantern range which has made them cheap enough for us to indulge in multi-lantern complexities to our heart's content . . . Lighting is as much an art as a science and any approach to it must be subjective as well as objective: the success of this book lies in the fact that while its author can be objective whenever necessary, his subjective judgements bear the theatrical insight and sincerity of Fred Bentham".

Since writing these words in TABS some six years ago when reviewing *The Art of Stage Lighting*, I have come to know Fred much better; I have worked with him, laughed with him, despaired with him, triumphed with him, agreed with him and shouted at him. All these experiences, some of them traumatic to say the least, have only enhanced the admiration which these words were intended to convey.

Fred has probably done more than any other single person to influence the course of switchboard history and few people have had more influence on stage architecture without actually building a theatre. But Fred's true product is words: his pen is even mightier than his switchboard in the continuing stage lighting evolution.

Indeed, my favourite authors are George Bernard Shaw and Frederick Bentham. They share a twinkle in their eyes and a twinkle in their prose and can be relied upon to take the unorthodox line and make it convincing. They both know the value of laughter in winning and holding an audience. Shaw knew that there was much more to theatre than the script and Bentham knows that there is much more to theatre than the lights.

Shaw, of course, has passed through the Great Proscenium in the Sky (who can listen to Bach, Mozart, Shaw or Bentham and believe that there is a thrust stage in front of the Ultimate Cyclorama), but Fred is alive, well, boating, inventing, lecturing, writing . . . but no longer editing TABS.

Nurse Bentham took over a lusty, thriving but sometimes erratic infant called Strand Electric and developed it to maturity; he then performed the same service for TABS and now he must do it for the ABTT.

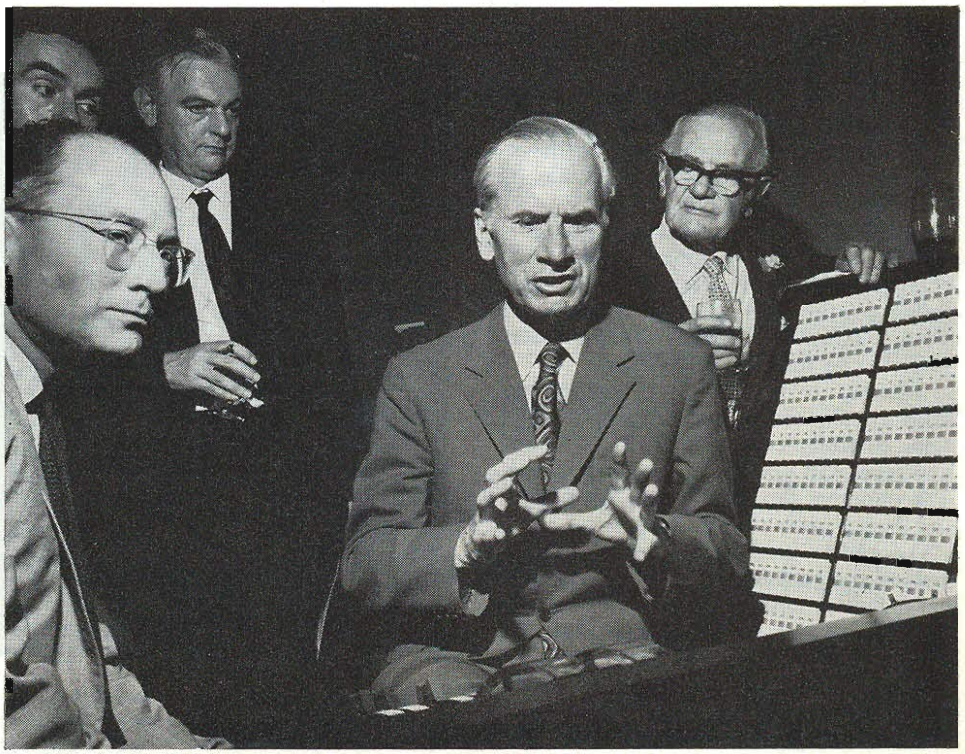
The formation of the Association of British Theatre Technicians coincided with the blossoming of Theatre as a National and Civic responsibility in Britain. Without the influence of the ABTT, it is a fair assumption that the resultant theatre building boom would have produced many unworkable and unlightable stages. Throughout these heady exciting formative dozen years the ABTT has been sustained by the energies of its founders: but it cannot live for ever on the adrenalin of its members and a formula must now be devised for the future. At this critical moment in its history, the ABTT has had the wisdom to elect Fred Bentham as its Chairman. Freed from the daily cares of Rank Strand and TABS, Fred will able to devote his full creative energies to the task.

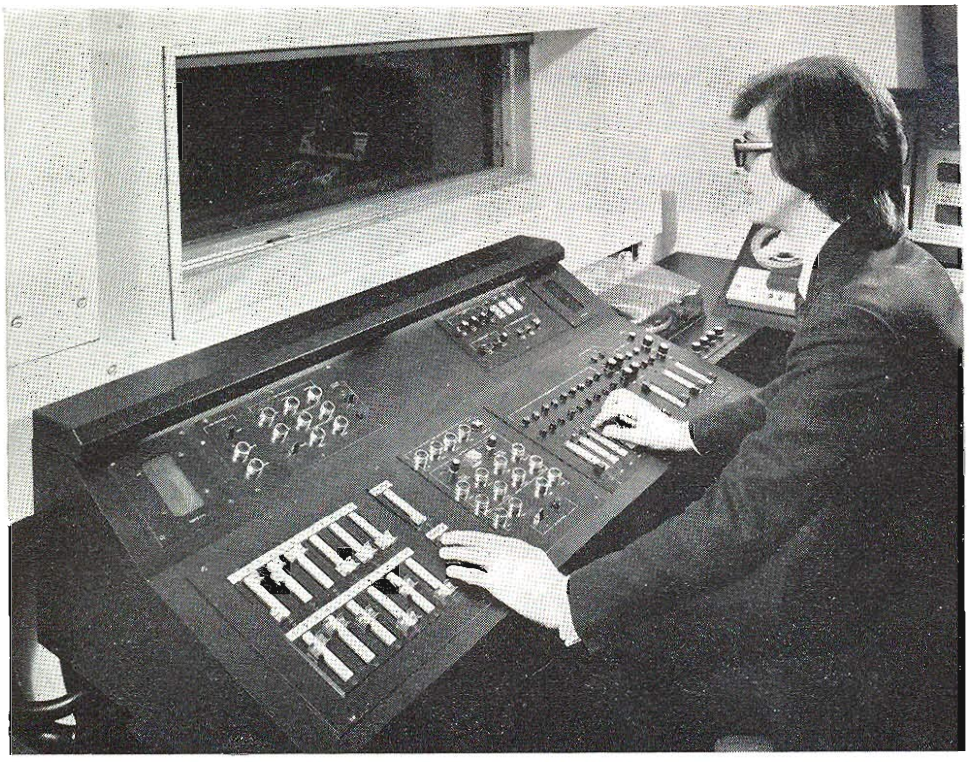
The ABTT is essentially a democratic body, and Fred realises that democracy has little place in the theatre: exciting theatre usually results from a group of talented people throwing in suggestions for selection by a benevolent despot. This was the making of Strand Electric and no one who has met Fred Bentham in committee can doubt that he will catalyse the ABTT by the same means. Many people will gnash their teeth in the process, but it is difficult to gnash ones teeth successfully while laughing, and F. P. B. uses wit and charm to win his audience by laughter. As does G. B. S.

My fundamental adjective for Fred Bentham is *readable* for irrespective of whether we share his view, when he writes we read and when he speaks we listen. He is a man of the Theatre: he entertains.

Although Fred has retired from the front line, his advice is still available to Rank Strand on a consultancy basis: his pen is poised, his eyes are twinkling, his cue light is flashing, and I fancy that some of his finest writing is still to come. For favours past, present and future—Thank You, Fred!

F.R.





The author controlling light, sound and other facilities from the master control desk.

Smile Please and Cue One Go

by GRAHAM WALNE

The technique of using audio visual aids in education has been developed with increasing success over a number of years and these aids are now spreading to industrial training and product presentations. The conventional processes are being married to the slightly less conventional ones of the theatre and what was once a staid schoolroom lecture now becomes a production with twice the impact.

The parquet floors are replaced by carpeted tiers of luxurious seating, the fluorescent lighting by dimmable tungsten downlighters and the blackboard and easel by a versatile display wall with magnetic white electric raising surfaces. There are high reflective screens with electric masking and electric tabs and the stage has its own lighting and sound equipment.

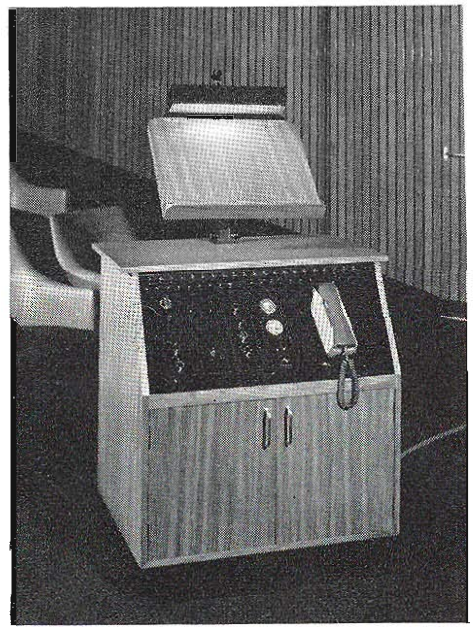
The key feature is that everything is remote controlled either from one composite console in the projection room (often by the only member of staff) or from a lectern on stage as some lecturers prefer to do their own operating.

Whether it is an annual conference, sales training session or product presentation, carefully cued scripts are prepared and rehearsals are held in the normal way. The smoother the presentation, the greater the impact upon the audience.

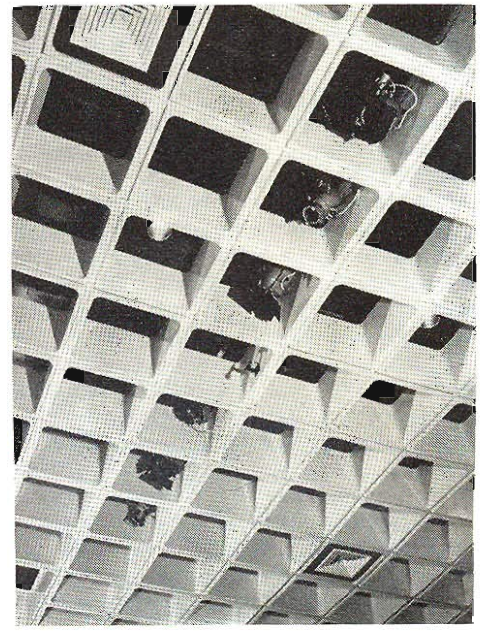
Quite often the house tabs are tastefully dressed and background music is played as the delegates enter. The music fades, the houselights dim and the tabs open to reveal the lecturer at his lectern picked out by profile spots. After a few introductory words, screen tabs open upon a slide dissolving programme cued by a pre-recorded tape. This may be followed by demonstration of models on stage, picked out one by one with light, and finally a training film to conclude the lecture as the tabs close and the houselights build.

The Kodak theatre in their new head office at Hemel Hempstead is a typical example of the modern approach to lecture theatre design. Rank Strand in conjunction with Electrosonic Ltd and the audio-visual specialists of Kodak Ltd have provided a custom-designed installation which includes an array of projection screens with electrically operated drapes and lighting from Patt. 23 and 123 spotlights. Complete control of a slide presentation may be made from the specially designed lecture desk which is complete with lighting, microphone, telephone, etc. The control room at the rear of the theatre includes a 16mm Xenon arc projector, four Kodak Carousel slide projectors with Electrosonic tape controlled dissolve units, and a specially built master desk which includes a 12-way Mini 2 lighting control, 12-channel sound mixer, tape decks, turntable, screen and carousel controls, and of course dimmers for both tungsten and cold cathode auditorium lighting.

This Kodak theatre is a good example of the successful integration of educational and theatrical presentation techniques. There is always a danger that giving a building a particular label may restrict its eventual equipment: the principle that has been applied here is that whenever any room contains the situation where one person stands in front of others, then there must be something to learn from the techniques of the conventional stage and its equipment.



Lectern with facilities to enable the lecturer to control the audio-visual aspects of his presentation.



Patt 23 and 123 spotlights fit neatly within the eggbox ceiling.

Peter Harris—TM 1

BOB ANDERSON

Peter Harris* is a lighting designer. He lights two new plays a month on average that attract audiences of five to ten million, even though most are performed only once. He is one of, at most, 50 designers in Britain at the top of a well paid profession. He spent nearly fifteen years, most of his working life, learning the job and, all being well, it will continue until he retires at the age of 60. He works for BBC Television and his official title is Technical Manager, Grade 1: a TM 1.

Peter Harris got into the BBC in the early 1950s. His interest in Science at school led to spending his first years in the BBC as a maintenance engineer looking after the pre-war Emitron cameras at Alexandra Palace. But, once inside the studios, Peter realised that his real interest lay in creating the pictures and he resolved to get into lighting. Even in those days this was not an easy step, but eventually he was able to get on to a lighting training course. Thus began the career that will probably last until he retires.

Today, the TMs of tomorrow are usually recruited straight from school. They need two A-levels and a comfortable number of O-levels plus some clear sign of artistic talent. They serve a three-year apprenticeship learning most of the simpler jobs on the studio floor and spending three months at the BBC Engineering Training School. Although TMs, Cameramen, Sound Supervisors and most other studio staff are in the Technical Operations Department, a lot of science and engineering details have to be properly understood to make the best use of the versatile and complex studio equipment. After his three-year training period the recruit takes his place in one of the studio crews as a cameraman, sound assistant or vision operator. If he now wants to specialise in lighting he has to get selected for a lighting training course. This can be fiercely competitive, and, on average, he will not get onto this course until seven to ten years after joining.

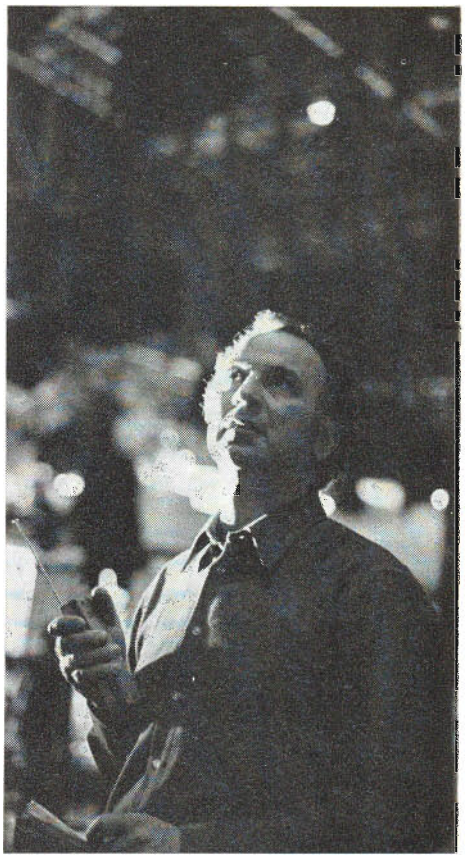
The lighting training course starts with five weeks' theory and practical exercises at the Training School followed by eleven weeks working with TMs in the studios on all types of production. At first he helps with the easy bits but eventually he is allowed to light simple shows under the watchful eye of his instructor. If he gets through this stage the rest is just a matter of competitive application to become a TM 2 (lighting simpler shows but mainly managing the general organisation in the studio); and finally joining the select ranks of TM 1s. With average luck can he reach this position by the time he is in his early forties—giving him, if he stays in the job, some fifteen to twenty years to make his name a household word (in those homes where lighting credits are noticed) before retirement.

Peter Harris is now at this stage. His immediate colleagues know and respect his abilities but, as yet, producers and directors do not go out of their way to obtain his services as they do for his more experienced colleagues. However, the omens are good and with one or two more opportunities to demonstrate his skill, there should be a guaranteed stream of challenging assignments ahead.

Peter mainly works in Drama and he works in London. Similar jobs exist in Light Entertainment and in Current Affairs, and there are also studio centres working on this scale in Glasgow, Birmingham, Manchester and Cardiff. The job is, of course, mostly lighting design, but his position in the studio is much more than this might seem to imply. In fact, he has final on-the-spot responsibility for all the visual aspects of the process of getting the production in front of the cameras and onto video tape. This responsibility recognises the importance of putting overall control under the main creative aspect of the operation: lighting. Of course a team of maintenance engineers are responsible for the accurate alignment of the equipment and keeping it working to a high standard of performance, his TM 2 deals with most of the problems of getting together any special equipment required and keeping rehearsals to time and the Senior Cameraman and Senior Sound Supervisor look after their specialities. But all are going to need some of Peter Harris's time when problems arise.

On average, Peter works in the studio for two days each week. These days may begin at 9 a.m. and end at 10 p.m., and every moment may be filled with decision taking of some kind or other. On other days he will attend outside rehearsals, planning conferences, or work at a drawing board preparing lighting plots. He may be working on different stages of several productions at once, about three if they are major plays, but more if the subjects are less demanding. The way he is briefed, makes his plans and executes them form a fairly standard pattern, but to understand the process it is first necessary to introduce the Realisation Team.

The Realisation Team are the eight people directly concerned with turning a script into a finished television play. The title helps to identify the collective responsibility and to emphasise the essential interdependence of the various specialists one with another. As elsewhere, the process of putting on a play begins when a producer chooses a script and gets backing to secure the resources he needs. Again, it is no surprise to find that, once he wants to get things under way, the producer needs the help of a team of specialists. In television these experts are the Director, the Designer,



A TM 1 with walkie-talkie and lighting plot weighing up a problem.

the Costume Designer, the Make-up Expert, the Sound Supervisor and the Technical Manager. This group, together with the Production Assistant and the TM 2 form the Realisation Team who stay together for the period of the production or for a series. As far as possible the wishes of the producer are met as to the personalities in his team. This ensures that talents, affinities and animosities can be recognised and balanced to suit each production and the members can get to know and trust each others working methods. Reputation and recommendation have to be earned before a new TM, or anybody else, can get into a top Realisation Team.

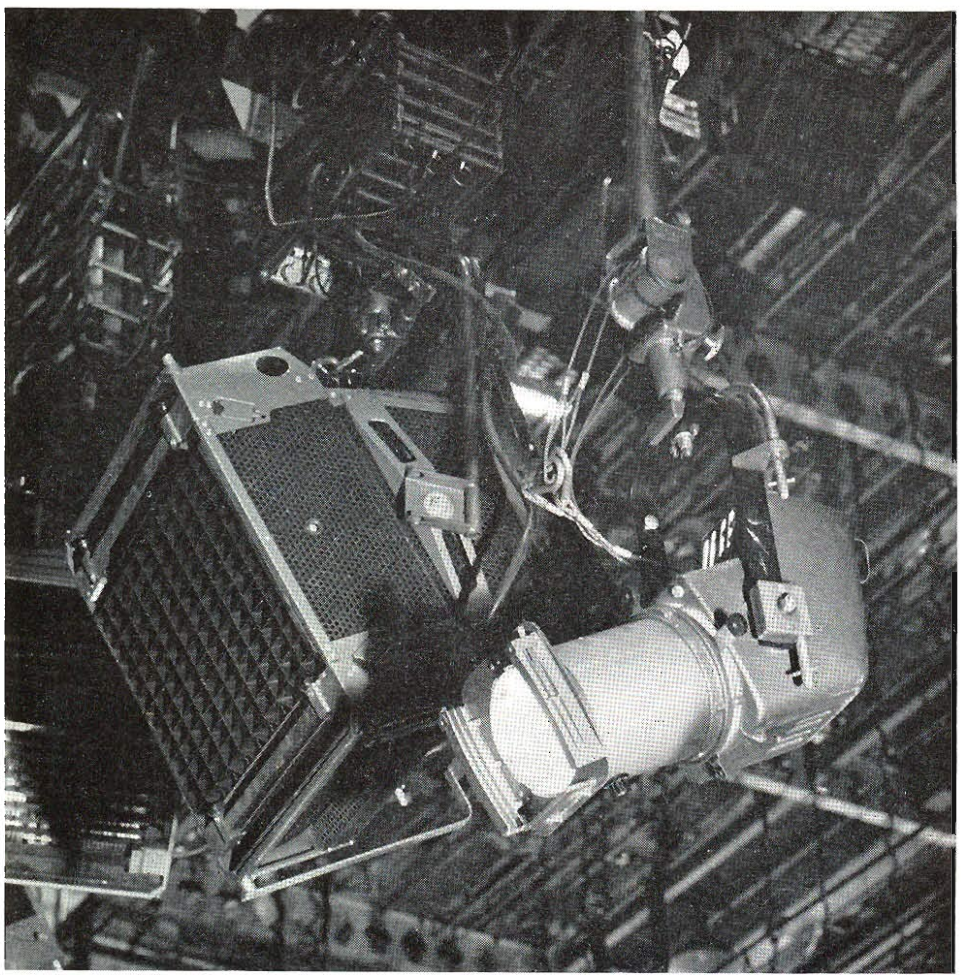
Officially, the Realisation Team meets for the first time six weeks before the studio date. But unofficially, enthusiasm will often have sparked off discussions in the restaurant, bar, or by telephone weeks or months before. The first meeting examines the producer's ideas from scratch. Of course, casting will be more or less complete since the studio date has to be fixed for when the artists are available. But otherwise, the Realisation Team will have only the producer's hopes and, of course, the script to work from. At this first meeting broad agreement is reached on the design and studio problems and cost limits are set.

* *An imaginary name but a typical character.*

After this the experts get to work on detailed solutions.

Most of the work at this stage falls on the designer and director and, perhaps, costume designer. When the second meeting is held some three weeks later, these three will describe set dimensions, camera angles and colour treatment for the others to approve. Each setting then has to be fitted into the studio so that the complex pattern of camera movements, sound pick-up, costume and scene changes, dovetails together. Peter Harris plays an important part in this and will be especially concerned about lighting angles and the visual quality of the pictures as a whole. But he and the TM 2 working with him must be sure that the cameras attached to their heavy cables can move about and around one another without getting helplessly plaited up. Sound, usually picked up by microphones on booms, have to be given space where they can work and yet throw the least troublesome shadows, and other large items such as back projection machines with their screens and bulky mirrors, have all to be fitted in. When necessary the Senior Cameraman will be asked to attend to help sort things out. At the end of the meeting the ground plan is fixed and the Director can now go away to rehearsal rooms to rehearse his actors among the minimum bits of furniture and with walls and doorways marked out on the floor in coloured tape.

Peter Harris calls in on one of these rehearsals fairly early to make sure that things seem to be technically OK and to begin to get his lighting treatment worked out in his mind's eye. Designing the lighting is, as always, a question of compromising perfection in the interest of getting the job done within the time and money available. BBC television studios are generously equipped to make this compromise as painless as possible, but it is still a complex task. To understand the size of the problem look at the photographs of the studio and the lighting plot. How the lantern positions are chosen is too big a subject to be described here in detail. Most comes from experience, although a few simple rules go a long way for beginners. Faces have to be lit from close to the camera viewpoint. But because two or more cameras may be looking at an actor in quick succession, judgement is needed to decide which camera position is the more important and what extra lights will be needed to make the other camera positions acceptable. Three-point lighting; key light, back light and fill light spaced about 120° apart works well in isolation, but within the confines of a box set and with the need to suggest the light and shade of natural room lighting, this academic form is often very difficult to recognise in a real rig. Indeed, the key light for actor A on camera 1 may be the back light for actor B on camera 2. To all this must be added the vital necessity to keep the amount of light and its colour under careful control. Too much light "burns out"—white blobs on the high-lights; too little gives "noisy"—grainy—pictures or the detail is lost. And if the dimmer is taken too far down, the orange glow from the lamp gets exaggerated and distracting colour changes occur.



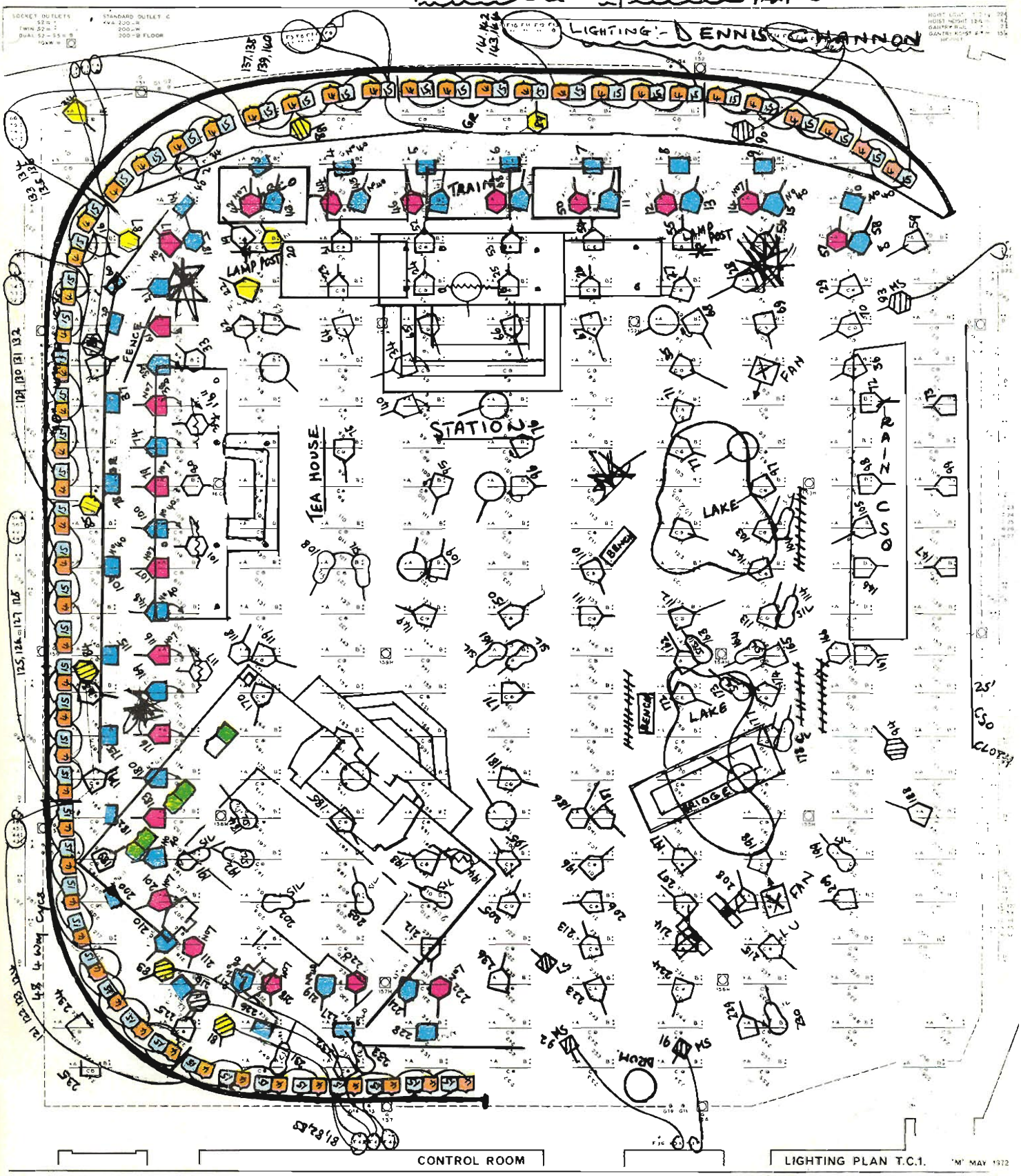
The Softlight end of a Dual-Purpose lantern and a 1,000-watt profile spotlight fitted with pole operated pan and tilt mechanism.

But these are everyday problems that Peter Harris mastered years ago. His task now is to select which lights he will need and where they are to be put in the studio. To help make this as easy as possible a BBC studio may contain 200 5kW dual purpose spotlight/softlight units permanently rigged on power operated hoist bars. The photograph shows how they look. The lanterns can be moved along the bar and the bar can be raised or lowered. The height of the individual lanterns can also be changed using the spring balanced pantograph so that the final position is as near as possible to the ideal point in space. How precise this has to be has been argued about for nearly twenty years. The BBC system is good enough in the hands of its own trained staff to cope with 90 per cent of problems. For the other 10 per cent—about ten lanterns per studio per day on average—floor stands or cross bars have to be rigged. When more than two lanterns per bar are needed, a spotlight or softlight, not the heavy dual purpose type, is specially rigged. Between twenty and forty such lanterns are available.

Softlights are not common outside television studios. They are floodlights that light a large area and which cannot be focused. But they are more than this: every part of the front of the lantern is designed to emit light so that at short range shadows are soft edged. Anyone with an eye for lighting will know how different in character cloudy skylight and strong sunlight are. The softlights, especially when used in threes or fours, can go some way towards producing the character of skylight. Another advantage is that accidental shadows from the microphone boom will be less noticeable!

The dual purpose lantern combines both softlight and Fresnel spotlight sections and can be converted from one to the other by switching off the lamps at one end and switching on the other. This is done with a pole as are changes to focus, pan, tilt and the position of the barndoors. The point of these devices is not that they are the finest available spotlights or softlights magically ideally suited to every purpose. On the contrary, there are many occasions when smaller spotlights or larger softlights would be preferred. Instead, the dual purpose lanterns give maximum versatility to ensure that the strictly limited rehearsal time is not wasted on a large-scale re-rigging operation. But when the dual purpose lantern is really not suitable a

THE MIKADO TC1 16–21/11/73.



QWART (Dual Source) 2½KW IN SPOT MODE

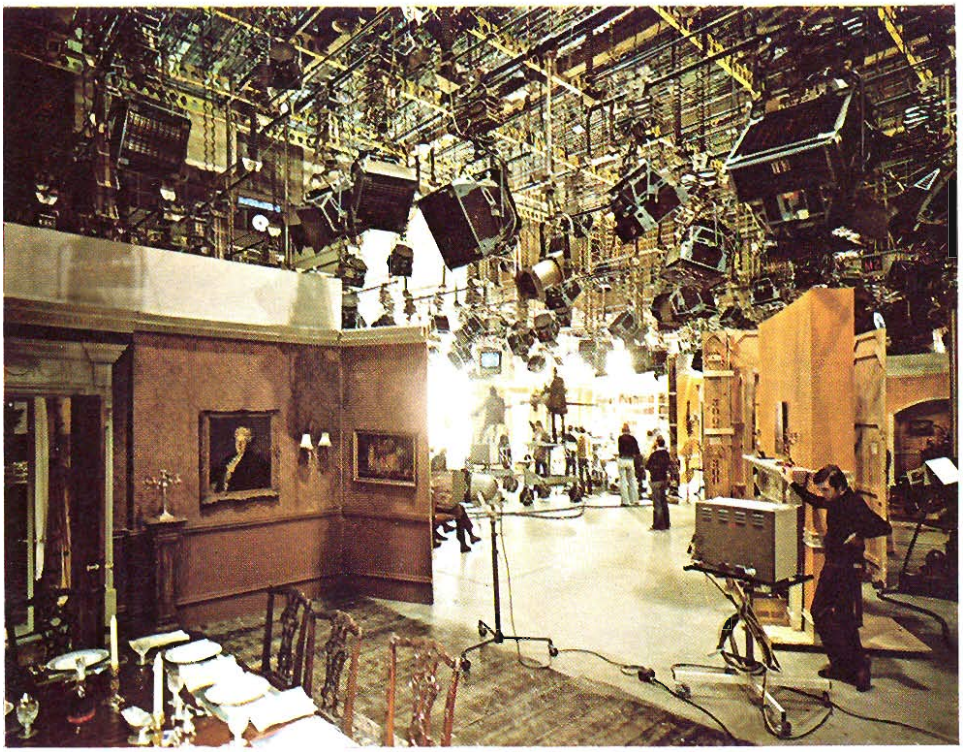
QWART (Dual Source) 2½KW IN SOFT MODE

SPOTLIGHT 2½KW

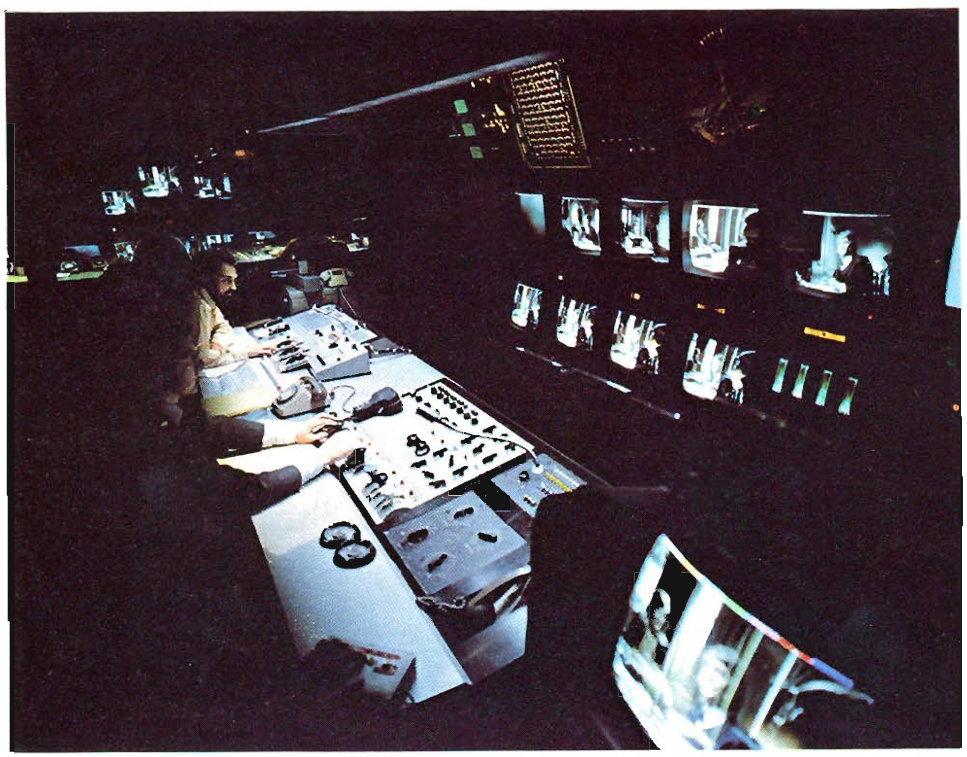
INDICATES 5KW | INDICATES DIRECTION OF LIGHT

GROUND ROW UNIT

1KW PROFILE SPOT



Studio 4 at Television Centre with a rehearsal in progress. Dual-Purpose 5/2½ kw lanterns hang from pantographs on motorised hoists above the setting area ready for immediate use. As far as possible the floor is kept clear for the cameras. Lights on sets not in use are switched off to save power.



The Lighting and Vision Control Room during a rehearsal. The panels at the far end of the desk are the 240 way dimmer-level-memory lighting console, those at this end control the cameras. The top row of black-and-white monitors show the pictures from the five studio cameras. The central colour monitor shows the picture selected by the director and the side colour monitors can be switched to check and compare other cameras, film and video tape. The TM 1 sits centrally between the camera control operator and the lighting console operator (The Vision Supervisor) with space to spread out his plot but near enough to the dimmer controls to adjust lights himself when necessary. The panel above the black-and-white monitors is the lighting mimic. The small screens beyond the lighting desk are in the Production Control Room behind a glass partition.

stock of 1,000 watt Fresnel spotlights. profile spotlights and clip on floodlights are available.

All lanterns are connected through a generous provision of plugs and sockets to thyristor dimmers and these are controlled by a dimmer-level memory console in the Vision Control Room.

But to return to Peter Harris. After calling into the acting rehearsal, Peter will probably be too busy to do much more about this production for some days because an earlier commitment requires his presence in the studio to get it lit and recorded. But he must remember to make out hire orders for any special effects he may need and to arrange any other equipment or staff not normally provided in the studio he is to use.

The last main rehearsal before moving into the studio is called the Technical Run. It is expressly to show Peter Harris, his TM 2, the Sound Supervisor, the Designer and sometimes the Senior Cameraman how the action and camera moves have to be fitted together. The Director moves about showing the camera positions and describing the lens angles as the by now word-and-move perfect actors run through the play. Lens angles are very important since everything that lies outside the view of the cameras can be ignored being effectively off-stage. Staircases can rise to nowhere, walls end suddenly and lights that would dazzle the audience in a theatre are no trouble to the cameras fitted with deep lens hoods.

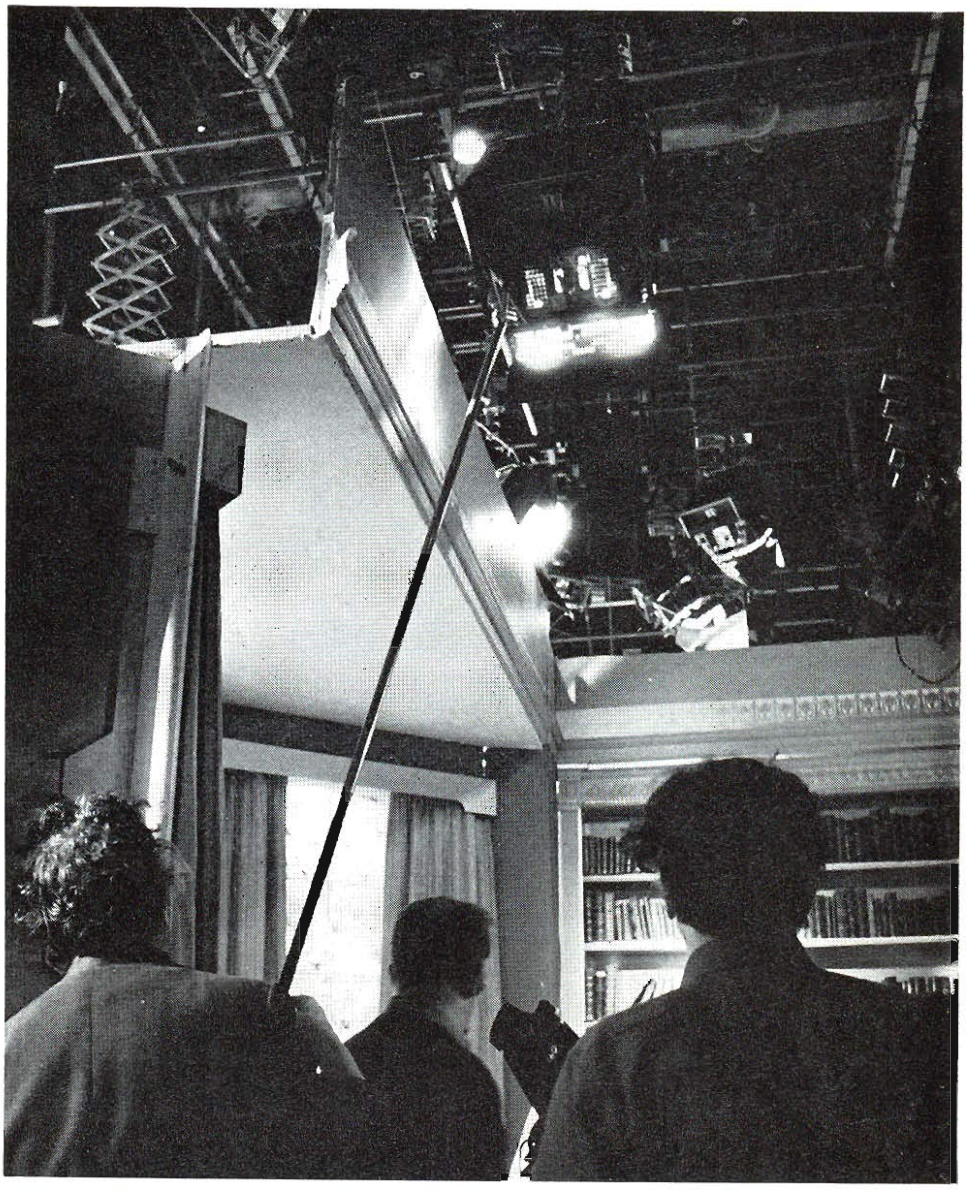
After this run another discussion sorts out any remaining problems and then Peter Harris goes away to prepare his Plot. He will now have about 24 hours to light in his mind's eye the ten or more separate scenes to be built in the studio, remembering the multiplicity of camera angles, actor positions, real and presumed natural light sources and the three dimensional maze of obstructions made up from bits of scenery, microphone booms, cameras, other lights and actors that could ruin the effect he hopes to create. Between 100 and 200 lantern positions will have to be chosen from the generous but finite range open to him and they all have to be marked on the plot—a ground plan of the studio—giving details of direction, power, colour filter and circuit number. Choice of power —5 kW or 2½ kW—is provided by special two-filament lamps, something like the motorcar stop/tail lamp. This choice can again be made with the pole by operating a switch on the lantern, but it saves time if this can be marked on the plan when the low power is wanted, otherwise the switch will be set for 5 kW. As much routine detail as possible is pre-printed onto the plot blanks, but simple outlines of the scenery have to be marked up before the lanterns can be added. Peter spends five hours on his plot in the drawing office at Television Centre—about normal for this type of production. He then sends two copies to the studio electrician's office and keeps two or more for himself. He may hand-colour all four prints to show the colour filters he wants, adding the colour number as a margin note. And he, or his

TM 2, will probably draw up a list showing the circuit numbers to be used on each set to help when making up memories the following morning.

The play Peter is to light will be recorded in Studio 4 where the accompanying photographs were taken. Normally programmes follow each other into the studio without any gap. While Peter is making out his plot Studio 4 is rehearsing *Z Cars* and the episode will be recorded that evening, finishing at about 10 p.m. As soon as it is over the outgoing crew strike floor lights and "practicals" and raise the lighting hoists clear of the scenery. The scene crew then clear all the *Z Cars* sets onto trucks and out of the studio. When the floor is clear the night duty electricians —the Night Crew—lower the lights to floor level and start to reposition all those wanted for Peter Harris's plot for the following day. They ensure that every lantern is in the correct place, pointing in approximately the right direction, is switched to be soft or hard, 5 kW or 2½ kW, and with the barndoors set and colours fitted as noted on the plot. When this is finished, usually by 3 a.m., the lights are hauled high up and the scenery for Peter's play is brought in, usually preceded by a machine to paint carpet patterns, cobble stones or floor boards onto the studio floor.

Lighting starts in earnest at 9 a.m. Peter Harris arrives and starts to work, lantern by lantern, to light the sets already completed. Working with three or four electricians, the poles are used to "fine set" the lanterns at a rate of about one every two minutes. The Vision Supervisor simultaneously makes up memories at the lighting console and, with the aid of a radio telephone "walkie-talkie" turns on or off the lights Peter Harris wants to adjust in the studio. Often the TM2 will do the first adjustments in some agreed area to gain experience and to help things along. By lunch time all the fine setting should have been done and the VS will have made up the memories on Peter's list plus several more that he expects will prove useful. He will also have looked over the script and his copy of the lighting plot to mark up notes to help him offer up the appropriate lighting as the rehearsal proceeds.

Camera rehearsal begins at 2.00. Because the play is to run for 90 minutes the studio will be available for three days. A 50 minute play would get two days and a 30 minute play only one day starting at 10.30 am. Whatever the running time the rehearsal divides into three main phases. The first, often called the "walk through", introduces the cameramen to the play for the first time and allows the actors to find their way about real scenery. Everything happens very slowly as notes are taken and alternatives considered and decisions made. This rehearsal may take the rest of the day until 10 p.m. For lighting this period is critically important. Each shot can be seen for the first time on the screen and assessed and adjusted using the dimmers. Notes are made for improving the lantern settings. Dimmer adjustments



A studio electrician uses a pole to adjust a Dual-Purpose lantern working as a spotlight.

are made at every possible opportunity whenever the cameras catch a new view of a scene or the actors move to new positions. When the actors are not actually acting in a set the noted adjustments to the lantern settings can be made with the help of the pole. And occasionally new lanterns have to be brought into use to correct unexpected dark spots or changes in shooting angle. With luck, this is achieved by switching on a lamp already hanging in more or less the right position from among the permanent rig. Otherwise the hoist has to be lowered and a new lamp hung.

The second phase of rehearsal, the first run-through, starts at 10.30 the following morning. By now the sets should be fully dressed and Peter Harris may again have arrived soon after 9 a.m. to fine-set lights on parts of the set that were not ready on the previous day. Camera rehearsal now proceeds at a far more realistic pace but still stops whenever a snag turns up. Again, Peter Harris keeps a close watch on the picture monitors in the Vision Control Room to make improvement after improvement to the dimmer balance. Now the dimmer level memory is invaluable and instant access to adjust the intensity of every light affecting the camera picture essential. A mimic diagram laid out like his lighting plot helps to keep track of the lanterns that might need attention. When in any doubt Peter switches lamps off briefly one at a time to be sure that he makes his adjustments to exactly the right one. The memories can be used for the same purpose, switching on or off whole groups of lights to check their contribution to the picture on the screen. The second day ends after two to three runs at 10 p.m.

Day three may start with another stopping run through, usually beginning about 11 a.m. The third phase, the final run through (the dress rehearsal), will begin in the afternoon and will be non-stop to check timing if humanly possible. Lighting adjustments still go on, though with more discretion, and indeed they may still be necessary during the recording if some new factor turns up. During the final run the rest of the Realisation Team gather in the Production or Vision Control Room so that they can all see the result of their efforts on

a standardised picture monitor. Final agreement can then be reached about any remaining problems.

The recording can be something of an anti-climax. If all has gone well the supper break—usually 6–7 p.m.—has been an opportunity for relaxation. After a check on the line-up of the cameras the recording begins at 7.30. It may be taped in one continuous run, but nowadays it is more likely to be done in several sequences to allow for costume and makeup changes. If anything goes seriously wrong bits can be done again, but very little time is allowed for this. The idea is to get it right first time.

Peter sits at the console next to the Vision Supervisor during the recording ready to make adjustment whenever he thinks necessary. The VS follows the script and carries out the main lighting cues. He is helped by the ever present voices of the Director and his secretary on talkback calling shot numbers and giving a running description of everything that has to happen. There may be a few lighting cues obviously related to the action; switching on a room light for example, but blackouts and scene changes can best be done by switching the cameras. But there are other, subtler lighting changes designed to keep the lighting balance as near perfect as possible. These should never be seen by the viewer at home. And a third type, unnecessary in the theatre; simply turning off lights in unused sets to save power. As far as possible all these have been noted on the script and rehearsed, but changes of plan do occur and can lead to improvisation while a recording is under way; another reason why the lighting console has to be as flexible and snare-free as possible.

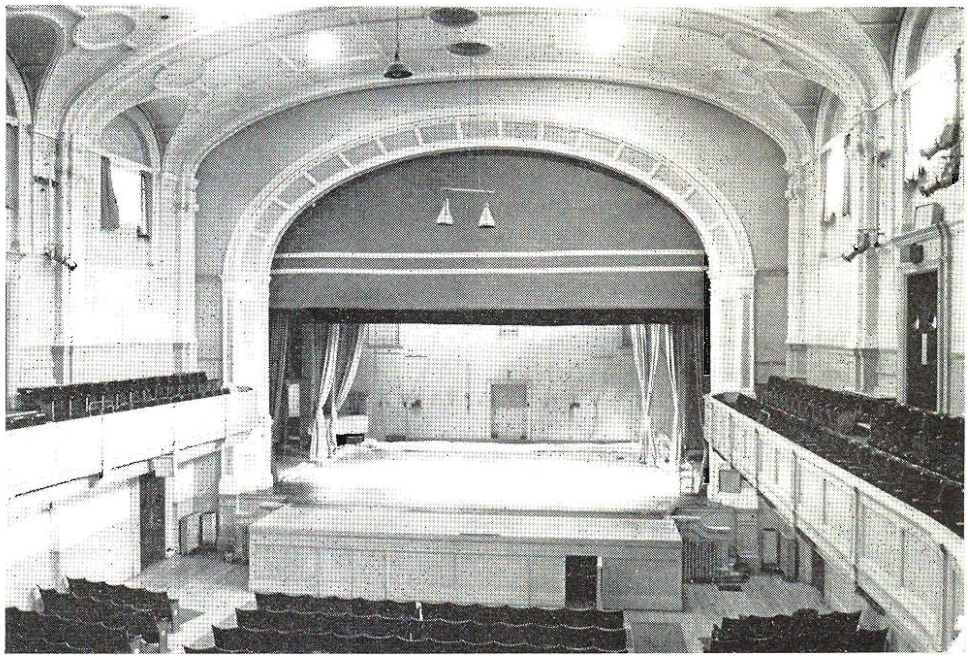
When it is all over there may be just time for a drink before closing time, but often Peter prefers to go straight home to be ready for another planning meeting the following morning.

The author would like to thank the Director of Engineering of the BBC for giving permission to publish this article and Bill Poole, Dennis Channon and the lighting staff at Television Centre; but for whose advice, assistance and tolerance this inadequate portrait of a fictitious colleague could not have been written.

From TABS
December 1947

Like all other arts, that of stage lighting has its own fashions, prejudices, traditions and jargon and the real artist will explore all but will avoid slavish adherence to any. He will for ever be striving for that consummate achievement that brings the glow of exaltation . . . and the poignant pang of its impermanence.

Percy Corry



Adam Smith Centre in Kirkcaldy

The original building was opened in 1899 and externally is very much the same today, a style which could be described as weathered Municipal Gothic. Originally it housed the public library and two multi-purpose halls, one large and the other even larger.

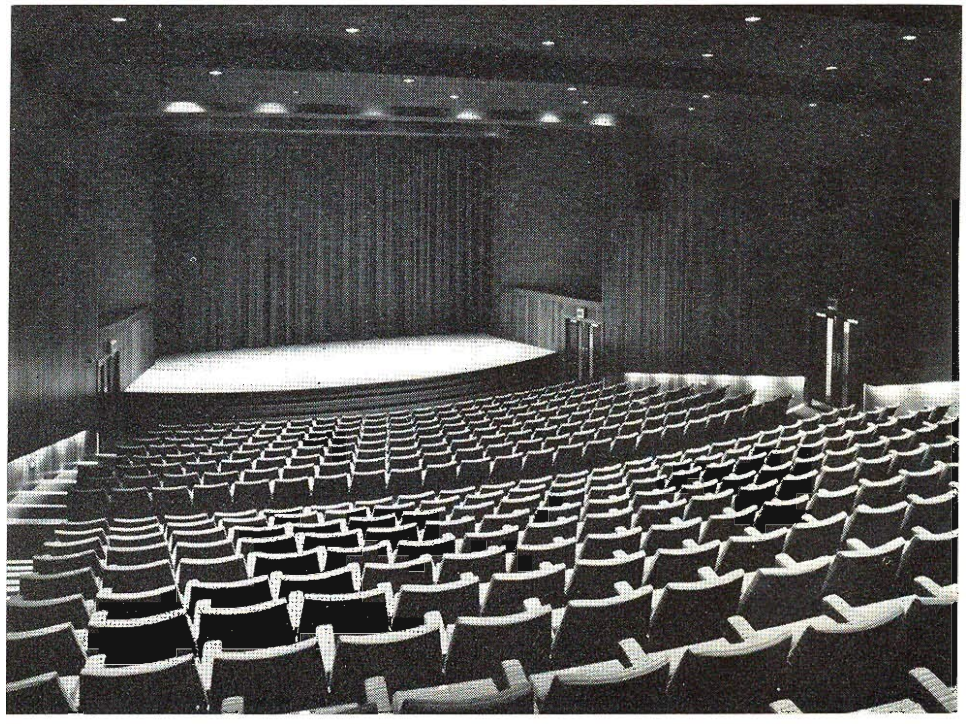
The smaller Beveridge Hall remains largely unchanged, but an over-all pipe grid and a lighting and sound control room have been added for day-time use as a Drama Studio by the Fife Education Authority without precluding its use for other flat-floor activities.

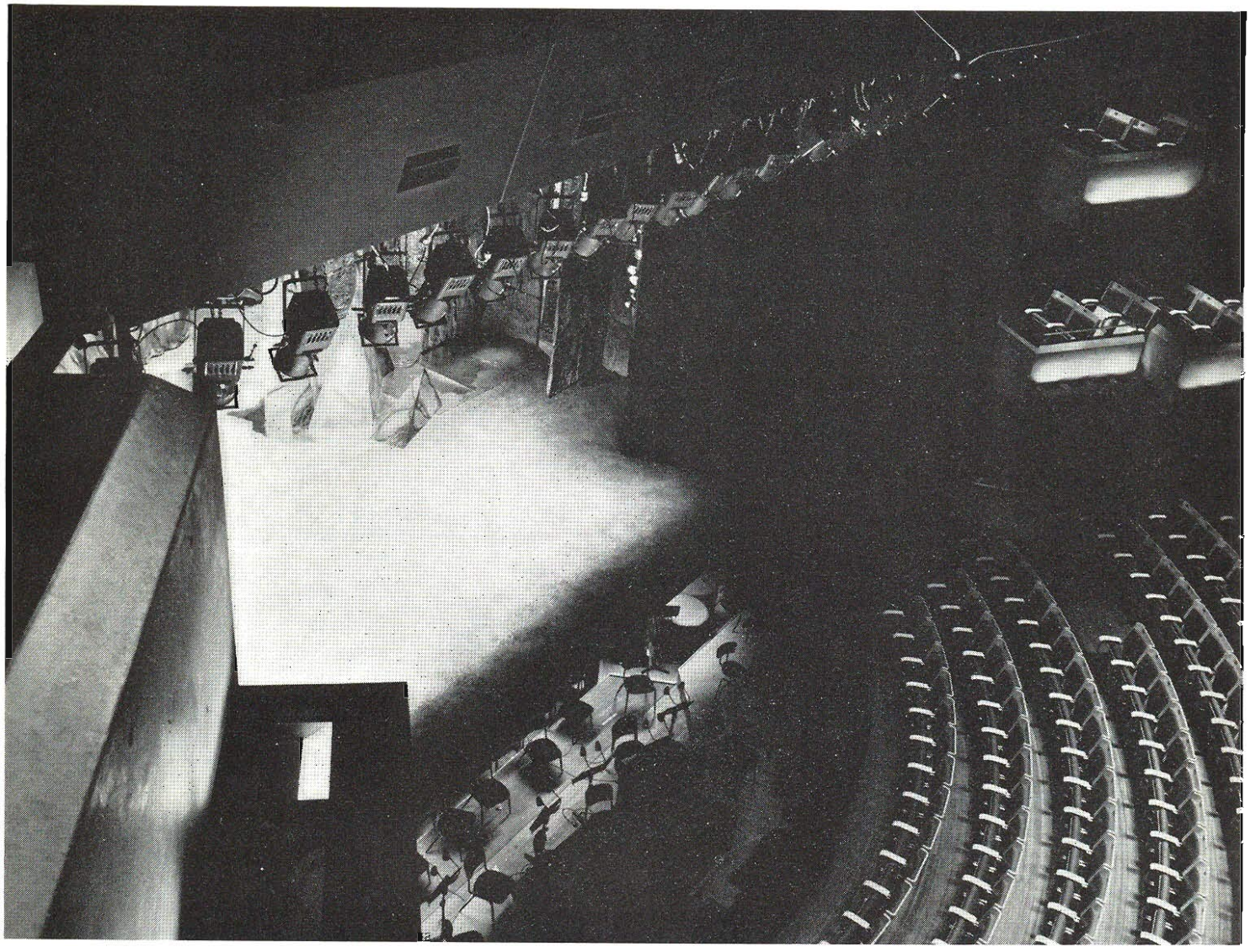
The other hall has been transformed from a voluminous cavern into a very attractive and comfortable theatre. A feature throughout the centre is the standard of all surface finishes; there has been no skimping either in specification or execution.

Backstage is less than ideal due to a lack of full flying height which has forced the adoption of a roller type safety curtain which in turn forces the No. 1 spot bar upstage on a stage which has neither generous depth nor generous wingspace. There is some compensation in a deep forestage/orchestra pit and the auditorium has two lighting bridges and wall slots. However, remembering the staging problems of the previous hall, the Adam Smith Centre is an excellent example of how a sound but uncomfortable building can be brought up to date. (See the before and after views above and below.)

BRIAN LEGGE

Burgh Architect : D. R. MacGregor ARIBA, ARIAS.
Main Contractors : George Wimpey & Co. Ltd.
Lighting Consultant : Andre Tammes.





Opening Light in Sydney

by ROBERT ORNBO

Part of the fascination of being a lighting designer is overcoming the problems which abound on any production. Opera has its own peculiarities and when I was asked to light the first three new productions at the Sydney Opera House it seemed that fascination was certain. A quick two-day trip to Australia—not to be recommended by the way unless jet-lag is your life style—confirmed that there were plenty of problems to cope with.

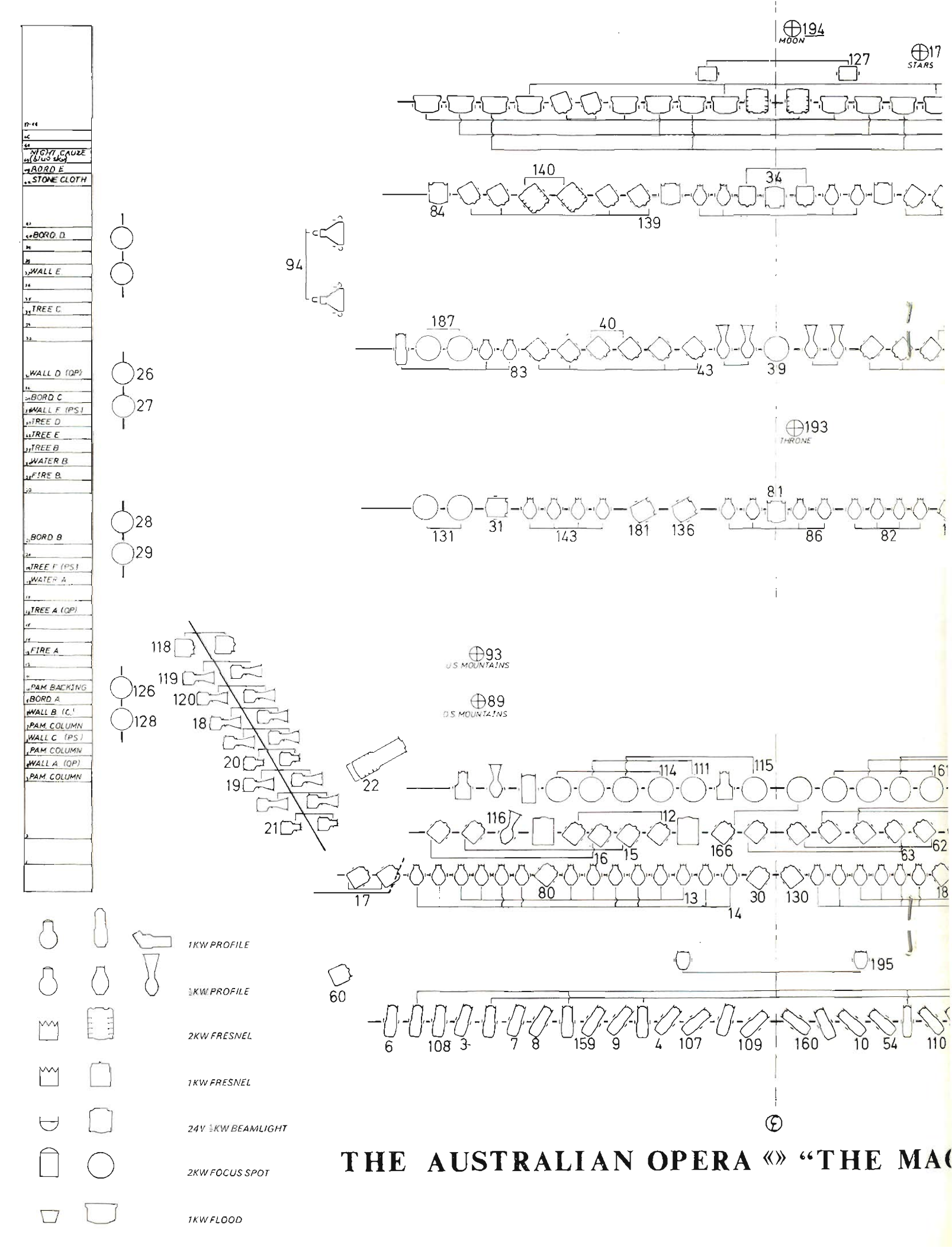
Having a Germanic style bridge and portal towers some two metres upstage meant that the downstage area could only be lit from rather straight on front of house positions. There was no hope of installing pros-booms, so we did battle with the representatives of the architects and eventually obtained permission to install a bar of 30 Patt.764s over the orchestra pit in full view of the audience. I remembered the somewhat caustic remarks from the previous editor of TABS when a complete proscenium arch of Patt. 263s was erected for the musical *Blitz* but I hoped that time and improvement in the look of lanterns would preclude too much outcry from the Australian audiences.

In fact, the orchestra bar was the great saviour in all sorts of situations. Circuits were collected from other FOH. positions which were not to my taste, and 20 lanterns were used to give double colour coverage from two angles into five downstage areas. The other ten lanterns were looped into two 5 kW circuits to do gobos or colour washes across the whole forestage. All these were permanently focused, but the colours were changed for each different production.

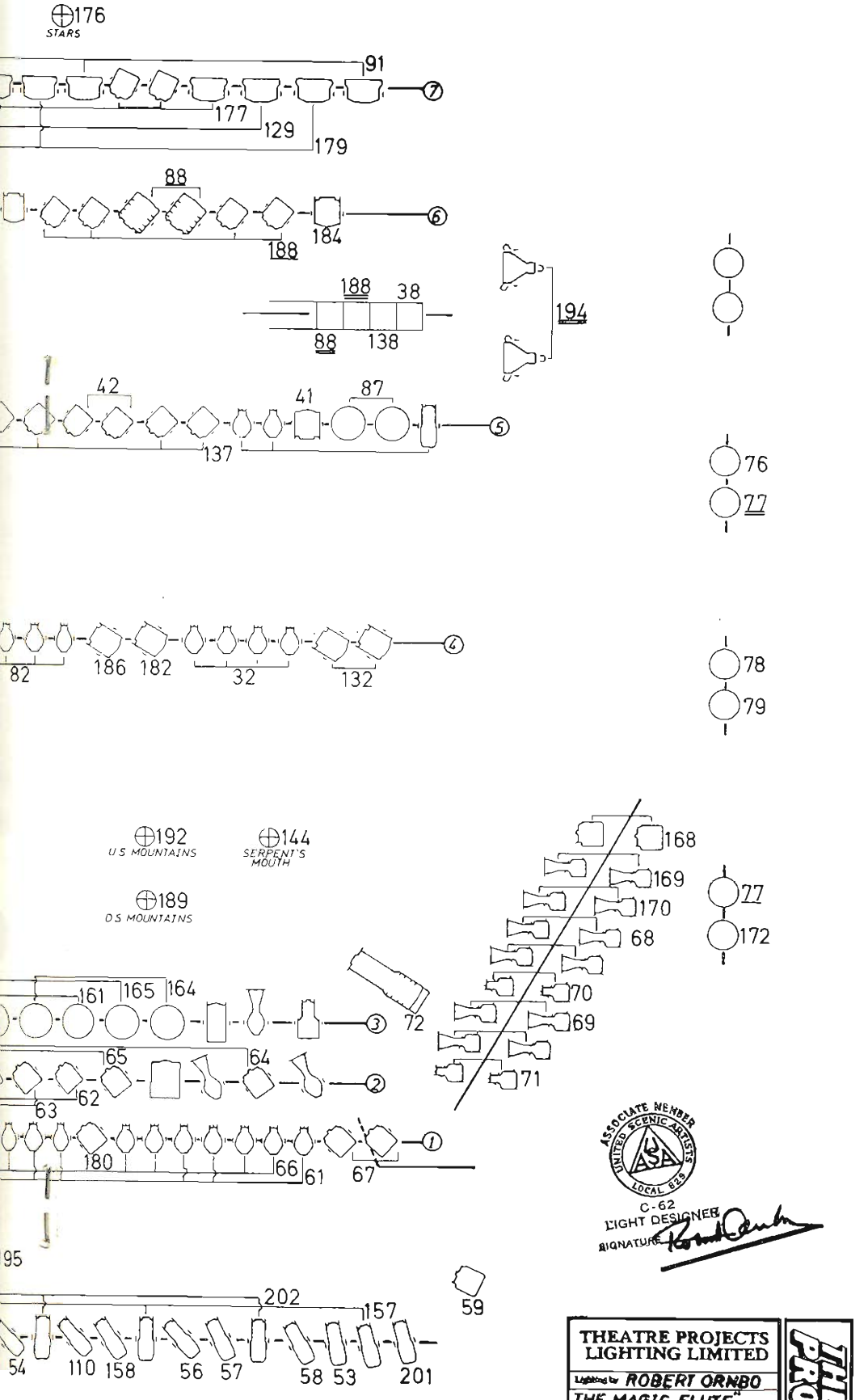
Another problem was that most of the equipment installed in the Opera Theatre had been specified and purchased ten years ago and almost everything seemed to be something like a large 2 kW Patt. 43. Fortunately, the Australian Opera Company tours a fairly large rig of Patt. 23s, Patt. 23Ns and Patt. 223s, and we were also able to sneak into the other auditoria in the complex and "borrow" some gear. I believe the Old Tote Company were a little surprised at the paucity of the installation in their Drama Theatre.

Many of the other problems were the same as in repertory houses throughout the world—not enough room in the grid, time running out at an alarming rate and lanterns being bashed by enthusiastic scenery movers. One which I had not met before came with the installation of a large plastic acoustical sausage which hung in the auditorium over the audience and aggravated the problem of lighting a downstage gauze. Two Patt. 123s in the orchestra pit on specially constructed brackets provided the answer to this and by the time I left Sydney the number had escalated to five. As the pit wasn't really big enough for the musicians this represented a real collaboration between lighting and sound.

New switchboards are always regarded with some suspicion by lighting designers and my wariness of the machine in the control room at the back of the auditorium was not without reason. Its teething troubles caused plenty of headaches not only to the German manufacturers but also to the ventilation engineers. Heat seemed to



THE AUSTRALIAN OPERA «» "THE MA



ASSOCIATE MEMBER UNITED SCENIC ARTISTS LOCAL 829 USA

C-62
LIGHT DESIGNER
SIGNATURE

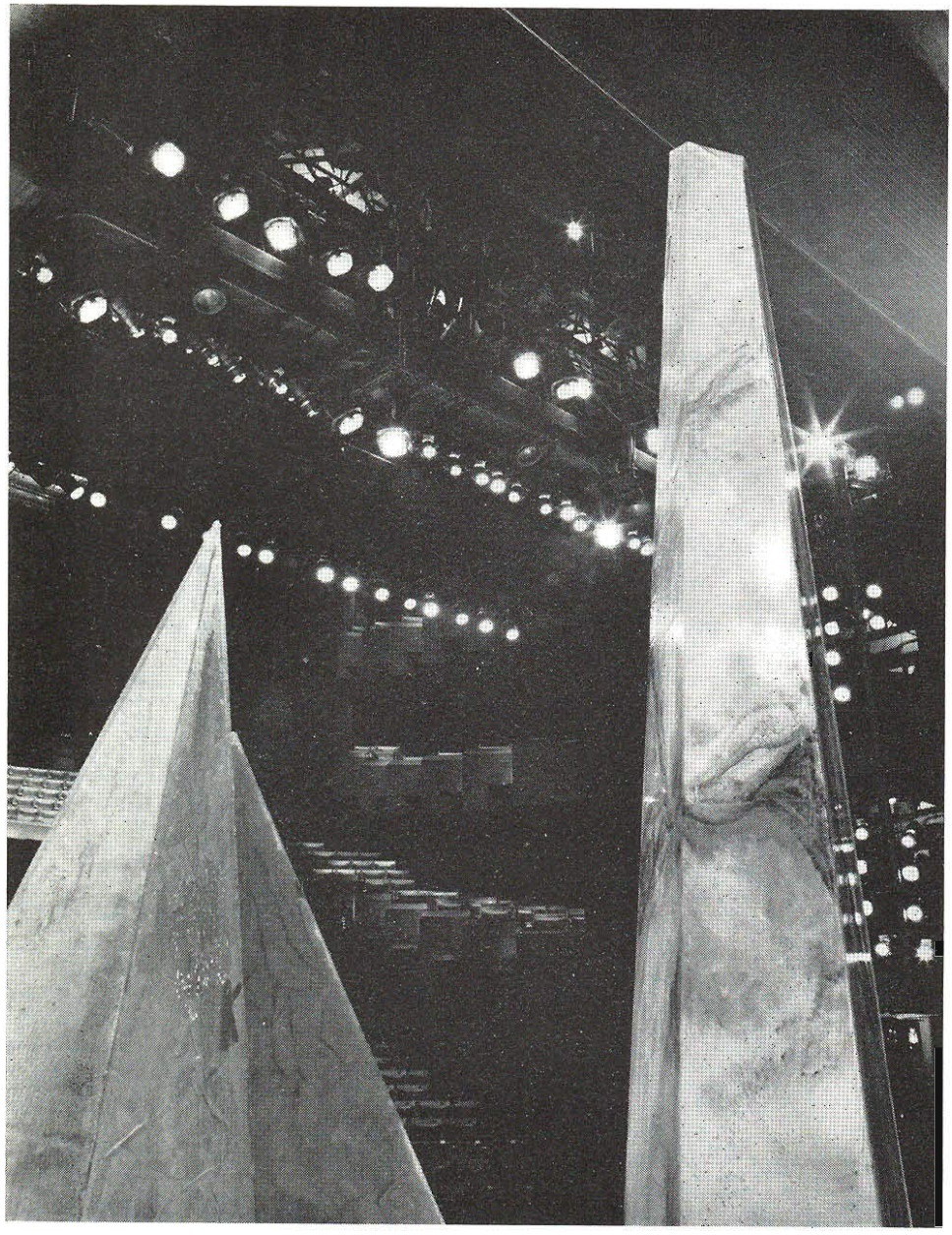
THEATRE PROJECTS LIGHTING LIMITED

Lighting by ROBERT ORNBO
"THE MAGIC FLUTE"
SYDNEY OPERA HOUSE
Drawing No. 2
Scale 1:24
Drawn A.R.M.
Date 30.11.1973
Checked
10 Long Acre, London WC2. 01-836 7879

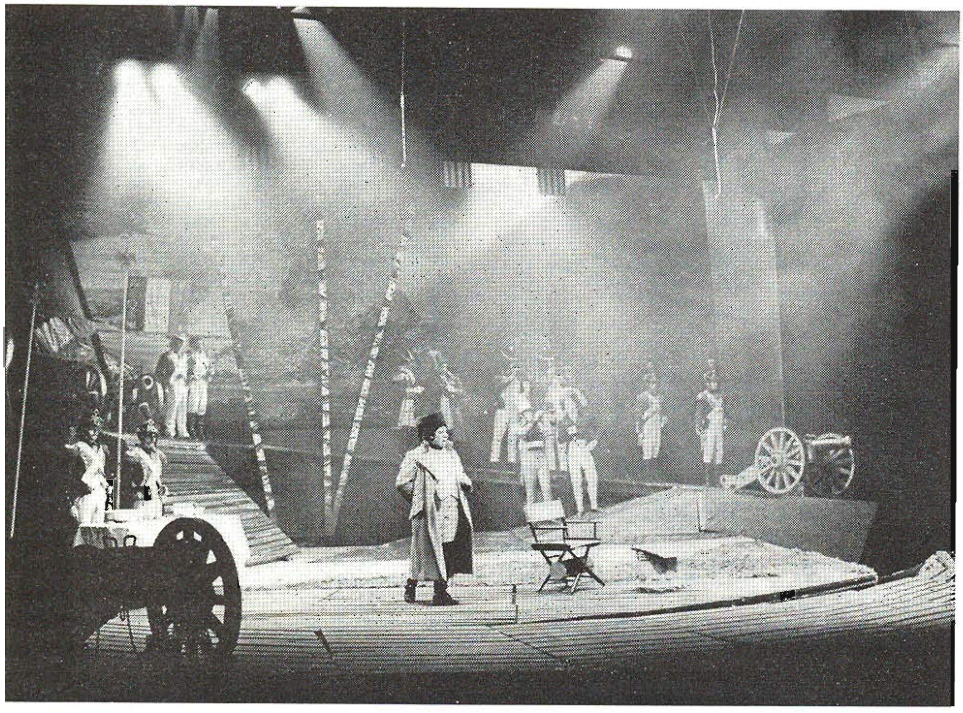
THEATRE PROJECTS

MAGIC FLUTE"

Channel No.	Location	Lanterns	Colour
3	FOH	1 × prof	52
4	FOH	1 × prof	17
6	FOH	1 × prof	52
7	FOH	1 × prof	17
8	FOH	1 × prof	52
9	FOH	1 × prof	52
10	FOH	1 × prof	17
12	Bar 2	2 × fres	43
13	Bar 1	6 × prof	38–50–G
14	Bar 1	8 × prof	18–40–42–43–G
15	Bar 2	2 × fres	17
16	Bar 2	2 × fres	52
17	Bar 1	2 × fres	17
18	Boom R	2 × prof	5
19	Boom R	2 × prof	17
20	Boom R	2 × prof	38–50–G
21	Boom R	2 × prof	38–50–G
26	Flys R	1 × focus	47
27	Flys R	1 × focus	40
28	Flys R	1 × focus	47
29	Flys R	1 × focus	40
30	Bar 1	1 × fres	47
31	Bar 4	1 × beam	8
32	Bar 4	4 × prof	38–45
34	Bar 6	1 × beam	40
38	Batten	Batten	804
39	Bar 5	1 × focus	40
40	Bar 5	2 × fres	43
41	Bar 5	1 × beam	40
42	Bar 5	2 × fres	43
43	Bar 5	4 × fres	47
53	FOH	1 × prof	52
54	FOH	1 × prof	52
56	FOH	1 × prof	17
57	FOH	1 × prof	52
58	FOH	1 × prof	17
59	FOH	1 × fres	43
60	FOH	1 × fres	43
61	Bar 1	7 × prof	38–50–G
62	Bar 2	2 × fres	43
63	Bar 2	2 × fres	40
64	Bar 2	2 × fres	52
65	Bar 2	2 × fres	17
66	Bar 1	6 × prof	18–40–42–43–G
67	Bar 1	2 × fres	17
68	Boom L	2 × prof	5
69	Boom L	2 × prof	17
70	Boom L	2 × prof	38–50–G
71	Boom L	2 × prof	38–50–G
76	Flys L	1 × focus	3–47
77	Flys L	1 × focus	3–47 or 40
78	Flys L	1 × focus	3–47
79	Flys L	1 × focus	40
80	Bar 1	1 × fres	33
81	Bar 4	1 × beam	33
82	Bar 4	4 × prof	38–50–G
83	Bar 5	3 × prof	40
84	Bar 6	1 × beam	47
86	Bar 4	4 × profile	18–40–42–43–G
87	Bar 5	2 × focus	3
88	Bar 6	2 × fres	43
88	alternative	batten	43
91	Bar 7	4 × flood	40
94	Wing R	2 × flood	17
107	FOH	1 × prof	52
108	FOH	1 × prof	17
109	FOH	1 × prof	17
110	FOH	1 × prof	17
111	Bar 3	2 × focus	43
114	Bar 3	2 × focus	47
115	Bar 3	2 × focus	52
116	Bar 2	1 × prof	40
118	Boom R	2 × fres	52
119	Boom R	2 × prof	17
120	Boom R	2 × prof	47
126	Flys R	1 × focus	47
128	Flys R	1 × focus	40
129	Bar 7	4 × floods	OW
130	Bar I	1 × fres	47
131	Bar 4	2 × focus	47
132	Bar 4	2 × beam	3
136	Bar 4	1 × beam	40
137	Bar 5	4 × fres	50
138	batten	batten	47
139	Bar 6	4 × fres	17
140	Bar 6	2 × fres	33
143	Bar 4	4 × prof	38–50–G
157	FOH	4 × prof	43
158	FOH	1 × prof	52
159	FOH	1 × prof	17
160	FOH	1 × prof	52
161	Bar 3	2 × focus	52
164	Bar 3	2 × focus	47
165	Bar 3	2 × focus	43
166	Bar 1 & 2	fres/focus	40 & 3
168	Boom L	2 × fres	52
169	Boom L	2 × prof	17
170	Boom	2 × prof	40
172	Flys L	1 × focus	40
177	Bar 7	4 × floods	47
179	Bar 7	4 × floods	43
180	Bar 1	1 × fres	40
181	Bar 4	1 × beam	51
182	Bar 4	1 × beam	52
184	Bar 6	1 × beam	47
186	Bar 4	1 × beam	40
187	Bar 5	2 × focus	3
188	Bar 6	4 × fres	50
194	Wing L	2 × flood	17
195	FOH	2 × fres	43
201	FOH	1 × prof	17
202	FOH	4 × prof	47



Problems arising from the location of the lighting positions were overcome by temporary installation of a bar of Patt 764s over the orchestra pit (see pictures of Magic Flute *page 11 and above). The light beams for* War and Peace *(below) show up well in the residual battle smoke.*



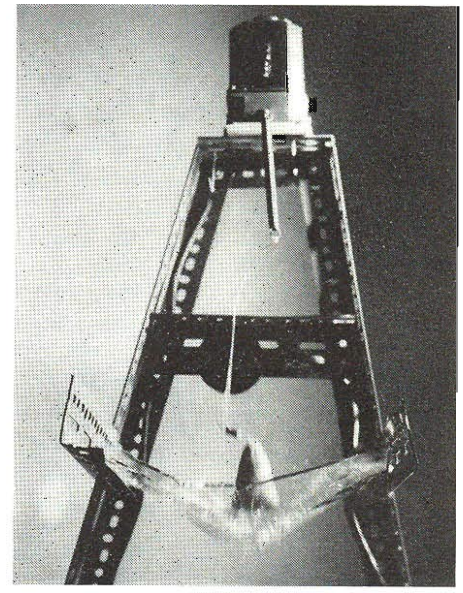
(Photo courtesy Opera magazine)

be a contributing factor and we finished up with an 8-inch grey flexible pipe gushing cool air over the controls. "Nellie the Elephant" as this pipe was known certainly made a major contribution to the success of the productions.

Magic Flute suffered in its production period from the fact that all the cloths (to be both back and front lit) were somewhere on the high seas between England and Australia during our lighting sessions. Eventually all was well and I was pleased with the end result—I can recommend lighting a bare stage from a photograph of the model as an interesting test of "imaginative lighting".

Remote Controlled Precision Glass Crash

Anyone who has worked in an opera house will be familiar with the moment when the rehearsal grinds to a halt because of the difficulties of timing an off-stage effect with the orchestra. Closed circuit television has reduced many of the problems traditionally associated with off-stage choruses, bands and fanfares, but the glass-crash in *Marriage of Figaro* remained a problem until Jim Thomas, Chief Electrician at Glyndebourne Opera, devised a precision glass crash remotely controlled from a



switch on the stage manager's prompt desk.

The construction of the machine will be obvious from the photograph. When the circuit is switched on, a solenoid (adapted from a starter unit) pulls a pin which releases a lead weight. Controlled by a spring, this weight falls on the first sheet of glass and then through to the second one. The broken glass then falls on to more broken glass in the bottom of the tea chest to produce a convincing C-R-A-S-H . . . & . . . t-i-n-k-l-e. The effect is thus precisely controlled in terms of both time and result: unlike the conventional pouring of glass from one bucket into another on a cue light signal.

Correspondence

Dear Editor:
Having known Fred Bentham personally for some two decades and faithfully read TABS for even longer it will seem strange to have a new Editor after 61 issues. Of course, dear new Editor, there is time yet in which to judge your work. Meantime I want to express a hearty thank you to Fred from some of the international readership for all the information as well as strong opinions he has delivered through TABS in the past years. Fred has always been thought-provoking, exhilarating and entertaining, and not infrequently exasperating as well, but one has always known just where TABS stood.

We here in the "colonies" have frequently been the victim of Fred's wrath, no doubt mostly due to our own inability to satisfactorily explain "patch panels" to him. On the other side of the coin we have been the bounteous recipients of Fred's envy due to our lovely early development of ellipsoidal reflector spotlights and Fresnel-lens spotlights and their marvellous 120 volt compact sources. In all cases we have been endlessly charmed by Fred and we shall miss him in TABS.

No doubt his pen will grace the pages of ABTT Newsletters or other documents as yet unborn. Also without doubt Fred will continue to follow the path he enumerated in a letter to me dated 12th December 1961: "Vitality," he wrote, "is all even if it does involve treading on the odd bunion or two."

All best wishes to Fred, and grateful thanks as well.

Sincerely,
JOEL E. RUBIN

¶ Dr. Rubin is Vice-President of Kliegl Bros., Lighting in New York, who are the leading competitors of Rank-Strand in America. He is also the President of the International Organisation of Scenographers and Theatre Technicians (OISTT).

productions will require that many luminaires. Therefore, current thinking in the U.S. is looking very seriously into control patching, by the use of low voltage matrices, to reduce the cost and operational complexity of the console.

This finally, I think, brings us to the heart of the matter of patching. As Francis Reid so clearly pointed out (TABS, September 1973, Vol. 31, No. 3), "The contemporary patch panel is essentially a repertoire device to enable circuits to be replugged from a central point—particularly to transfer blocks of circuits to . . . where they will be most useful . . ."

Thus, I think we will continue to see patching —load or control—used in the U.S. at least, for some time to come. However, we are more nearly approaching, and often attaining, the "ideal" of a dimmer and control per *luminaire* without the expense and complexity of permanently assigning and wiring-up an outlet, a dimmer, and a control channel.

Now, if we could only eliminate that irksome exclamation point.

Very truly yours,
CHARLES LEVY
Executive for Theatre Services
Strand Century Inc. New Jersey.

¶ Having been guilty of an automatic insertion of ! after the number of dimmer channels in a recent U.S. installation of DDM, I decided to discuss patching with Mr. Levy and other American authorities. Not surprisingly, it turns out that we do not really differ in our opinions or our attitudes: it is, as always, merely a matter of communication! (I trust that *this* is an appropriate use of the dreaded exclamation point!) With high quality dimmers becoming cheaper, there is a distinct trend in North America towards systems with a higher number of channels, but the patch panel whether load or control is being retained as an aid to more effective distribution.

One factor which we 220–240 volt Europeans tend to forget is the cable size/weight in a 110 volt system. On an American spot bar (sorry, pipe) the cabling is heavier than the spotlights: the cable to feed one New York lantern is nearly as chunky as the multicore to feed an entire London pipe. And thus, whereas I would quite cheerfully run a hundred feet plus of temporary English cable to reach a socket outlet, the American cable size forces a more critical design of distribution to prevent the temporary cable runs from engulfing the backstage area in elephantine spaghetti.

One of the historical mysteries of lighting control in Britain is that we concentrated on the development of sophisticated channel *group* selection rather than on *level* selection. The resultant systems, although ideal for the slam-bam-wham lighting style of that prime theatrical form the Christmas pantomime placed the developing art of lighting design in corsets. Stand up any London lighting designer who has not been told at some point in his career that he must scale down his ideas to the capability of the control. There have certainly been times when I have sat in the stalls with my eyes shut and declared willingness to lose some of my dimmers in return for a 10-scene preset.

But memories have arrived, most of the historical technical problems have disappeared, and we can have any system that we are prepared to pay for. As America moves towards more dimmers, Europe could move (should move, must move) towards more sophistication in the distribution system: certainly any theatre which is either physically large or adaptable in form will require a patch and touring theatres could benefit from the American system whereby touring companies can pick up FOH circuits on their temporary boards via a central patch.

And so, I *will* try to eliminate that irksome exclamation point, Mr. Levy. In other words, (if I may eliminate the formality as well as the exclamation)———*Sorry, Chuck!*

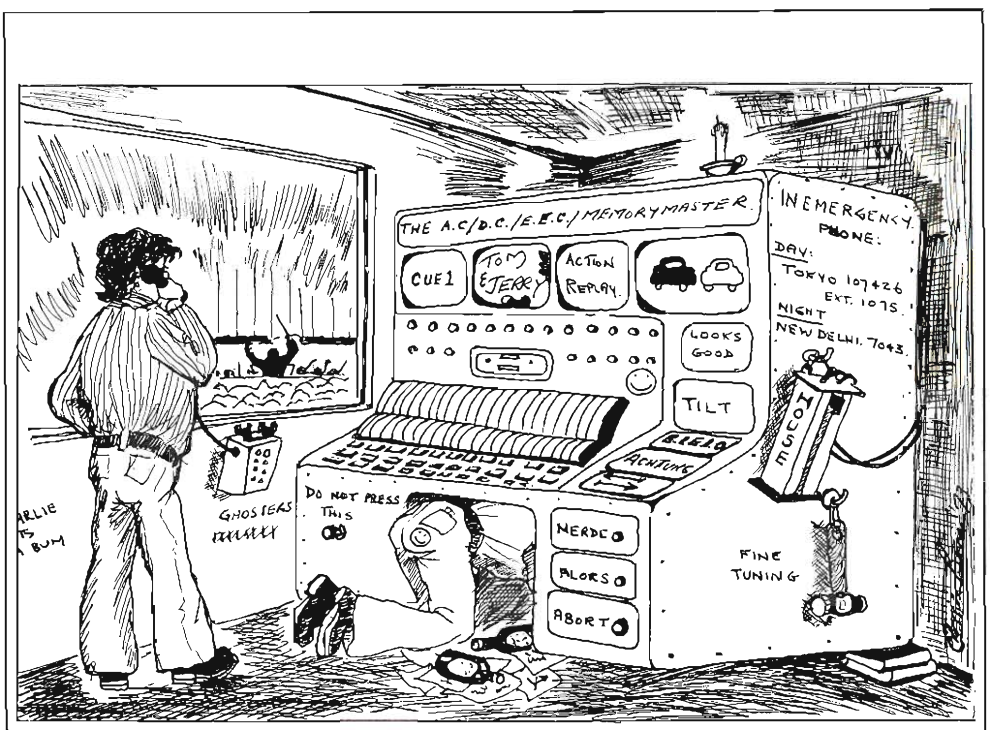
Patching Exclaimed

Dear Sir,

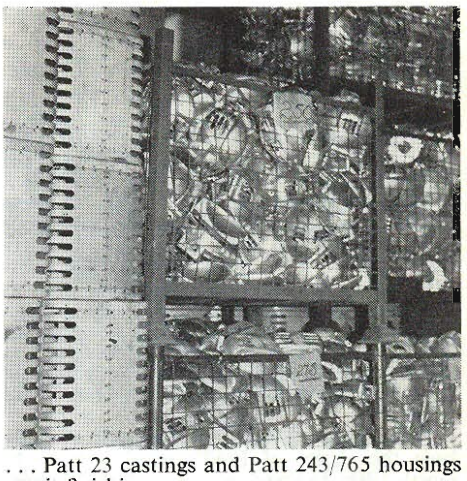
It is possible, I suppose, that my annoyance threshold has become lower over the years. At any rate, it is becoming irksome to see an exclamation point of disbelief after the dimmer quantity in every mention of a U.S. memory system installation. Perhaps it might be worthwhile to take a few minutes to examine the background of patching, which always seems to be treated as some quaint American aberration.

Ever since electronic dimmers and multi-scene *intensity* presetting first came into general use in the U.S., until very recently, it has been less expensive to install fewer large dimmers with a patch panel, rather than many small dimmers (one per outlet). Another factor has been the complexity, size, and cost of preset panels for 200 or 300 control channels. A 240-way, 10-scene preset panel, for instance, would require 2,400 potentiometers, not to mention the time and manpower required to reset 240 potentiometers for every cue during a fast moving show which might have over 100 cues.

Only the recent introduction of memory control systems has begun to make it feasible to consider large quantities of smaller dimmers, achieving or approaching one per outlet. By eliminating the preset panel and the time and labour required to set it up, we have been approaching what many designers have long considered the ideal. However, even with memory systems and low cost, small dimmers it is not always economically or operationally desirable to install a 240-, 300- or 360-way control system. Indeed, many large theatres may require 400, 600, or more, outlets to provide the desired flexibility in location, but very few



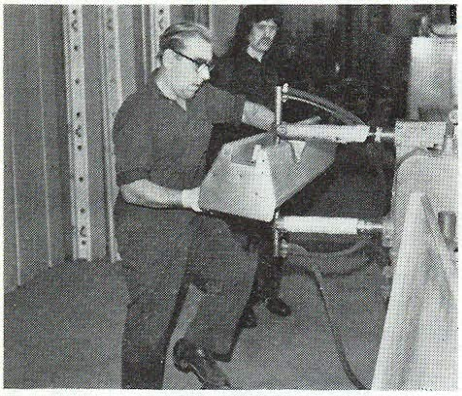
"No real problem—He's only forgotten where he put the cassette." Brian Benn



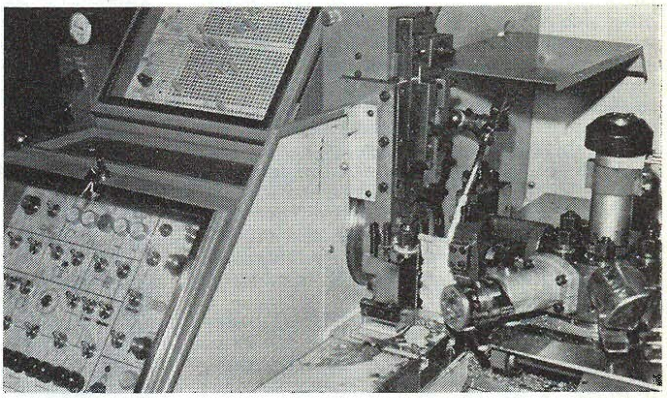
. . . Patt 23 castings and Patt 243/765 housings await finishing . . .

Made in Kirkcaldy

The world-wide growth in the demand for entertainment lighting equipment has brought a somewhat belated industrial revolution to transform what was essentially a cottage industry into a major manufacturing operation in a large factory of which the picture top left shows but a tiny corner.



. . . Battens are assembled by welding mass produced parts . . .

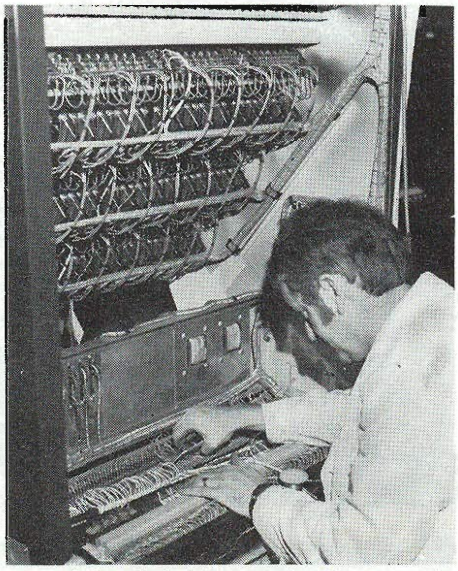


. . . while other processes are totally automated

The metal work for dimmer racks and control desks is fabricated . . .

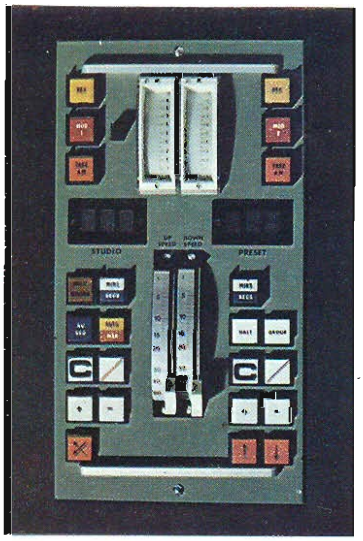
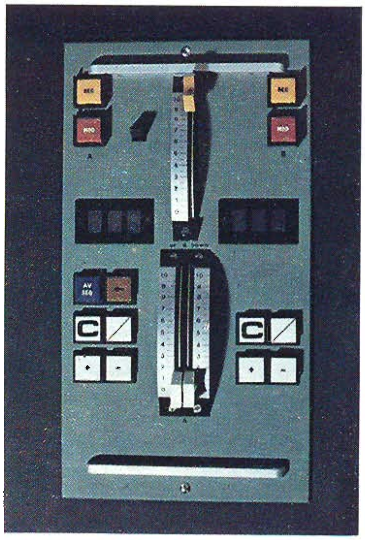
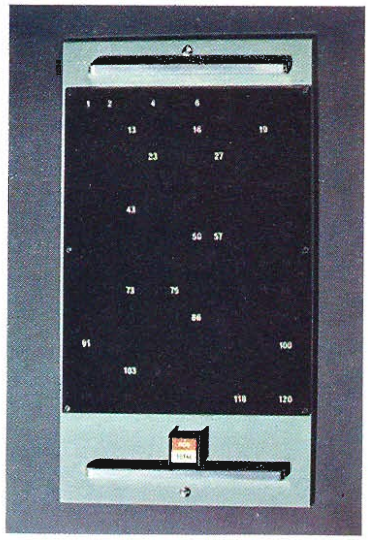
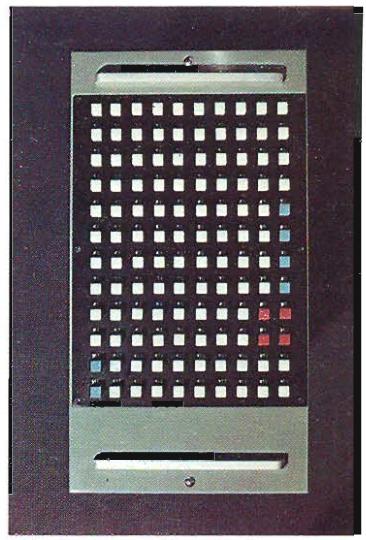
. . . while the channel preset faders are assembled . . .

. . . the control wiring is prepared on a jig. . . .



. . . and the whole lot comes together to make another Threeset.

In the warehouse another palletised load is forklifted for despatch to light up another corner of the world.

The Memory Revolution

A MODULAR TRANSFORMATION SCENE

1974 will become a key date in the calendar of theatre history for it is the year of the Memory Revolution. The year when the mass conversion of all entertainment lighting control to memory begins. In the TABS crystal ball the message is clear: a bloodless revolution virtually completed by 1980, the year when a stage without a memory control will be a historical curiosity. And Broadway will jump straight from 1920 to 1980.

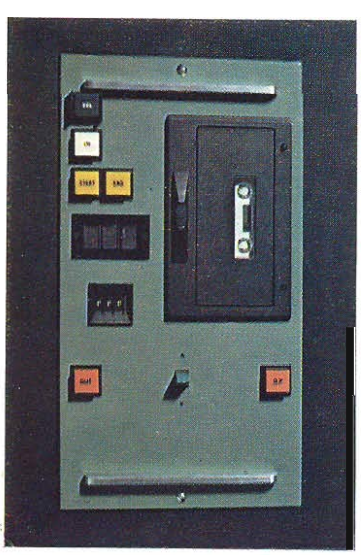
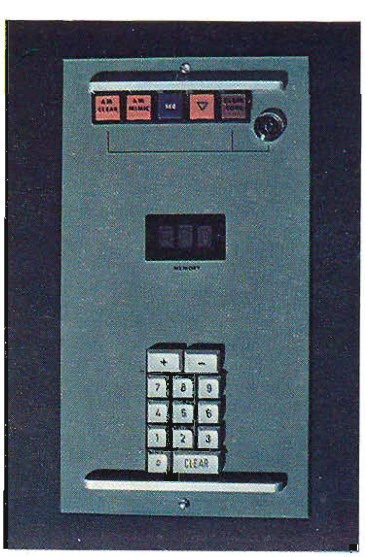
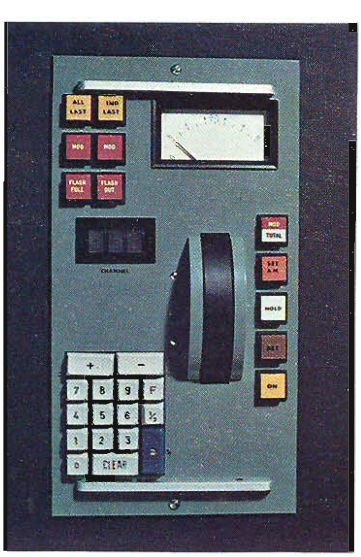
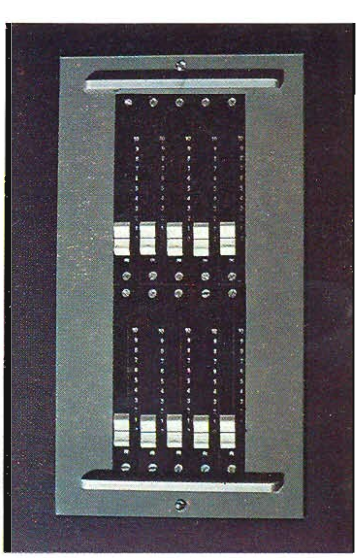
It is appropriate that the *Memo-Rev* should start in the year of Strand Electric's Diamond Jubilee, for the last great control revolution commenced in the year of the Strand Golden Jubilee. That was the Thyristor Revolution. In the 1970s nobody would dream of using any type of dimmer other than a thyristor, yet in the early 1960s, hours, days, and weeks were devoted to discussing the relative merits of resistances, transformers, thyratrons, saturable reactors, magnetic amplifiers, servos, etc., and there were still theatres where the electrician did his daily maintenance with a watering can.

Memories are not new: their use has been accelerating over the past five or six years. Indeed the revolution has been accomplished in Television and memory systems are now the studio norm. In theatres the development has been held back by price, but the combination of a downward trend in system cost and an upward spiral in labour cost has turned memory into the facility that no theatre can afford to be without.

MMS is the catalyst; it is the breakthrough which has made the revolution possible. The success of MMS (Modular Memory System) lies in the fact that it manages to reconcile two requirements which have hitherto seemed to be opposing and totally incompatible: *low cost and custom design*. Modern technology has produced the situation where anything is technically possible—at a price. The very nature of theatre and theatre people makes it inevitable that different people will want different things. There is no technical reason why a lighting man should not draw his ideal control desk and label the knobs with the function he would like them to perform: with the aid of the total software approach of DDM, lubricated by a fat cheque, this can be done. In the case of National Theatres it should be done, and for the South Bank it is being done. In due course, TABS will report this ideal lighting control as envisaged by London's leading international lighting designer.

But the excitement of MMS is that it provides user options at mass production prices. MMS does this by adopting a modular conception where the principal customer preferences (or differences if you prefer it) have been isolated as alternatives: it is a series of compatible bricks from which the user can specify a complete system to be assembled to his personal requirements and purse. And if his purse strings are a touch tight, then he can substitute temporary blank panels for some of the more luxurious items such as tape cassette repertoire storage or remote control.

MMS rightly uses a digital approach

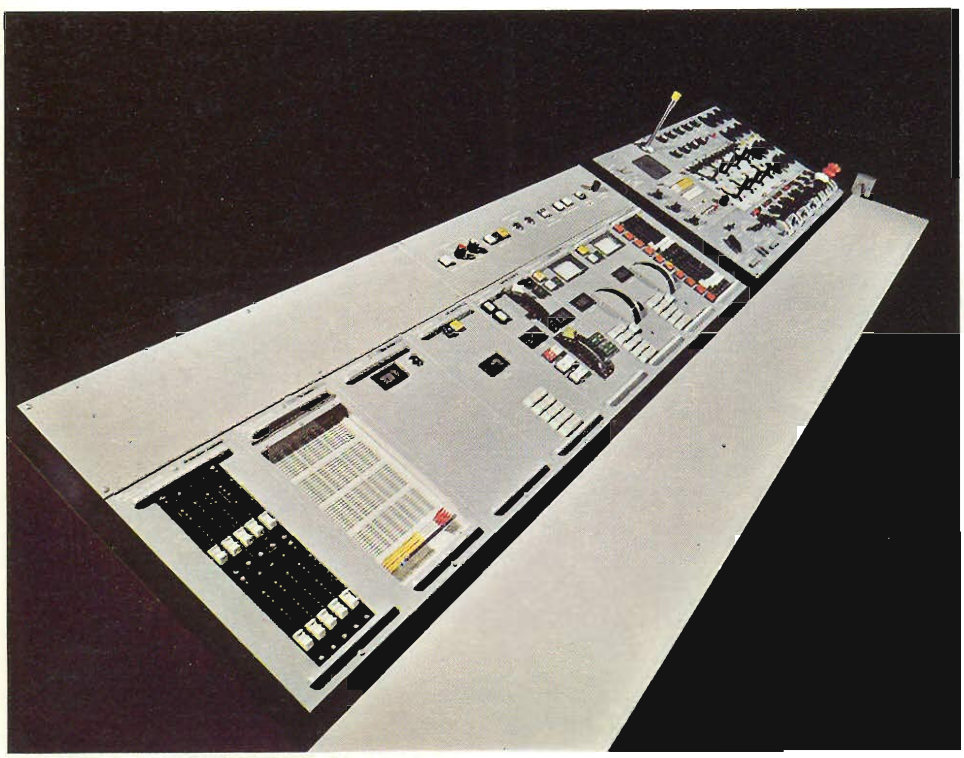
and does not flirt with the costly problems of analogue conversions to conventional dimmer levers. Channel access is by a marvellous breakthrough, the *Channel Fader Wheel* whose comfortable logical movement allows a natural control of channel intensity in terms of both level and rate of change. This wheel can be used in conjunction with a keyboard and display, or if the user prefers a module with one illuminated push per channel, he can choose that option. For playback, there is a choice of manual playback or a rate-playback with sophisticated timing possibilities. Inhibitors, back-up and similar various ancillaries are provided by a general services module used in conjunction with a pin patch matrix.

But it is not the purpose of TABS to catalogue the options or describe the functions: there is ample detailed illustrated literature published for that purpose. The function of TABS is to present reports from the battlefield as the revolution gets under way. There follows a description of the first two installations, one in television and one in theatre. Meanwhile there are Modular Memory Systems under construction for all corners of the world: Sydney, Bradford, Melbourne, Klagenfurt, Mexico City, Dubai, Perth, London BBC, Stavanger, Kuala Lumpur, Southend, Royal Festival Hall and Las Vegas—to name but a random few.

In the Birmingham Hippodrome, the positioning of the MMS control in the stage box gives the operator a tremendous feeling of involvement in the show. This system, the first theatre installation, has 120 channels and 130 memories. The normal playback module is next to the stage and falls naturally under the operator's right hand. The desk also contains normal address selector, display, channel selector, core store and back-up faders with associated pin-patch. A special module contains ten faders for non-dim circuits, pushes (duplicated in the pit) for orchestra lights and faders for presentation lighting.

The first Television installation of MMS is in the new TV studio at BBC Wales in Cardiff. This has 200 memories and 80 channels with the display module located not on the desk but with the monitors so that cause (lighting) and effect (picture) both come within the lighting operator's field of vision. The Lighting Control shares a desk with the Vision Control panel. The modules, reading from left to right are: (1) Ancillary Faders; (2) Pin Patch; (3) Core Store; (4) File Selector; (5) Manual Playback; (6) Channel Control; (7) Duplicate Channel Control; (8) Annexe Faders. These annexe faders provide light for a small annexe to the main studio where a one-camera presentation can be made with a minimum of technical staff. In addition to normal back-up facilities, the pin patch allows selection of channels for flashing by means of special timing controls. This extra facility is for light entertainment, the main functions of the studio being light entertainment and current affairs.

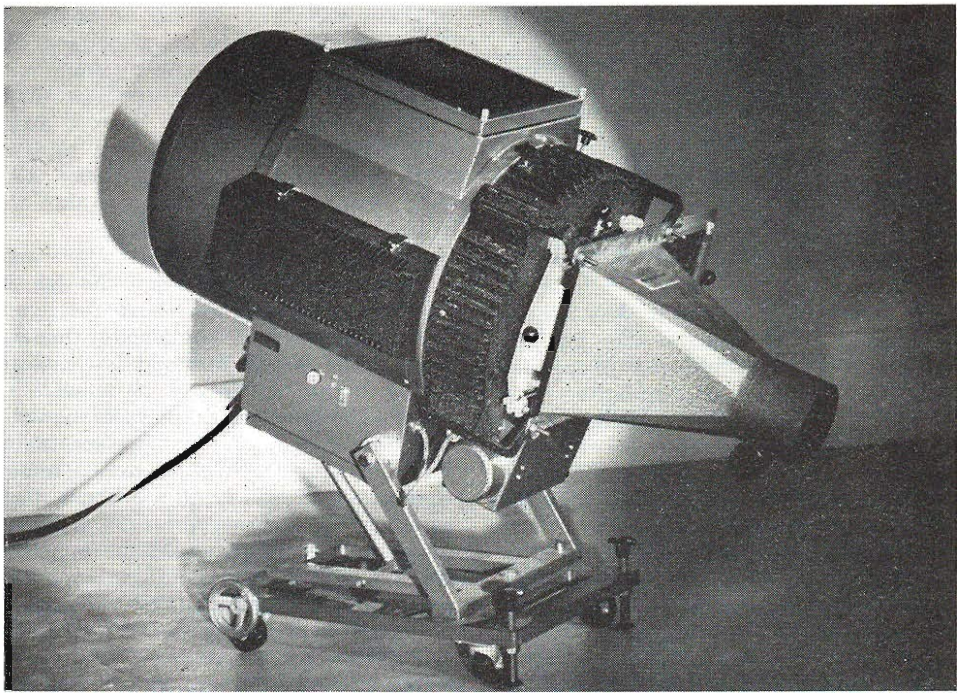
Birmingham Hippodrome



MMS control for BBC Wales.

Projection Developments

High Intensity Scene Projection



The major problem of scenic projection is to achieve sufficient brightness. It is easy to produce a good picture when there is little or no actor light on the stage, but even with the most careful focusing and directional control, any appreciable increase in the intensity of actor light inevitably tends to wash out the effectiveness of the projection.

However, Ludwig Pani have made a major breakthrough by producing a projector utilising a 4 kW halogen metal vapour lamp. This lamp is a member of the CSI family whose 1 kW version has already revolutionised follow-spotting equipment. Such lamps, of course, need special starting equipment and the source cannot be dimmed by conventional means. The Pani BP4 HM1 projector is equipped, therefore, with a mechanical dimming shutter operable via a servo from any conventional thyristor, transformer or magnetic amplifier dimmer.

These projectors were used with great success at last year's Bayreuth Festival, and other German installations include the Munich State Opera. They will perform a major role in the forthcoming *Svoboda Ring* at the Royal Opera House in London —an event which TABS hopes to report in some detail in a later issue.

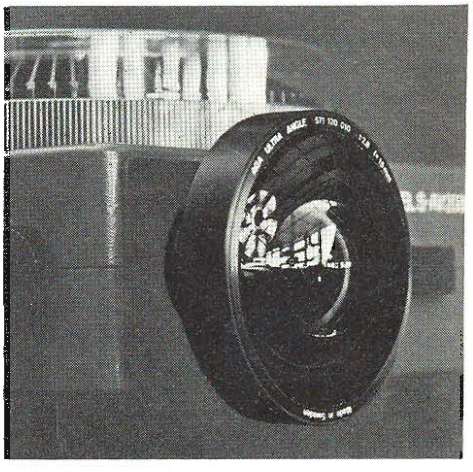
Lens	5 m		10 m		15 m		20 m		25 m		30 m	
	Lux	Size	Lux	Size	Lux	Size	Lux	Size	Lux	Size	Lux	Size
18 cm/1:2·7	3540	4·53	880	9·28	390	13·97	220	18·71	140	23·44	100	28·13
22 cm/1:2·8	3700	3·69	925	7·54	410	11·42	230	15·30	150	19·14	105	22·98
27 cm/1:3	4700	2·98	1170	6·13	520	9·28	300	12·42	190	15·57	130	18·71
33 cm/1:3·5	5700	2·40	1420	4·98	630	7·54	360	10·13	230	12·71	160	15·30
40 cm/1:4	7600	1·95	1890	4·08	840	6·20	470	8·33	300	10·45	210	12·58
50 cm/1:4	10100	1·53	2600	3·23	1160	4·93	650	6·62	420	8·33	290	10·03

If you like this new style TABS make sure of getting the Sept. number by filling in the postcard in this issue and returning by 17th MAY

Rear Projection With Minimum Throw . . .

On the smaller (i.e. non-operatic) stage a lot of interesting projection is being carried out with 35mm transparencies, normally in souped-up carousels as used in the recent London production of *I and Albert* which was featured in TABS, Vol. 31, No 2.

Difficulties often arise in designing the set to accommodate the required throw distance between projector and screen. However, a new Swedish lens, imported into the UK by Electrosonics, offers exciting possibilities. This 15mm *Aga Ultra-Angle* f2.8 lens will produce a 10 ft. wide picture at a throw of 4 ft. With careful lighting of the acting area by profile spots, this would appear to make rear projection practical on the smallest stage.



The First 10 Spots

by FRANCIS REID

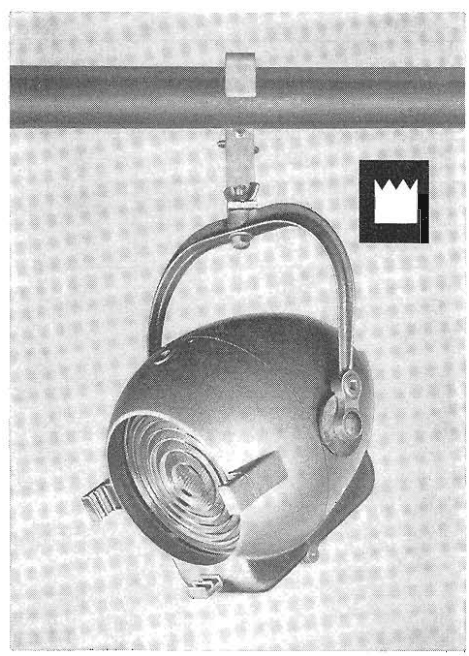
"What is the very minimum lighting installation?"
"How can I build up a lighting layout by easy steps?"
"We have no equipment at all, how can I start?"
"We could borrow a few lights from the County Drama Adviser's stock, but we just don't know what to ask for."
"I think the treasurer might let us have an occasional £20 after a successful show; could we do anything with that?"
"There are no lights in the hall, but I've just been put on the committee: what should I push for?"

These are typical questions that I have been asked at lectures and they are just about the most difficult ones to answer. Just how does one start when faced with a bare stage, no lights and little money? Or, worse still, when faced with a stage equipped with someone's miniaturised memory of the flooding equipment of a 1930 variety theatre?

In offering this step-by-step solution to the problem, I am not attempting to put forward a cut or dried method of building a lighting rig. But by discussing the reasons behind my positioning of the spots, I hope that I may at least provide some food for thought for those worried by basic considerations in lighting. And do please remember that this is a *personal* view. Traditional advice on basic stage lighting usually includes a high proportion of floods: my first ten lighting units are all spots.

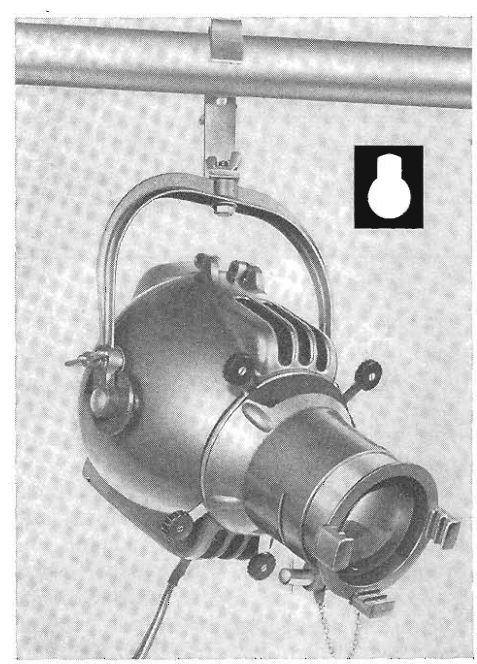
I hope that nobody has to start as low down the scale as step one, but if anyone does, there is only one light to acquire and one place to put it. The spot is a Fresnel; it would normally be a Patt. 123 (500 watts) and the position is centre auditorium ceiling. The distance of the spot from the stage will depend on the width of the acting area. The scientifically minded will be able to calculate this throw distance from the beam angles quoted in the stage lighting catalogue or compendium. Personally I find such mathematical excercises a strain to the point that I can never believe that my answer could possibly be right. Having fed my family off the fruits of light for some twenty years, I have accumulated enough experience to substitute *Thumb's Law* for most of the calculations of lighting. To those without such experience, I would suggest the use of my technique for getting to know new equipment. When a new spotlight hits the market, I can usually be seen assessing the throw by wandering around a theatre with the thing tucked underneath my arm and a trailing cable creating havoc in my wake.

However, the limiting factor in placing a spotlight in the auditorium is rarely the lack of ability to choose the theoretically correct position: it is the difficulty of finding any position which is architecturally possible while being even remotely suitable. In the small hall, the problem is usually one of achieving sufficient height. If the light hits the actors at a near horizontal angle it will have, to put it mildly, a flattening effect. When the actor faces his audience, his eyes will have no depth and his nose will not stick out: a problem which increases with the distance between actor and audience and therefore not so vital in a tiny hall. A bigger problem with horizontal lighting in any size of auditorium is that the shadows will be life size. As the angle of light increases, the shadows will decrease until the point where the light is coming vertically from above the actor and the shadow is all contained within the area of the actor's feet and is therefore barely noticeable. But such a vertical light, if the only source, plays havoc with the actor's face: the eyes become black sockets and the highlighted nose assumes Cyrano de Bergerac proportions. Few actors use the nose as a principal means of dramatic expression, and their main acting features, the eyes and mouth, are in darkness. The compromise angle to produce a visible sculptured actor with a shadow of proportions that he can dominate is somewhere within the range of 45 to 70 degrees.

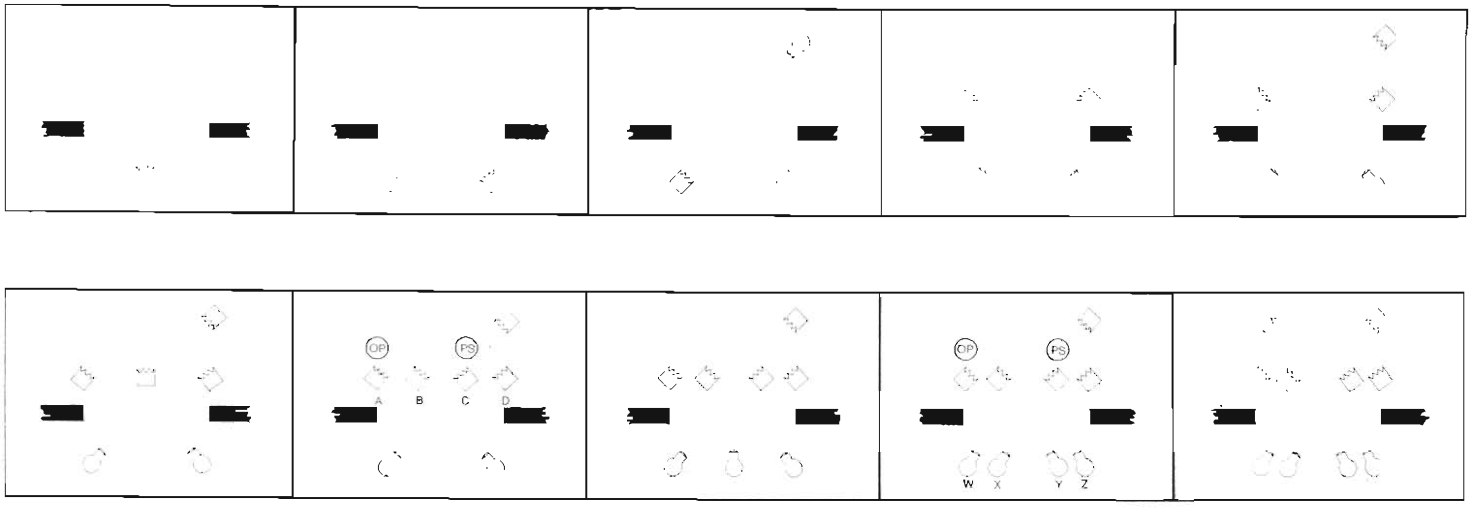


We have therefore positioned our light with a view to attempting fulfilment of two of the basic requirements of stage lighting: to make the action visible and to make it as dimensional as possible. And we have got our priorities right by putting visibility first and foremost: there is no point in the actor acting if the audience cannot see him. With only one light source we are hardly in a position to use light to control the atmosphere, although if the play is generally cheerful I would probably put in a bit of 54 pale rose and if it were sad I should go for 67 steel tint. Light is an important way of selecting the area of the audience's vision and concentrating their attention upon the dramatically significant area of the stage. With but one spot, selection is limited to differentiation between stage and auditorium. This may seem obvious, but I have personally seen small theatres with quite large lighting rigs where this was not achieved and the light spilled all over the proscenium arch, the audience and even the auditorium walls. Our single spot must therefore be focused carefully so that the light is contained within the stage picture: if at all possible the spot should have a barndoor attached to shape the beam because if we select a position of the focus knob to give sufficient width, we shall almost certainly have too much height; and the height of the light should be no higher than to catch the head of an actor standing at the back of the acting area.

If I have dwelt on the use of this single spot, it is because the principles outlined for this solitary source are the basic principles for getting the maximum out of any size of rig. When lighting I suppose that, as I focus each and every spot, I do a quick mental check on whether I am getting the maximum effect of *visibility*, *dimension*, *selectivity*, and *atmosphere*. Unless the rig is big, and certainly bigger than ten spots, then this is also the order of priority.



If I had two spots only, I would place them both in the auditorium ceiling but would use positions towards the side of the auditorium rather than in the centre. If the width between the side walls was not a great deal wider than the proscenium opening, I would put the lamps on the side walls, but if the auditorium was very wide, I would try to choose ceiling positions just



a little further apart than the proscenium width.

All our light is still coming from the front and the scene will therefore be rather flat, but because an actor is receiving light from both sides he is at least a very little bit more solid than when we had one spot only. We can increase this dimensional effect by putting slightly different tints in the spots; say, 51 gold in one spot and 52 pale gold in the other—or perhaps 54 in one and 52 in the other. Or, if it is a cold situation, 17 steel in one and 67 steel tint in the other. Other possibilities are 54 and open white (i.e. no colour) or 17 and open white: it is all a matter of experiment, and indeed, playing with a couple of spots and a bundle of gels is the best way to find out about controlling the colour of the stage picture.

With spot number 3 it is time to go backstage and perhaps it is time to introduce a *key* into the lighting: I like light to have a reason. That reason need not be a logical source such as moon, sun or standard lamp, because it all depends on the style of show that we are doing. It could be a spot shining through a window or it could be just a spot giving cross or backlight: get a pair of steps and experiment—but remember the remarks about height in our discussion of spotlight number one. Back to the checklist! This lamp is really going to start doing something for *dimension*, and by changing colours during the show (think of access when you position the lamp) we can start getting *atmosphere* under control. If we are buying equipment, it is now time to acquire our first profile spot (Patt. 23) which will give us more accurate control of the beam and we can always get interesting effects such as leaf dapples by cutting shapes in cooking foil and inserting in the gate slot (*not* in the colour frame runners)

Another way of dealing with three spots is to have only one in the auditorium and to use the other two focused across the stage from a position immediately behind the proscenium. On the whole, I prefer the two out front, but stage lighting is trial and error . . . and it is only when you have such a small amount of equipment that you have time available for experiment.

If I had four spots only, in the interests of balance I would probably place two spots in the auditorium (or FOH—front-of-house in jargon) and the other pair immediately behind the proscenium to light across the stage. Keep them highish, because apart from considerations of keeping the actor dimensional and his shadow short, if the spots are too low one actor will tend to cut-off the light from another actor. Only sensitive actors can use light to upstage their fellows: insensitive actors cannot even find the light.

By the time we are using four spots, I would favour having all the FOH spots as profiles (i.e. Patt. 23). This has rightly become standard practice because it enables us to contain the light within the proscenium arch and indeed to trim its edges quite accurately by means of the built-in shutters. Moreover, profile spots have less spill outside the main beam, and after all it is the actors that we wish to light, not the audience. Certainly, I have suggested earlier that the first two spots should be Fresnels, but in a desperate situation (and you cannot get more desperate than lighting a play with one or two spots!) the Fresnel has more width to its beam and is much more easy to adjust.

With these four spots we have just the beginnings of selectivity: not the selection of clear cut areas but we could focus the audience attention to one side of the stage or the other . . . if we had dimmers. When do we start introducing dimmers into the scheme of things? If it is a question of buying, not yet. Hiring? Probably not yet. Borrowing? Yes, provided it is not a case of extra spots versus dimmers. I think that spending money on dimming is relatively unwise until you have about six spots, unless you are producing 19th century romantic opera.

Have spot number 5 instead and use it for a key light.

Number six could go centre immediately behind the proscenium. With two crossing spots, you are almost certain to have a dark hole in the middle, so the new spot can focus straight upstage. Perhaps not dead centre for either fixing or focusing: that will depend on the shape of the set. If you have some dimmers, you are now getting increased control of selection of the area of stage that you would like the audience to look at. And as for visibility . . . well the number of dark holes should be decreasing.

Spot seven is a real breakthrough. Four spots behind the proscenium and we can really start talking about Number One Spot Bar without blushing! If we number these spots A, B, C & D, an actor standing on the OP (actor's right) side of the stage would be lit by spots A & C, while an actor standing on PS (actor's left) would be lit by B & D. These spots will not do much for an actor standing immediately underneath them, but that position will be lit from the FOH. When we have only a few spots, the duty of the spot bar is to light upstage.

And yes, you are quite right, the on-stage lighting is now getting out of balance with the FOH, so spot number 8 should go out into the auditorium. Place it centre where it can fill in the gap between the two side FOH, which for architectural reasons have probably had to be positioned too far to the sides. And spot number 9 could be FOH also so that we can carry on with our aim of lighting the actor from both sides to give him as much solidity as possible. If we label these four FOH as W, X, Y & Z, the actor who was lit by A & C upstage will be lit by W & Y when he comes downstage. If this were a programmed learning machine, the next question would be "what lights the actor stepping downstage from B & D?".

But this is not a defined factual way of lighting: it is just one man's thoughts and anyone who has reached spot number 10 by practical experiment will be so full of ideas that he will have dozens of possible uses for it. I think it is quite likely that it will find use as another key light: perhaps one from each side of the stage or perhaps two keys from the same side with a difference of colour or directional quality.

With our ten spots, we have quite an adaptable lighting rig. If the stage requires to vary atmospherically in terms of cold and warm tones, we could split our lamps into blues and pinks, or we could have mainly pinks with just a few blues, or perhaps some neutrals, or . . . but this is a subject for a future TABS.

Tabman's Diary

a personal view

Tabs up

October 31st last had been marked in my diary for some months as Black Wednesday: King Street is to join the list of London's lost theatres and TABS is rumoured to be on a fade to blackout. But at 4 p.m. I am offered the editorial chair and as we gather for Fred's closing colour music recital it is announced that the King Street Theatre is to become a home for the ABTT. Today's expected final curtain has become not even an act drop but merely a quick scene change.

Memopencil

If anything goes wrong with a production schedule, it is always the lighting men who suffer for they can only do their thing after the other technical departments have finished doing theirs. And so today's dress rehearsal for the out-of-town opening of *Cockie* finds me sitting at my Lightset without a plot but with a stage manager's voice saying, "Stand by elex cues 1 to 8 and good luck". Fortunately, Joe Davis has done his homework: the cue positions are marked in the prompt book and we all have lists of cue numbers with timings and short verbal description of the sort of light that is supposed to happen. With interjections from Joe on the lines of "try 27, 32 and 43 then follow on with a three-quarter blue full-up" and "kill 30, 63, 79 and 80 and take the top off the FOH", we provide 125 cues which give the actors and technicians enough indication of what the lights are going to do. At least, when the rehearsal comes to its frequent grinding halts, it is not the fault of the electrics. Surprisingly often we arrive at a cue state for which Joe can say, "Keep that one, its not far out." I have no *record* push to dump the state in a memory store but Gerry is pretty fast with a pencil.

Grandmasterly

Two-day ABTT lighting design course at Edinburgh Lyceum. Get so involved in enjoying *Much Ado About Nothing* that I keep forgetting that I am supposed to be watching the lighting, but after all, good lighting *is* unobtrusive, and I marvel at the skill with which Jimmy and Stella manipulate their geriatric grandmaster to produce crossfades of spectacular smoothness. Shakespeare's low comedians usually give me the groans but Bill Fraser's Dogberry is a wow.

Eddiscope

Eddie Biddle once rescued my lighting of *La Boheme* by suggesting the use of a stopping mask of perforated zinc to convert my projected golf balls into snowflakes. Visiting him in his new Brentford home, I find an Alladin's cave of effects disc specials. Acquire a new ambition to light a revue using twinkling jewels, flying fishes, falling stars and all the other delights.

Rocky Horror Style

The starting point for any lighting design is the search for an appropriate lighting *style* which will complement the production style of the show. For the *Rocky Horror Show* at the King's Road Theatre, Gerry Jenkinson's lighting uses saturated colour and a rig featuring floats, four Patt. 93 follow spots and a hand held torch with supporting cast of spot bar and four booms to parallel and point the action of this delightful rock spoof which gently hammers horror films. The success of all parts of the show including the lighting stem from the hairsbreadth calculation of the closeness between spoof and reality. The performance in this theatre appears splendidly robust, but it depends on an ambience which would not survive in a more conventional theatre but thrives in this roughly converted cinema. It is a further compliment to the lighting to find that it is executed on 24 ways of Mini 2. Watching the show, I would have guessed at least 40 ways plus.

Out Damned Flood

Consulted on the updating of the lighting at Bradford's Library Theatre, I resolve to intensify my campaign against floods as a major light source in schools and multi-purpose halls. Light should fall on the actors and not on the masking arrangements. Concerts and prizegivings? Use spots as vertical downlighters.

Polite Light

Leeds Playhouse wears its purple concrete self-consciously but becomes a theatre as the houselights fade. The lighting of this thrust stage *Canterbury Tales* is delicately balanced and finely controlled, but does its elegant style match the robust bawdy vigour of the playing? I long for the switchboard to break wind.

Vintage Woody

My researches into dimmer history take me to Eastbourne to tape Woody on thyratrons. J. T. W. is in splendid form and I cassette four hours of living history which confirms once more (does anyone doubt it?) that stage lighting is rather more dependent on people than on products. However, there is one product which lighting men usually find essential to their work and I am pleased to report that Woody, having turned to the home manufacture of wine, has a cellar which would add life to any lighting plot.

Memoplot

The ABTT arranges what can only be described as a memory control jamboree. As England's battalions of control system manufacturers rise one by one to propound the merits of their respective knobs, pushes and levers I develop an intense feeling of inferiority. I quail in front of these supermen who wield machines with more master controls than the grandest grandmaster ever had circuit levers. I can feel only guilt that when faced with only six master faders on an opening night, the words "Stand by elex" bring a sinking sensation to the pit of my stomach and a cold sweat to my fevered brow. Resolve to greet every memory salesman in future with the words: "Good morning, May I see your typical plot sheet."

Metallic Mozart

My earliest memory of *Idomeneo* is crawling behind a rostrum to wind up a clockwork flame effect. It is an opera which I frequently play through on the flute with a deficiency in technique and an excess of feeling, but I am glad that I did not take my children to tonight's touring performance, brutally conceived within a clanking aluminium box. Devastated by the horrors of the staging, the orchestra tries to redress the balance by playing with such an excess of elegance that the music loses such dramatic tension that it becomes a serenade: beautiful but not *Idomeneo*. The lighting has some individual attractive moments but is prevented from making a total effect. It remains an enjoyable evening because no matter how much you bash Mozart, there is more left than can be absorbed completely at one hearing. Fortunately, this production is a homeric nod on the part of the Welsh National who are a company normally associated with very imaginative use of (operatically speaking) small budgets.

More Metallic Mozart

This time it is *Don Giovanni* at the Royal Opera House with a design based on what appears to be steel tubes although an interval on-stage inspection reveals that most of the tubes are plastic. Visually it is splendid and dependent on an integration with Bob Bryan's lighting which makes a stylistic contribution to the overall conception. The band play with that controlled tension which is the operatic equivalent of pace in a straight play and my faith is restored in metallic Mozart (correction: *imaginative* metallic Mozart).

Blind Plotting

Cockie in London and still no plotting time. While Joe sets the lamps, I lock myself in a dressing room with Paul Covell, the Vaudeville's operator, to translate the touring plot into the language of LP. Having toured the show, Paul knows the rhythm of the cues and has allocated the masters that he will use at the Vaudeville. If anyone doubts the value of such homework, let it be said that in three days (and nights) of rehearsal the switchboard only got itself knotted once and caused a total production time delay of three minutes. Working this show on both LP and Lightset leaves me in no doubt of the success of the modifications carried out to the LP design to update it into Lightset. A lot of time-consuming work was caused by the absence of *all white off* and *all red off* pushes on the LP. A *white/red transfer* would have been useful, but at no point in the plot was there a possible use of the LP's

transfer pushes. If there is a moral to this story, it is that Lightset was evolved by consulting LP operators.

Mulled Opera

Sam Wanamaker and Robert Ornbo entertain the ABTT with traveller's tales from Sydney while "B" mulls the Christmas wine. Relieved but not surprised to hear that, despite the horrors of the rehearsals, it was "all right on the night". "B's" splendid mulling included a process which can only be described as *fortifying*.

Timing Machined

Not a very Merry Christmas at my local theatre. Four performances daily of two different productions, but all alas mimed to pre-recorded tapes. A deplorable trend particularly for children's shows. Long may the theatre explore technical developments, but please let the timing remain *live!*

Porridge in the Bush

On entering the Bush Theatre for *Wet Winter Night's Dream*, I am distracted from peeping into the control room by the prison nurse who takes my pulse and pronounces me fit to occupy a cushion on the highest seating rostrum. My head is in the lighting grid and perhaps I actually look like a Patt. 23, for the warder neglects to give me a mail bag to sew during the performance. If ever I have to do porridge, let it be in this nick. An enjoyable romp with more entertainment value than many a musical in more pretentious surroundings. Alas, the only restrained performance comes from the Mini 2 when the lighting should be as outrageous as Royce Ryton's playing of the Thespian Queen.

New Year Resolution?

No! Just a thought for 1974: would Xerox have been developed if every printer had shown the same reverent faith in Caxton that spotlight designers show in Isaac Newton?

Dimming by Pole

There is a reconstruction of an 18th Century dimming pole in the Christmas exhibition *Secrets of the Stage* at the V &A. A vertical pole with reflector-mounted candles stands in the wings in much the same position as a modern boom. To dim, the pole is twisted so that the candlelight is deflected away from the stage. Much intrigued by working models of the *clattercrash and rumbletruck*.

A Day in Toronto

Before becoming Mr. Strand Canada, Wally Russell was a leading figure in Canadian lighting, technical direction and management. The distances involved in his Toronto based operation are colossal: Wally is nearer to London than to some of his Canadian customers. A visit to his HQ has all the feeling of a visit to one of the better new theatres; everything in proportion and a feeling in the air that the operation is geared to getting the curtain up without panic against a schedule that any ordinary industrial management would dismiss as impossible in theory and therefore impossible in practice . . . A walk through the O'Keefe Centre to see how big a 3,155-seat theatre can be: it can be very big. . . . A favourite way of watching opera is to sit behind the production team at dress rehearsal. One can sprawl over several seats, conduct with one's feet, and generally behave in a more relaxed way than at performance: and an observer is spared the emotional torments that are inseparable from membership of a production team. So I enjoyed eavesdropping on *Don Giovanni* at Macmillan University. Everyone apologised when the flame effect motors failed to run but etched on my personal memory is a Don Giovanni where my motors ran backwards to the horror of the eminent German director. A situation saved by the singer who gushed "What a lovely idea to have the flames sucking the Don *down* into hell!" . . . The evening performance of *Trelawny of the Wells* at the St. Lawrence Centre used scissors trucks swinging on to the thrust stage for the main scenes then reverted to proscenium for the stage of Sadler's Wells. Good building, good sets, good acting, good lighting.

Citizen Tabs

Ottawa has many theatrical distinctions, the least of which is that the *Ottawa Saturday Citizen* recently became the first newspaper to devote the entire front page of its entertainments section to reprinting an FR piece from TABS. The National Arts Centre received the full Bentham treatment in TABS, Vol. 28, No. 1, and contains one of the few opera houses ever to be regarded with enthusiasm by Fred. I get quite excited by the building as a whole, and it is a pleasure to find that not only have the two main theatres been running happily on Strand memory systems for five years but that the controls utilise my own personal favourite form of channel access—the *rocker*. The success story of Ottawa is that by building a magnificent theatre complex and booking a wide range of attractions the citizens have become very theatre minded. I get daily more convinced that if you build a theatre the audience will follow.

Opera Grease

The *bus and truck* tour of *Grease* on a four-day stop over in Ottawa gives me an opportunity to get the audience feel of the Opera under full-house conditions and I like the sensation. The acting is rough but it has attack, the audience respond and that is what theatre is about. Comparing the get-in times with those of English touring musicals, I am driven to wonder whether we could learn some technical lessons from American bus and trucking.

Eclairagiste

It is not the purpose of this diary to record the editor's gastronomic adventures but it is difficult to think of eight days' concentrated teaching at the National Theatre School of Canada without pleasurable memories of food. Lecturing daily from 9.30 a.m. until 5 p.m. produces a definite need to relax in the evening, and where better than at the home tables of the members of the technical faculty of the school. Mmmmmmmm! And one remembers the glow of sea-food pleasure induced by Strand's Man in Montreal, Roland Ormerod. But then Roland comes from that capital village of stage lighting, pleasurable living and contentment afloat. Where? Wroxham, of course! École Nationale de Théâtre du Canada is a soundly based institution with an emphasis on *practical* theatre where the students are definitely given their head to act as production managers, set designers, lighting designers, etc., on the public shows. The easy way out for a drama school is to leave the mounting of the shows primarily in the hands of the staff, but in Montreal they rate practical experience higher than the showcase aspect of their productions. I find this unique, encouraging and altogether very healthy.

Montreal Rock

In the foyer of the Centaur Theatre there is a graffitti board headed "we invite your comments". It was blank before, during and after tonight's performance of the rock music drama *The Tooth of the Crime*. Feeling that to inscribe "Tabs wos here" might be construed as hard selling, I refrained from picking up the chalk. Good score, appropriately illogical lighting (intended as a compliment, cf. earlier remarks on style) and an interesting use of two closed circuit TV channels to show additional close-up dimensions of the action. Wish I had written "I like it" on the graffitti board.

Théâtre Noir

The Black Theatre of Prague does not depend as much on black light UV as its title might suggest. Certainly all the materials are painted to fluoresce under UV lighting, and the effect is quite startling for a UV rig consisting of only three 2 ft. tubes. The lighting art of this company depends on the use of one follow spot from each side of the stage. These basic sources are tungsten profile spots with integral dimmers, they hang freely on a sashline suspension and are operated from 12 ft. stepladders. The operation is masterly with two men carrying out a very precise control of colour, intensity and selection which is fully integrated with actor and prop movements. The technique really calls for a rather more intimate theatre than the Maisonneuve which has rather too much side auditorium wall. I find that the most successful opera-sized theatres are the ones which hang people on the walls.

Broadway Nightmusic

From the pit of the Majestic Theatre came just about the finest orchestral playing that I have ever heard in a musical. It is easy to make a brash rhythmic score sound good but *A Little Night Music* has such elegance of style in pit and on stage that for the first half hour I am convinced that it cannot possibly work. Gradually I succumb to the magic of the delicate pit sounds enhanced by Tharon Musser's soft lighting of Boris Aronson's translucent sets. Hermione Gingold leaves no syllable unturned, but as always the turning is done with a velvet covered sledgehammer.

Dimensional Dance

The City Centre Theatre is obviously inspired by some of the exciting new German opera auditoria, but in execution I sense a miscalculation of scale. It is probably a problem of proscenium height aggravated by a quite unlightable curtain. The promenade foyer is totally successful, dramatic, exciting. . . . I will accept any theatrical adjective. Tonight's *Firebird* by the New York City Ballet has Chagall designs dating from 1945 and it is a pity that the light plot is in the prevailing ballet style of that vintage. This may be a deliberate production device or just a desire to avoid highlighting the painted wings with boom spill. The result is a total flatness which removes the dimension of depth from the dancer's movements. On the other hand, Jerome Robbins' *An Evening's Dances* which concludes the programme is a splendid example of dimensional ballet lighting with lots of top and side but little front. Even the follow spotting is dimensional as it is from both FOH and stage bridges. If I were a dancer, or indeed any kind of actor, I would refuse to have my performances flattened by a single FOH follow spot. A minimum of two spots from lighting designed angles—or none at all.

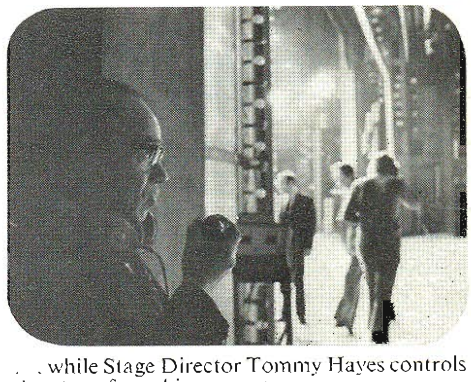
Irene at the Minskoff

Warm colours . . . simple lines . . . The Minskoff auditorium seats 1,621 *people in an atmosphere of surprising intimacy.* It is not often that I find myself able to quote from a PR handout, but these words give me a nutshell description of Broadway's new theatre. Unlike most Broadway theatres, the Minskoff is actually on Broadway and the view from the elevated foyer is nothing if not dramatic. Backstage planning has obviously been influenced by the appointment of Technical Director John Higgins during building so that the stage is eminently workable and represents an attempt to pull Broadway out of the purely bricks and mortar conception of theatre planning. There is as yet no permanent lighting control, but there are FOH lighting bridges and slots with spotlights actually owned by the theatre and a special patching frame to allow these permanent FOH to be picked-up on a production's temporary piano boards. By Broadway or Shaftesbury Avenue standards, the wing space is huge. *Irene* received a stupendous star performance from Debbie Reynolds, but the lighting depended on the traditional low balcony rail position rather than the ceiling bridges with the inevitable flat result.

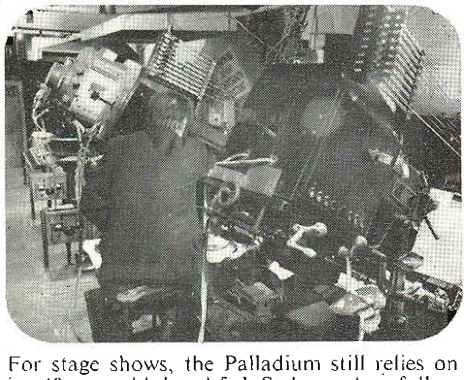
Manhattan Jottings

Worth going to the MET for the staircase alone, although they do the sole rather well by stuffing it with shrimps and saucing it with grapes and capers, and *Simone Boccanegra* was well sung and played . . . historic house switchboard on the perch at the Booth Theatre where the houselights are operated from stage level by a sash-line . . . production lighting control is of course by that piece of pianistic technology perfected some years ago, the plate dimmer . . . Jonell Polansky nearly sold me a rather more modern system but decided it was not a suitable model for the editor of TABS . . . "Centre or side" asks the box officer at the Vivian Beaumont. "Side, please", I reply like a good TABS student of stage forms. The thrust stage production of *What the Wine Sellers Buy* plays completely forward with no concessions to the side seats. With that stage width it is the only way and I suspect that side seats have to be treated as the equivalent of the cheap gallery in more traditional staging forms . . . fascination begins in the theatre research section of the Lincoln Centre Library and that's the bit of New York that I want to go back to soon. . . .

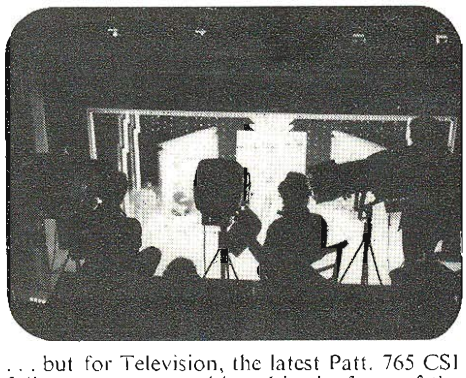
During rehearsals for the Sunday evening TV live spectacular, Bill Platt controls the lighting from his Rank Strand System CAE . . .



. . . while Stage Director Tommy Hayes controls the stage from his prompt corner.



For stage shows, the Palladium still relies on its 40-year-old hand-fed Stelmar Arc follow spots . . .



. . . but for Television, the latest Patt. 765 CSI follow spots are positioned in the front of the upper circle.

The traditional finale to the show uses the theatre's concentric ring revolves with centre lift.

Rank Strand down your way

We shall be touring several principal cities and towns during April and May. Our repertoire will include such lighting classics as the Junior Preset and Mini – 2 controls, an appropriate selection of lanterns and a brand new Rank Strand spectacular – the Modular Memory System.

This is an opportunity for busy Theatre people; Educationists, those in Amateur Theatre and in fact everyone concerned with drama, to see and try out for themselves a wide range of stage lighting equipment on their home ground.

No ticket needed, just come along.

Bradford

Wednesday **April 17th** 1974 10.30 am - 9.30 pm
Thursday **April 18th** 1974 2.30 pm - 9.30 pm
in the Library Theatre,
Princes Way, Bradford BD1 1NN Yorks.

Glasgow

Monday **April 22nd** 1974 9.30 am - 7.00 pm
at The Royal Scottish Academy of Music and Drama
St. George's Place, Glasgow G2

Edinburgh

Wednesday **April 24th** 1974 9.30 am - 7.00 pm
at The Celtic Lodge, Brodie's Close,
Lawnmarket, Edinburgh 1
(top end of the Royal Mile)

Newcastle-upon-Tyne

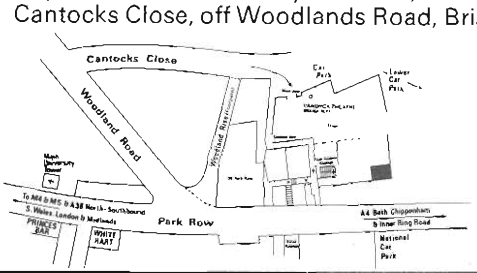
Friday **April 26th** 1974 9.30 am - 7.00 pm
in the Rutherford Hall,
Newcastle-upon-Tyne Polytechnic
Ellison Place, Newcastle-upon-Tyne NE1 8ST

Southampton

Tuesday **April 30th** 1974 11.00 am - 7.30 pm
Wednesday **May 1st** 1974 11.00 am - 7.30 pm
at the Marlands Hall,
Havelock Road, Southampton, Hants.
(opposite Civic Centre Law Courts entrance)

Bristol

Saturday **May 4th** 1974 11.30 am - 9.30 pm
Sunday **May 5th** 1974 11.30 am - 4.30 pm
in the Vandyck Theatre,
Dept. of Drama University of Bristol,
Cantocks Close, off Woodlands Road, Bristol 8

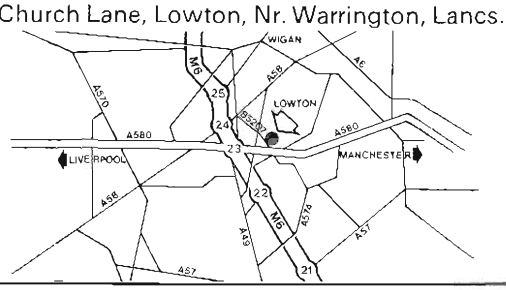


Birmingham

Monday **May 6th** 1974 10.30 am - 9.30 pm
Tuesday **May 7th** 1974 10.30 am - 3.00 pm
at The Midland Arts Centre for Young People,
Foyle House, Cannon Hill Park,
Birmingham B12 9QH
(Opposite Edgbaston Cricket Ground)

Warrington

Friday **May 10th** 1974 10.30 am - 9.30 pm
Saturday **May 11th** 1974 10.30 am - 9.30 pm
at Rank Strand Electric Ltd,
Church Lane, Lowton, Nr. Warrington, Lancs.



Stoke-on-Trent

Thursday **May 16th** 1974 10.30 am - 9.30 pm
Friday **May 17th** 1974 10.30 am - 9.30 pm
in the Twyford Scout & Guide Hall,
Brunswick Street, Hanley,
Stoke-on-Trent, Staffs. (close to ABC Cinema)

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