24 Fader Lighting Console

General Description

The lighting control console shall be a Reduced Instruction Set Computer (RISC) microprocessor based system capable of providing complete manual or memory control of stage, studio and entertainment lighting fixtures via the DMX512 digital protocol. A maximum of 36 user programmable scenes and chases shall be contained within 3 pages of flash memory, the contents of which must be able to be outputted directly via the 5 pin AXR connector located on the rear panel.

Construction

All operator controls and associated electronics shall be housed in a single desk-top console of metal construction, the overall dimensions of which must be 440mm x 352mm x 90mm, and weigh not more than 5.0kg unpacked. The front fascia shall be made from a hard wearing polycarbonate with rear printing, and adhered to a metal back plate. A rear fascia shall provide all labelling for the input and output connectors and options. A metal fascia, screen printed or otherwise, shall not be acceptable.

The housing must be constructed from 1.2mm Zinc-Steel and finished in a durable powdercoat paint. The bottom chassis must be easily removed and allow complete access to internal electronics and power supplies.

The console must be able to accommodate user nominated options including 19" rack mount brackets for installation into equipment racks and flightcases, and an external plug-in memory module for safely storing and recalling show data. PCMCIA style external memory storage cards shall not be acceptable.

Power Requirements

The power supply must be fused and be able to operate within the range of 190-260VAC and with automatic frequency selection between 47-63Hz. Power consumption shall not exceed 25 Watts. External plug-in type power packs will not be accepted.

Upon power fail conditions, the console shall resume on reapplication of power, where it was prior to the power fail including all timed fades and/or chases.

Standard Features

The console shall provide, but not be limited to, the following features:
- Two banks of faders labelled 1-12 and 13-24, in a typical two preset configuration for setting up general lighting looks and manual operation.
- Three preset masters labelled Red, Yellow and Grab.
- Flash/Assign pushbuttons with integral indicator LED for each of the 24 preset faders and each of the 3 masters.
- Add/Solo button with Flash level master
- A page button with three LED indicators to show current page.
- Three rotary knobs labelled Audio level, Speed and Crossfade
- Pushbuttons for selecting Memory Run, Memory Preview, Memory Edit, Function Select, Back, Forward, Stop Step, Bounce, Random, External trigger, Delete step, Add step, Record Scene, Record Chase, Console Operation Mode and Playback Page.
- A Bass-Step-Chase facility for the triggered synchronisation of Chase steps with the regular repetitive beat of an audio source.
- An external trigger input for the remote stepping of chase sequences.

Operation Requirements

Preset Mode
Preset mode shall be for the basic creation and setting up of all lighting looks in a typical two preset operation. A basic lighting look shall be created by setting the required channel on one of the coloured coded presets and setting the same coloured preset master. Other looks may be created in the same manner on the opposite coloured preset.

Wide Mode
The Wide mode shall utilise both banks of faders as a single preset of 24 channels. The yellow faders shall control the low channels and the red faders shall control the high channels. The yellow preset master shall control the total output of this single wide preset. The use of the Grab Master in Wide Mode shall enable the console to operate in a two preset 24 channel configuration.

Scene Mode
Scene mode shall primarily be for the replay of user programmed scenes and chases. In this mode, the faders of the red bank shall become playback masters containing 3 pages of the various stored memories. It shall be possible to concurrently run up to 12 scenes or chases on the red playbacks.

It shall be possible to playback a scene or chase on the Grab master, regardless of the current mode of the console.

Flash/Assign Pushbuttons
Each pushbutton associated with the 24 preset faders and the 3 masters, shall be multipurpose and provide, but not be limited to, 'Flash' or 'Bump' the contents of a particular fader or select various secondary functions.

Indicator LEDs
The Indicator LED on each pushbutton, associated with each preset fader or master, shall be multipurpose and provide, but not be limited to, the following functions:
- Indicate valid key options during operation.
- Indicate that a timed fade is in progress by flashing slowly.
- Indicate contents of the playback masters during editing, selecting or programming
    - Scene – "on"
    - Chase – "double flash"
- Indicate the level of its particular output with a brightness proportional to its equivalent numerical value.
- Indicate the sequence of a previewed chase.

System Design

The console system shall provide, but not be limited to, the following:
- Scene fade times up to 30 seconds, to be programmable on every scene, or controlled directly from the Rotary Fader.
- Provide a 'Page-freeze' function, to prevent the contents of any Red fader from being changed if its fader is above a level of 5% when a different mode is selected, or the current page is changed.
- Up to 24 steps to be programmed in any one chase.
- The facility to save data to an external memory module. The entire memory contents of the console shall constitute one 'Show', and it shall be possible to save multiple shows onto one memory module.
- The facility to upgrade system software insitu. Systems requiring any tools or removal of panels to upgrade software will not be acceptable.

**The Console shall be a MINIM from LSC Lighting Systems (Aust) Pty. Ltd.,
or approved equivalent.**