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Lighting rig in Studio 1 at VTO-Medienzentrum Studio Complex, Hannover, showing Galaxy Studio remote control (on studio floor) & Galaxy 2 lighting console (in vision control room)



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# STRAND AT 75

## Francis Reid Selects some Great Strand Moments in the Development of Performance Lighting

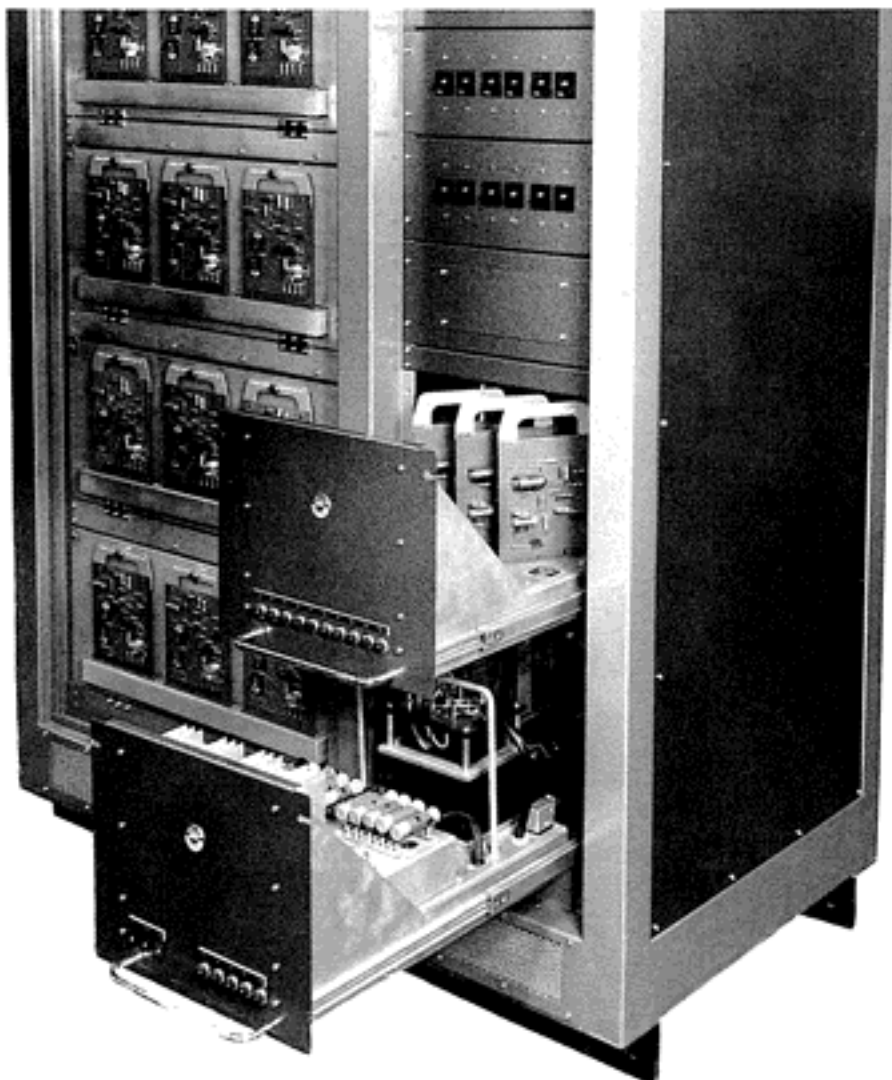
It seems no time at all since that golden evening in 1964 when Strand invited 749 distinguished theatre persons plus the young me to join them in an attempt on the Dorchester's champagne record. It was indeed a golden moment in lighting history. Strand were not only celebrating a pretty successful 50 years of lighting past, but they had just started to make the key product of lighting future: The **thyristor dimmer** (then called SCR - Silicon Controlled Rectifier) had arrived and Strand were in the lead.

Europe's first TV thyristors were installed at the BBC and their first theatre installation was about to go into Glyndebourne. (I was at the party because I had placed the order.) At that jubilee we were not celebrating 50 years of Strand achievement, we were waving a grateful farewell to all the dimmer anguish associated with resistances, transformers, chokes, valves and, yes, even drainpipes. (I personally did my last dimmer maintenance with a watering can at the old Scala - in Goodge Street, not Milan - in 1959, although their liquid pots survived for a few years more.)

However, the 1964 Strand, while mastering the thyristor revolution, were already looking ahead to the memory revolution that would offer instant recording and recall of an infinite number of presets. But before remembering that trauma, let us look at some of the key moments of the pre-thyristor era: a personal selection, let me hasten to add. I have neither taken a punter's poll, nor consulted Strand's Department of Anniversary Marketing. I have not even bounced my list off Fred Bentham, now distinguished archaeologist, but throughout Strand's formative years their senior engineer, organist, anarchist and marketing guru.

However, I feel reasonably certain that Fred will approve my choice of **playability** as the feature that has marked Strand's successes in desk design. The key breakthrough in pre-electronic lighting control was the **Mansell Electromagnetic Clutch** which allowed a shift of emphasis from the technologically feasible to the operationally desirable. Henceforward Grand Masters would increasingly become Grand Servants. Strand's flair (and for Strand read Bentham) was not just the use of electromagnetic clutches to remote the dimmers, but the realisation that the musician's keyboard was a control surface with an impeccable field test record over many centuries. The Compton Organ not only had playable keys but electrical circuitry for assembling and moving lights in groups. It even had a group memory. And the **Light Console** was essentially a group board: bringing individual channels to intensity levels required virtuoso fingerwork until polarised relays became available for presetting the clutch limits in the 1950s.

While the motor driven dimmer banks could not dim proportionally (shortest travellers finished first) the actual timing was sensitively controlled by a **foot pedal**. Several desks functions were duplicated for optional foot control, a technique last used



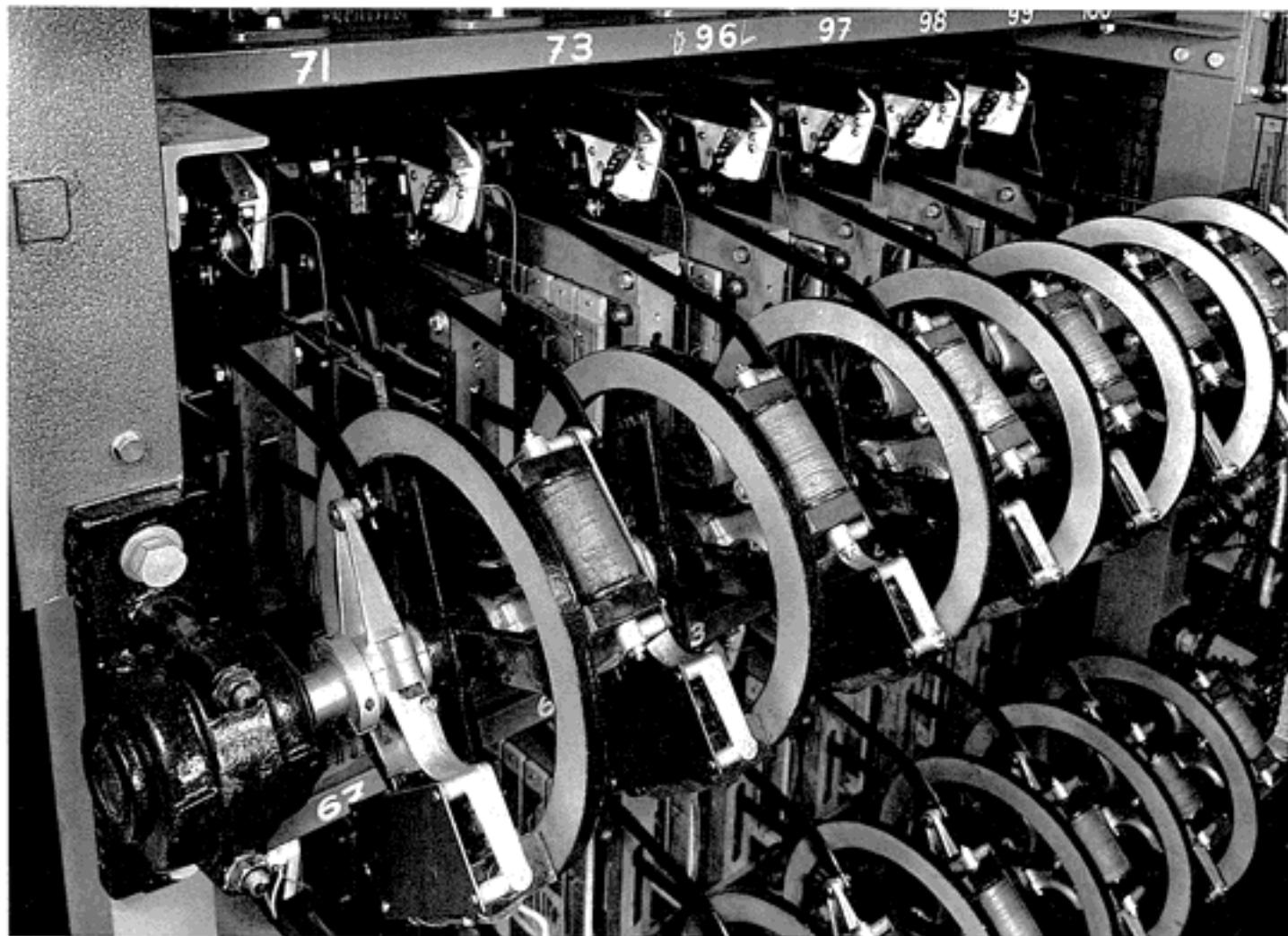
Strand's 1963 Thyristor Dimmers (then called SCR - Silicon Controlled Rectifiers) were the first in Europe. Caution, particularly on the part of the BBC, led to the inclusion of massive smoothing with saturators to ensure no voltage drop at full. The circuit breakers shown in this photograph did not survive commissioning: the fuses, initially in the fly leads to the thyristors, were soon brought out to the front panel.

on the **Lightset** (a splendid finale for manual presetting) but not carried into the memory era. I still find my feet useful in my car and I can remember a time when they were indispensable on my board. A case perhaps for a little bit of 'to move forward, first look back'?

Proportional dimming had to wait for **J.T. Wood's Electronic** with its two presets feeding an elegantly simple, if somewhat delicate, circuit using a trio of ex-radar triode valves. (The history of stage lighting, its present and almost certainly its future, depends upon latching onto devices developed for some other purpose with more sales potential than the stage.) Life with Woody's electronic was never less than exciting, particularly the stickers - dimmer failure keeping them on until somebody got to the racks. But its dipless crossfade was the way forward that most of us (including most of Strand) knew we wanted to go - although thyristors were around for quite a few years before we finally got there. Indeed by then memory had arrived.

Strand were first with memory and got the basic philosophy right, not only opting for digital but using a very playable rocker-per-channel desk. This might have compensated for their lack of adequate engineering resources. But alas, they also failed to listen to user playback requirements and so Thorn snatched the honours with the Q-File. Strand responded with an unfortunate decision to go analogue, resulting in crates of temperamental analogue/digital converter cards. When the dimmers failed, the lights came to full; this may have been fail safe in the studio but was disaster on the stage. The **IDM** desk, with its dimmer per channel, earned a big order book but its technology required the resources of a company on the scale of Rank. (Did they know about IDM when they bought Strand?)

Soon there was **DDM**, still in my view the jewel in Strand's control desk crown. But it was **MMS** that made memory standard. Having burnt their fingers on the analogue problems of dimmer levers, Strand stuck with keyboards (and I nominate **Galaxy** as king in



Electromagnetic clutches allowed Strand to remote dimmer banks more than fifty years ago.

this league) until the recent advent of **Lightboard M**. Keyboard access is not as fast as rockers or levers, but how else do you handle hundreds of channels? This is the next problem to solve! Will today's Strand achieve a breakthrough akin to Bentham's Strand?

So much for control (please note, I am drawing a veil over Junior B - my nerves could never cope with the switching system).

How about lanterns? I personally prefer the American term instruments but I grew up with the Strand word. Incidentally, did Strand invent 'lantern' or did they inherit it from Digby? I expect I'll get a postcard from Bentham or Legge on this one. I certainly dislike

the word 'luminaire' almost as much as I dislike the phrase 'state-of-the-art'. (Woe betide any salesperson approaching me with a 'state-of-the-art' luminaire!)

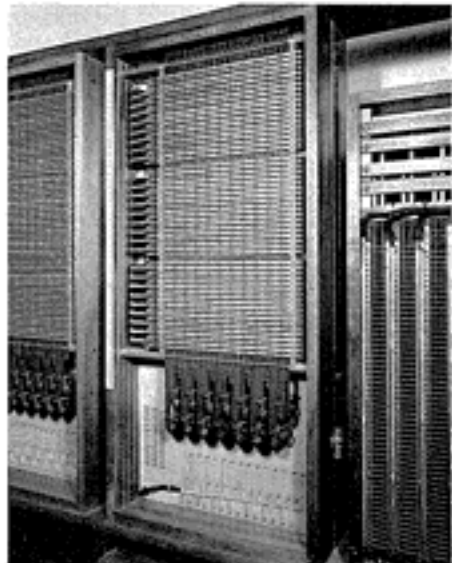
Any manufacturer's success with lanterns is dependent upon the lamp industry. This considerably delayed the arrival of ellipsoidals in Europe, but a spherical mirrored profile, the **Pattern 23** gave Strand their number one hit of all time. It is no longer made but is still in widespread use - with a lively second hand market developing because there is no replacement from Strand or anybody else. (To those who protest, I would just say length as in short). When it first appeared

some 40 years ago, Strand tooled up for die cast production, showing a confidence and courage, both technical and commercial, unique in the history of stage lighting manufacture.

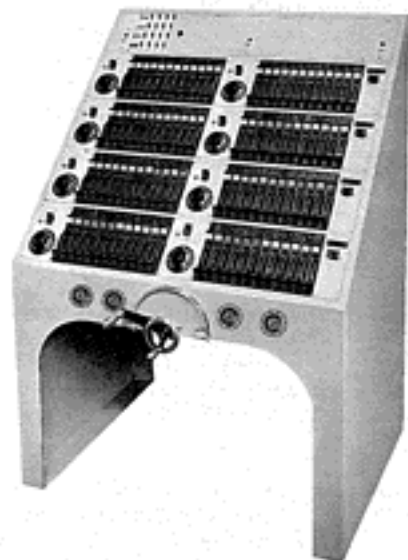
With the great sixties surge in theatre building came the **264**. The lamp manufacturers had produced a slender sausage, burning cap up, to fit within an ellipsoidal reflector. Strand had one of their major brainwaves and doubled the shutters to ease the hard/soft focus option. This level of inspiration failed to arrive with the great halogen lamp revolution. The 764 was a diecast leko front stuck on to a 265 lamp house. I was in-



The one and only - the Pattern 23.



Compton organ technology allowed flexible group memory for the 30's Light Console.



J.T. Wood's 48-way Electronic of 1950.



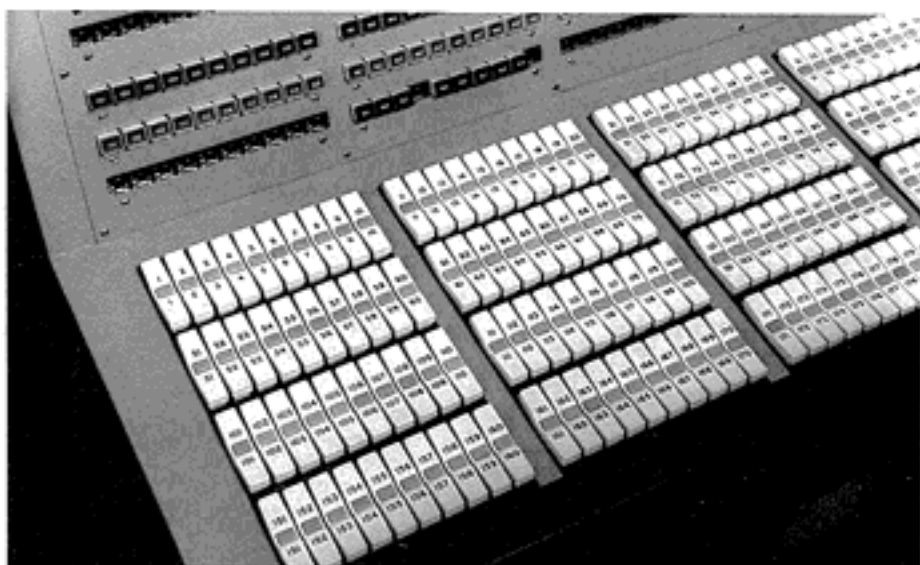
volved and accept some blame. My defence is that it was a stop gap which went on for too long (throughout its short development time it was known as the 'interim'). The Strand profiles that followed were somewhat uneven, with the Prelude 16/30 being the only one to offer me any particular pleasure. But then **Cantata** came along, putting Strand back to the top of the class.

No Strand reminiscence is complete without the **Pageant**, the first incandescent lantern capable of putting any real oomph on to the stage - especially in its initial version with glass reflector. Most of us wept and screamed at the end of the fifties when Fred decreed that we did not need our beloved pageants any more and manufacture was shut down.

However, the beamlight family has always been a bit of a Strand blind spot. (They initially adopted such a toffee-nose disbelief in the importance of the Par 64 that it took them until quite recently to make an acceptable parcan). Another blind spot for years was low-voltage, rejected with fervour after a pre-war flirtation. So when I tried to place an order in 1961 for 24 volt beamlights, I was firmly advised by 29 King Street that if I wanted to indulge in such anarchy I should take Glyndebourne's chequebook to Berlin. Which I did. But times change and Strand have reached in 1989, a position to fulfil that order. I now look to them to lead, in due course, with the electronic transformer when it becomes viable.

And let's give them credit: leading is what Strand have been doing recently. Particularly in remote operation of lanterns (by the way I dislike the generic term 'intelligent lights': I think of them as 'obedient lights'). Frenzied movement with a strong random element is now old hat in entertainment lighting, but **PALS** has disciplined the action, achieving acceptable repeat accuracy with a system that can be applied to any kind of lantern. And the big leap into the future is that Galaxy handles pan, tilt, focus and scroll at the same time as intensity. The lighting desk has become the true servant of the stage. Will some operators wish to use their feet?

A final suggestion about looking back to move forward. Who remembers the **Patt 265**? It was the first CSI follow spot (400 watt). I remember it well because I used four of the first batch for Man of la Mancha in 1968. The 265 was not just unique for its source but was just about the earliest of the twin lens variable beam angle profiles. And



Strand pioneered memory control with a digital system using a rocker for each channel.



Theatre is a people industry typified by people like Strand's Eddie Biddle (far right).

the lenses were linked to form a coupled zoom. Say no more, Francis.

In proposing an anniversary toast to Strand we must not forget the **hook clamp**. Ye who have never rigged with its predecessors can never be fully aware of the impact of such an elegantly simple design concept in the development of stage lighting.

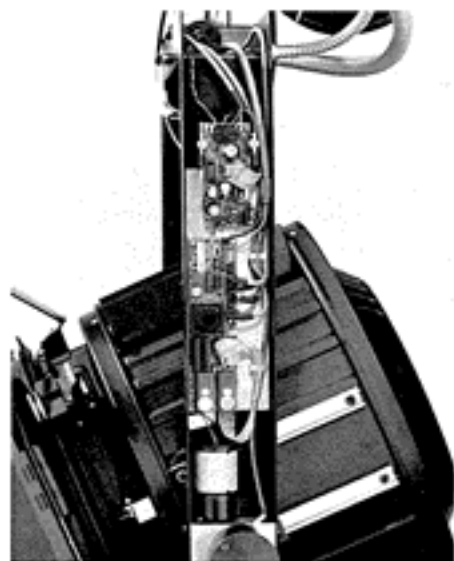
But theatre is a people industry and so it is with Strand. I will not risk a roll call but if I had to choose one single person to epitomise what I have always looked for and usually found in the old firm, I would nominate **Eddie Biddle**, engineer and artist. P.S. I have made no mention of **Tabs** - but it speaks for itself from our bookshelves.



Strand's hook clamp revolutionised rigging.



The Pageant - lots of light from a parabolic reflector and no lenses.



PALS allow easy control of pan, tilt, focus.



# LIGHTING+SOUND

JULY 1989

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