



# LIGHTBOARD

Light Control in the Fourth Dimension



DIDO BUILDING CARTHAGE [TURNER]

"NATIONAL GALLERY, LONDON"

A new dimension in light control.

**LIGHTBOARD** is a major advance in memory lighting control—intensity, colour, direction, time.

**LIGHTBOARD** is an amalgam of computer technology and systems design experience providing control of stage lighting with unequalled flexibility, fluidity and creative potential.

Painting with light—  
at the speed of light.

**LIGHTBOARD** allows the simplest or most complex lighting pictures to be moved at one or many varying interweaving speeds. For the first time light can be manipulated with all the fluidity of natural light itself. Multi-time movements can be started together or separately, and travel at their own speeds, yet always under the overriding control of the operator. Interface between operator and machine is total. Heads-up operation of one or a multiplicity of lighting units is through "touch type" keyboard access to every light or pre-recorded group of lights.

## LIGHTBOARD created for Britain's National Theatre.

Conceived by Richard Pilbrow and engineered by Rank Strand Electric.

The two main auditoria in Britain's new National Theatre are designed and equipped for the highest standard of productions in repertoire, with the possibility of a different play up to three times a day. The luminaire rig is designed to minimise re-setting with every lighting circuit directly connected to the control. Richard Pilbrow, one of the world's leading lighting designers and theatre consultant to The National Theatre has, with the Theatre Projects team of consultants and designers, extensive experience of the latest developments in stage lighting technology and experience of their use around the world. Rank Strand Electric, the world's leading entertainment lighting equipment manufacturers, paved the way with their computer memory system, DDM and the modular memory system, MMS. From this joint international design experience stems

## LIGHTBOARD

## Why LIGHTBOARD?

1. Recent developments in computer controlled memory systems have revolutionised stage and television lighting. The ability to memorise a lighting picture at the touch of a button, and to recall it at any time and in any order, has enormously extended the possibilities open to the designer.
2. And now a leap forward. The manipulation and control of light at the speed of light, the speed of the computer and the speed of the human eye and brain interfaced with a control system that allows very rapid and playable access.
3. No longer is it necessary to think of lighting in terms of single dimmers. Lighting can be conceived in blocks and patterns or pictures of light that can be mixed, interwoven and balanced. Out of each block or picture, the single circuit still has its role to play, but the operator requires equal ease of access to one light or pre-recorded groups of lights.
4. The relative levels of all the lights under control can be immediately seen from the video display.
5. Lighting for frequent changes of show demands immediate access to a large number of circuits around the theatre or studio. Yet, for any show

the operator is only interested in those circuits being used for the show. The computer ensures this. Although up to 1,000 circuits may be permanently connected to the control it selects and displays only those which will be required for the show being staged.

6. Theatre and studio lighting must increasingly be concerned not only with the balancing of levels of light but also with the orientation of lights themselves. Now the potential of computer memory is introduced for control of luminaire position and colour change control for inaccessible units—total control of light—intensity, orientation, colour and time.

## LIGHTBOARD

The basic system comprises:-

One Palette

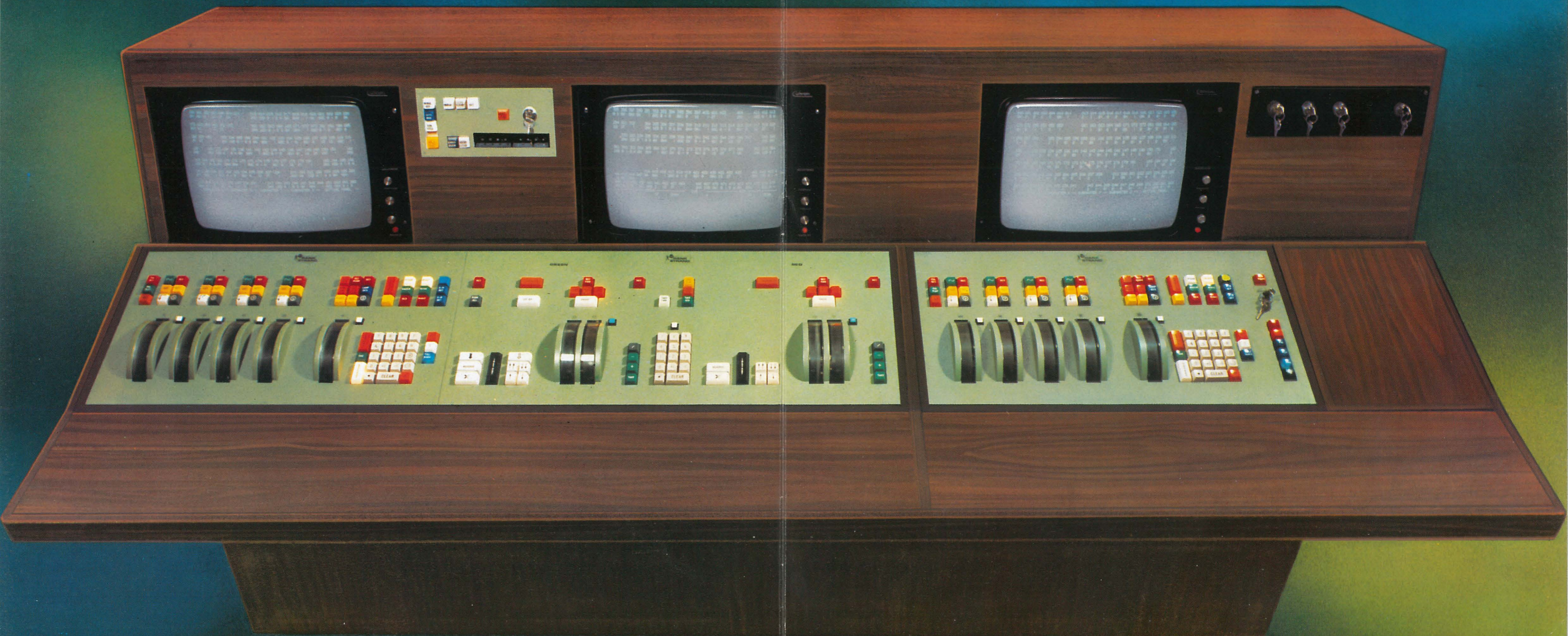
Two Playbacks

Two Video Displays

Tape and Auxiliary Panel.

for control of up to 1,000 circuits.

The system may be expanded to include up to 4 Palettes and 4 Video Displays, 6 Modulation Panels, 6 Sub-Masters for each, and designer's remote location panel.



# LIGHTBOARD



## LIGHTBOARD ~ the principal elements.

### Palettes

The left hand palette is the basic instrument with which lighting cues are prepared in the control room. The right hand palette may be removed and used elsewhere for lighting rehearsals.

A palette itself consists of two sections: the Setting Panel and the Sub-Masters.

The Setting Panel contains a keyboard on which any lighting circuit or pre-recorded cue, containing a combination of circuits (with or without their levels) may be called up and adjusted. This adjustment of level may be with the controller wheel or within the keyboard itself. The Setting Panel can be used live, blind or independent.

Once a pattern of lighting has been created on the Setting Panel it may be transferred to one of the four Sub-Masters. New lighting can then be prepared and balanced between any Sub-Masters which might be in use.

The Sub-Masters may also be used during performance as manual controllers in a conventional manner or they may be programmed via auxiliary Modulation Panels to give a random or programmed cycle of light, possibly linked to a sound source input, say for flashing or shimmering effects.

The Sub-Masters may be operated independently of or under the overriding control of the playbacks.

### Playbacks

These are identified as 'green' and 'red'. They provide the principle method of operating the lighting during performance. Part or all of the lighting may be cross-faded, moved up, down, raised to full or faded to out.

The playbacks may be operated in a manual or automatic mode. In manual, the controller wheels are used to manually move the lighting. In automatic the controllers become time setters that may be used to pre-set the speed for a change and then operated while the cue is in motion to accelerate or decelerate the movement of light. Times may be pre-recorded and up to six different up and down speeds of light may be separately or collectively invoked on either playback at one time.

An Automod facility may be used in an emergency (if for example a spotlight is knocked out of position during performance—or a lamp fails) to replace it in every cue it appears with a substitute.

### Cue Select

The central panel contains a keyboard with which cues may be selected for either playback. This panel also selects the recorded time facility and the sequential call-up of cues for playback or recording.

### The Video Displays

The two principal video screens illustrate the state of lighting, indicating the circuits in use and their level. The bottom section of the screen provides information about the contents of each controller on the Palettes and Playbacks. A third display is removable and associated with the optional right-hand palette.

### Orientation Control

The panel at the right-hand end of the control system employs a keyboard to call-up a remote control luminaire or a projector with slide change. By use of the keyboard and the controller the pan, tilt and focus of luminaires or the slide change and focus of projectors may be operated and recorded on any cue number. The subsequent operation of this panel can be mastered from the 'green' playback. There are separate facilities for colour change control.

### Tape recording

Lighting cues may, at the same time as recording onto the core store, be recorded on tape automatically, or at the discretion of the operator. This tape can be used as a library store or to edit the order of cues between any primary cue.

### Auxiliary Facilities

(a) *Cue Title.* A typewriter keyboard is contained under the front part of the desk and may be used to type on to the video displays a 'Cue Title' list or other information that may be of use to the operator.

(b) *Written Record.* Facilities are available to provide a permanent hard record of the lighting plot.

(c) *Auxiliary Masters.* Totally independent of the main system, a series of manual faders with a pin matrix provides control over any combination of lighting circuits.



Rank Strand Electric,  
P.O. Box 70, Great West Road, Brentford,  
Middlesex, TW8 9HR.  
Telephone: 01-568 9222 Telex: 24408

A Division of Rank Audio Visual Limited

Associate Companies in

W. GERMANY, U.S.A., CANADA, ASIA, AUSTRALIA.