

before the first preview and to update before the first-night proper, there were occasional errors and a lot of unwelcome additional work. By the middle of 1986 it was clear that the end for the Lightboards could not be postponed for long and further difficulties obtaining spares resulted in a crisis and a decision to change. Galaxy-2 was chosen as being the closest match to the facilities of Lightboard and also because the NT had always enjoyed good relations with Strand and were able to negotiate excellent prices. The changeovers took two days each and were completed in the Olivier in January and in the Lyttleton in October this year. The Lightboards, after over ten years excellent service are no-more, at least in Britain.

The original Strand XTM dimmers remain and give reliable service though new control cards may soon be needed as components drift and loose reliability. So far, there has been no need to consider adding extra dimmers, though, now control capacity is available from the new Galaxy, plans to add two 24 way racks in the Olivier dimmer room are being studied. The power allocation of some 800kW to each theatre has proved generous.

Pan-Tilt-Focus

One feature of Lightboard that made the choice of a replacement more than usually difficult at the NT was another of its pioneering features, its' ability to memorise and remotely control colour change and pan, tilt and focus on special spotlights. Over the years the Olivier theatre had made great use of this and a replacement had to be included in any new system. Unfortunately, though now available on Galaxy 3, Strand could not, in 1986, provide remote position control with Galaxy-2. So, Ian Napier's team produced their own system. Using their knowledge of the Lightboard, NT staff selected commercially available micro-processor boards and engineered a PTF replacement that would operate all existing mechanisms and use existing data wiring. For good measure they were able to improve performance and speed of operation. For reliability two systems were made with the second system installed ready for immediate use.

Power Flying

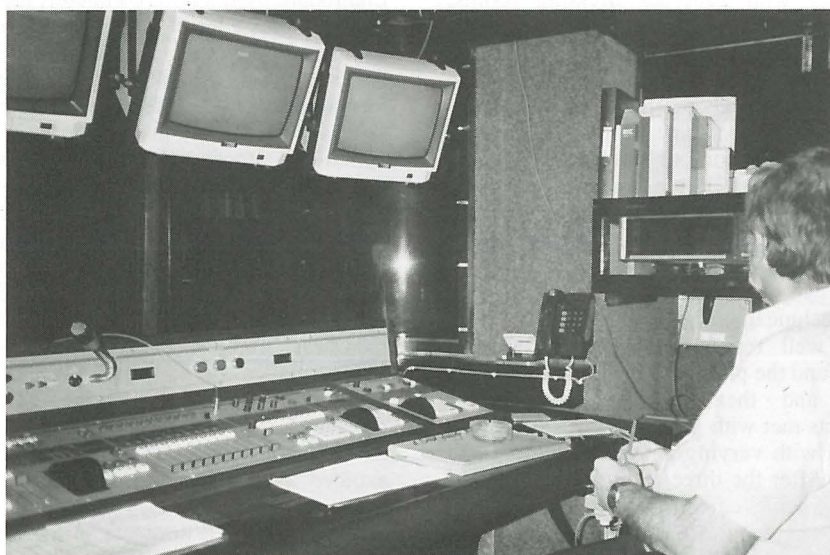
With minor exceptions, British theatre did not use power for scenery movement in the 1960s so, as with the lighting control, once the theatre building committee decided they wanted power flying, Theatre Projects Consultants, led by Richard Brett, had to write specifications and obtain tenders from firms willing and deemed able to design equipment from scratch. A much more difficult task than coaxing Strand, the local and vastly expert lighting company to improve on its already world beating products.

For the Lyttleton a standard double purchase counterweight system was installed with the intention that they would be fitted

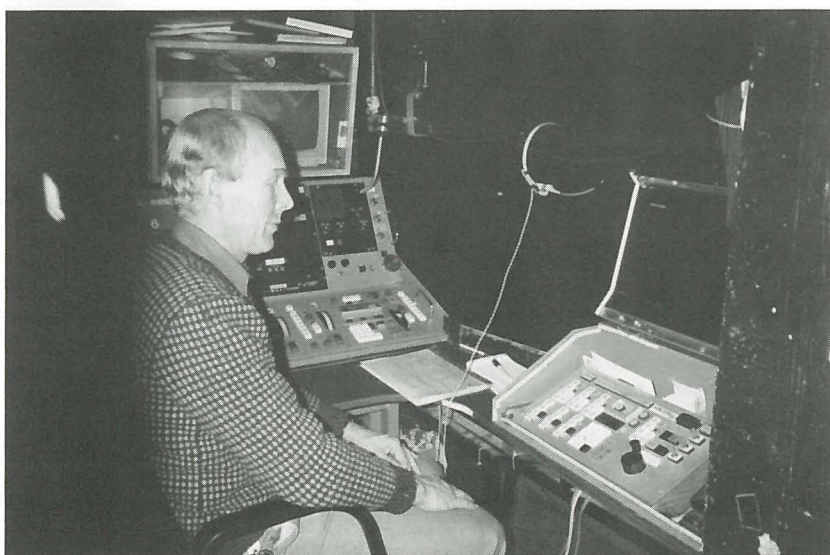
with power drives and computer control. This failed to happen and eventually the counterweights were made single purchase and are hand operated — a decision in line with current practice in most similar theatres and generally judged right and proper by designers and stage crews. However, recently simple Delstar hydraulic drives have been added to the house tabs and two main lighting bars.

In the Olivier, a direct lift motorised system was installed successfully and now forms a reliable and essential part of that theatre's staging facilities. As designed, some 153 electric hoists can be connected to 35 variable speed power units — cyclo-converters — through a contactor patching matrix and moved and positioned under computer memory control; a system not unlike a part of the lighting control. Early

experience, once the system had been commissioned and put into use, was that though reliable for most of the time, faults when they did occur could have alarming safety implications or could lock up scenery movement and probably stop the show. Again, backup facilities had to be improved and failsafe operation of both primary and back-up emphasised. With the help of the original constructor and with additional equipment engineered by new specialist contractors under the direction of Ian Napier and NT maintenance staff both objectives were realised before the end of 1982. The back-up system, though not quite as versatile as the primary system, carries NT policy of duplication of all critical components as far as possible so that any failure in all but primary lifting components can be bypassed and the show continued as rehearsed.



The new Galaxy in the Olivier control room. The right hand panel Controls Colour change and Pan/Tilt/Focus through the NT's own control electronics in the box on the wall centre right.



The Olivier Power Flying control position. Systems Engineer Ian Napier facing the in-house designed back-up control panel with the original control on his left.