

25.8.87

Lightboard M Specifications

The system as described below is manufactured by Strand Lighting. The lighting control system shall be microprocessor based, specifically designed to control theatrical, television and motion picture dimming systems.

I. BASIC CONSOLE DESCRIPTION

The control system shall contain, but not be limited to, the following minimum requirements:

1. Cue storage - 200 cues for 192 control channels.
2. Dimmers - the system shall be capable of driving 384 2.4kw dimmers as standard, with an optional expansion to drive 768.
3. Memory Retention - when disconnected from AC mains power input, the control system RAM (Random Access Memory) shall retain all data for a minimum of three days by use of a maintenance-free super capacitor.
4. Modularity - the system shall be modular based with the capability of user serviceability and expansion. The system shall accept up to eight Manual Channel Modules and one Submaster Module.
5. Special Effects - the system shall have a minimum of two special effects generators which shall be capable of either channel or memory chase, with programmed or manual step times.
6. Patch Tables - there shall be a minimum of four independent electronic proportional patch tables.
7. Backup - the system shall incorporate as standard a secondary power supply which is always on line. In the event the main power supply fails, the system shall automatically switch to the backup power supply.

Control signal shall be multiplexed with no more than four twisted pair of wires necessary for a maximum of 384 dimmers. Systems requiring a separate control wire for each dimmer shall not be acceptable.

The control system shall not require an interactive disc or cassette drive to operate. Such devices shall be for library storage purposes only.



Control surfaces shall be textured dark brown finish with identification in ivory. Channel controllers shall be colour coded to respective split crossfaders. The console shall be factory wired with receptacles for the plug-in dimmer cables. A mains power cable and set of 8 metre control cables shall be included.

II. STANDARD OPERATING FEATURES

The control console shall provide, but shall not be limited to, the following operating features:

1. It shall be possible to access all 192 channels, regardless of the number of physical channel potentiometers preset on the console.
2. Each channel and submaster fader shall have an associated bump button which may be disengaged, or operated as pile-on or solo, with a bump level control.
3. The A/B crossfader shall act as preset masters or as memory playback faders, with recorded crossfade, split fade, delay and wait time values. Immediate manual over-ride and time adjustment shall be possible.
4. The X playback fader shall have recorded crossfade, split fade, delay and wait time values. It shall be possible to halt reverse, resume and manually over-ride an active cue.
5. Fade progress shall be indicated on the VDU display and on the 21 segment LED bargraph associated with each playback fader.
6. It shall be possible to record blind by digital address in Cue Mode.
7. The console shall provide a "link to cue" ability, allowing cues to be played back out of numerical sequence.
8. The system shall have a minimum of eight field programmable "learn" sequences that can be programmed to remotely activate any series of pushbutton actions, each containing up to 32 keystrokes.
9. There shall be a minimum of 24 Submaster faders, which may control any system memory.
10. Digital modification to memories which are active in the Submaster stores shall be immediate.
11. It shall be possible to record any system memory as and effect memory for playback on the effects faders.

12. For ease of operation, the effects playback faders may be loaded in advance. The Stop/Start and master fader shall allow smooth entrance and exit from effects memories. Alternatively, with the effects faders reading at Full, Effects memories may be cut live to the stage.
13. Modification to effects memories active in playback shall be immediate.
14. It shall be possible to clear the entire system memory or to selectively clear only the cue store or patch tables.
15. Each of the four patch tables shall have the facility to electronically patch any dimmer to any control channel, with proportional level assignments.
16. It shall be possible to access any dimmer directly, bypassing any channel assignment.

III. BASIC CONTROL ELEMENTS

The LIGHTBOARD M control console shall consist of but not be limited to the following control elements:

- A. Command Module (One required)
 1. A Grand Master
 2. A Blackout switch
 3. A three position Bump Select Switch, which assigns channel and submaster bump action to On, Solo or Off.
 4. A rotary Bump Level Control.
 5. A command keypad for entry and modification of data.
 6. An A/B split dipless crossfader for A/B presets or recorded memories, with associated "assign" and "sequence" pushbuttons and tracking bargraph.
 7. An X crossfader for playback of memories with Go, Stop, Sequence pushbuttons and dual tracking bar graph.
 8. Two Effects playback faders with associated "assign" pushbuttons and Stop/Start buttons, each with LED displays indicating Effect loaded and effect running.
 9. Four Fade rate adjustment controllers to manual adjust fade times from 0 to four minutes on the A/B and X crossfaders.
 10. Two fade rate adjustment controllers to adjust effect step rates from .1 to 3 seconds.
 11. A three position keyswitch which shall select console operation of Off, Show and Record.

12. Associated with the command module, there shall be an integral video driver for local RGBI colour and remote composite video monitors as well as a worklight control switch.

B. Channel Control (____ required)

Each channel module shall provide for independent manual control of dimmers assigned to the channel faders. Each module shall include the following:

1. Twenty four manual linear potentiometers arranged in 2 scenes of 12 channels each. Each linear fader shall have no less than 58mm travel with associated scale of 0 to 10 calibrated in half steps.
2. Twelve bump button, one per channel controller.

It shall be possible to connect up to eight channel modules to the system.

C. Submaster Module

The submaster module shall provide proportional overlapping and pile-on control of user selected memories. The module shall contain:

1. Twenty four submaster faders, each with no less than 58mm travel and an associated scale of 0 to 10 calibrated in half steps.
2. Twenty four bump buttons, one per submaster fader.

D. Auxiliary Module (optional)

This module shall contain Houselight, worklight and additional controls as required. The module shall be contained within the main body of the console.

E. Library Module (optional)

Addition of this module shall provide the following operational features:

1. 1 - 3-1/2" floppy disc drive for memory storage. The system shall facilitate the use of commercially available discs, with initial disc formatting provided as a console function.
2. 1 - RS232 printer interface and receptacle on the rear of the module.
3. 1 - Designer's Remote Focus Module Receptacle.

F. Designer's Remote Focus Module (optional)

Provides for remote activation of specific functions of the main system. The unit shall be hand held with a 10 digit LED readout with scrolling capability.

G. Hard Copy High Speed Printer (optional)

Provides a printed record of cue level information, the complete cue sheet, patch assignments and effects.

H. Colour Monitor (optional)

13" RGBI-TTL full colour with 16MHz bandwidth, 15.75KHz horizontal frequency, 50 Hz vertical frequency, with a minimum resolution of 640 x 200.

I. Monochromatic Monitor (optional)

The 13" composite monitor provides for local or remote displays. Bandwidth shall be 16MHz, 15.75KHz horizontal frequency, 50 Hz vertical frequency, with a minimum resolution of 640 x 200.

J. Dimmer Expansion (optional)

The dimmer expansion feature will allow the console to drive up to 768 dimmers.

K. Full Tracking Backup System (optional)

The system shall have available a dual set of electronics capable of tracking all actions of the main system. In the event of processor failure, no operational differences shall be exist between the main and the backup systems.

L. General Requirements

The power consumption of the console shall not exceed 220/240VAC, 50Hz, 10 watts.

And, because the optional remote control module offers the ability to activate four out of the eight programmable function keys, Lightboard M is directly applicable to a totally different kind of installation - the completely automated show such as those found at a theme park or a Son et Lumiere. When driving an Envion Architectural Dimming System, Lightboard M can open up new worlds in architectural lighting control.

Novice and experienced operators alike can approach M with equal confidence as the board can be a simple two scene preset, or a sophisticated memory system - That's why we call it a Supermanual Console!

Susan Dandridge

7.9.87