

because the machine is good at doing that kind of thing and therefore they can be included at little or no extra cost. Clutter is a bad thing and simple is beautiful.

Then again in providing a means to do this, that and the other automatically, we have to make a distinction between that intended to dispense with the need for an operator and that intended to aid him. When an operator is in attendance to repeat a live performance of a show it is important not to reduce him, as so often in industry, to the level of a servant of his machine. You then find the man doing the boring jobs like cleaning the thing, feeding it and clearing up afterwards. If one is not careful it will be the control which has all the 'fun' in taxing its

first but plus something else and so forth. Yet I am convinced that although some firms still have systems which are based on channel control by dimmer levers they are wrong. I only adopted levers for IDM because I thought it would make the electronics simpler. As a general principle any positional control, whether for individual channels or masters, tends to be a mistake in a memory system because unless it has the incongruous mechanical complication of a servo, sooner or later the extra step of matching physical position to actual level has to be undertaken.

Nowadays, at any rate in the larger theatre installations, the individual dimmer control plays a minor role. It has become merely a trimmer to match as a component part of a

together and alike. This is where Richard Pilbrow on Lightboard has shown the way. The idea of a palette of four sub-masters over which lighting can be split by using a single memory was an excellent one. The split into fours is an interesting coincidence because I did the same way back in 1935 on my Light Console. Every set of masters was divided in four sub-masters (Manual keys) identified for convenience by colours – white, red, blue and green. Rather pale colours in fact, so that the accompanying stopkey selectors could take a legible engraving in black. Whether a particular group memory button of those far off days affected only one or two or all four sub-masters depended on what you set on it at the time. So too did the number of channels: a sub-master may have only one channel on it. Group is a term not to be interpreted too literally. The main point is to have a group of like sub-masters side by side dedicated to this purpose – a quartet or an octet, for example.

What form should they take? I am sure the best answer is the fader wheel as on Lightboard and first popularised on MMS but if possible in a rather narrower version set closer together. The wheel can respond both to the gentle caress and the hasty shove. The effect of being both a positional control under the finger and yet not requiring any matching is extremely valuable. I noticed that Thorn's at the IBA 78 exhibition are now using a travelling band equivalent to the wheel in their latest controls. I first saw this on the Brown Boveri stand at the 1968 DTHG Tagung at Recklinghausen where they used it on their new lighting control. On the original Q-File the masters were a kind of centre-sprung accelerator. In a sense it was like the rocker except that the further you pushed it out of centre, up or down, the quicker the light changed. Rather a nifty idea, much better in my opinion than the servo-operated fader with which they replaced it.

Devices like the key-pad and non-positional masters require some means of displaying information – what some call "digital read-out". The variety of means available today to do this may cause us to attach too much importance to the information. Don't forget it is only the machine which really needs to know and to memorise precisely. The means of determining dimmer level on the Stratford DDM of 1972 was no different from that on my console of 1935 – a master dial and extra pressure on the individual channel selector. It was something to be used but rarely therefore; you looked at the stage first. The other school of display can be summed up as the VDU – everything and anything can be there before your very eyes on the monitor screen. It was this that made me declare in my book "There could not have been a greater contrast" when chance put the Light Console and the Lightboard physically side by side. Though both systems were intended to be placed to give the operator a good view of the stage, in one case this was vital – without it the man was lost indeed whereas with the other he could navigate by dead reckoning.

Had there been a VDU in those days would I have used it? I think the operative word is 'supply' rather than 'use'. It would probably have been included, in case! But being me – born with a hatred of figures – it

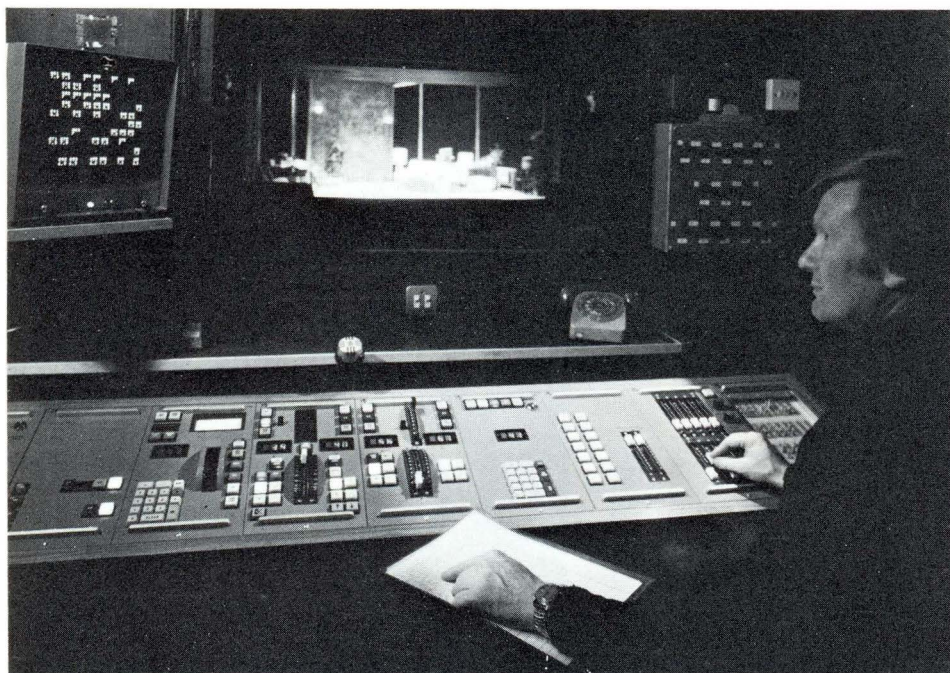


Fig. 9. Monitoring or Staging?

'brain' to solve a puzzle cue or even to discover and tell its slave what part of itself has gone wrong when it finds it can't.

In television where today's studios aim at a recorded visual quality as near that of the cinema film as possible but without the very high costs, the need may well be for a control which is more sophisticated. A slip in the final 'take' could be disastrous and costly whereas in the theatre an operator could make a brilliant recovery if need be. Furthermore this could keep him on his toes night after night and a sparkling performance of the lighting is the result. If the lighting is one long yawn to perform there is a chance that it may be one long yawn to see.

As so often in my career I am thrown back on judging the worth of any control by how well it could carry out the familiar (to me at any rate) routines of my colour music days. So mentally I continue to use them when making any assessment. Now immediately I do this I find the need for a quicker access to individual lighting effects – be they groups or single circuits – than any numerical call-up can provide. There is neither time nor pleasure in calling this number to do something then dropping it to call another and back to the

group or chorus. There is little point therefore in spending money on an array of channel push buttons or rockers for this purpose, numerical call-up is here to stay. In this context I see that Mr Jones says that "the widespread use of pocket calculators has solidly established the concept of key-pad selection in which a total of nine buttons are used to select in turn the digits of the required channel number" and Thorn controls at last have these instead of "columns of buttons corresponding to the hundreds, tens and units" otherwise referred to as "Decimal coded buttons".

It is the formation of groups that is important. This is easy in any memory system but it is the ease with which they can subsequently be 'played' that indicates the true degree of sophistication in any control. It is not sufficient to say that one can set a memory or memories on that playback master there and something else on this one over here and so forth. Of course many memory systems can wangle several groups this way; especially if the use of the manual back-up controls as well is not considered cheating! But the real way to do this on a sophisticated system is to have a set of sub-masters close