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LIGHTBOARD M SPECIFICATIONS

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

I. BASIC CONSOLE DESCRIPTION

The control system is comprised of but not limited to, the following minimum requirements:

1. Cue storage .200 cues for 96 control channels or 140 cues for 144 control channels.
2. Dimmers .the system is be capable of driving up to 768 dimmers over multiplexed control lines.
3. Memory Retention when disconnected from AC mains power input, the control system RAM (Random Access Memory) retains all data for a minimum of three days by use of a maintenance-free super capacitor.
4. Modularity .the system is 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. Display .a colour monitor is provided as standard with the system to supply on line display of channel levels, active cues and effects, and other status information.
6. Special Effects .the system has two special effects generators which are capable of either channel or memory chase, with programmed or manual step times.
7. Patch Tables .there are a minimum of four independent electronic proportional patch tables.
8. Backup .the system incorporates as standard a memory backup which permits channels to be assigned to submasters for control in the event if a central processor failure.

Control signal is 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 are not be acceptable.

Control surfaces are textured dark brown finish with identification in ivory. Channel controllers are colour coded to respective split crossfaders. The console is factory wired with receptacles for the plug-in dimmer cables. A mains power cable and set Of 8 metre control cables are 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 96 or 144 channels (depending on software configuration), regardless of the number of physical channel potentiometers present 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 and split fade 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 rate 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. Systems containing 144 control channels are limited to a maximum of 24 submasters. Ninety-six channel systems may contain either 24 or 48 submasters.

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 an 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, by-passing any channel assignment.

III. BASIC CONTROLS

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 "assign" pushbuttons and Stop/Start with LED displays indicating Effect effect running. associated buttons, each loaded and

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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 shall⁴ 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. 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.

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E. 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.

F. Hard Copy High Speed Printer (optional)

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

G. 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.

H. 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 exist between the main and the backup systems.

I. General Requirements

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