Strand Lighting Specification

I. GSX CONTROL CONSOLE

A. GENERAL

   1. The control console shall be a microprocessor based control system specifically designed and constructed for the control of entertainment lighting and presentation systems. The control console shall be designed to be easily operated while providing sophisticated lighting functions.

B. CHANNEL CAPACITY

   1. The control console shall provide for control of 512 multiplexed outputs patched to a maximum of 125 dimmer or color scroller control channels.

C. MECHANICAL

   1. The control system shall consist of a free standing table top console with LED and LCD indicators and a separate video monitor. The console shall contain all operator controls and the video monitor shall display selected information regarding its operation.

   2. The console shall be made of light weight alloy and engineering grade polycarbonate with a dark grey finish with white and blue silk screen graphics.

D. ELECTRICAL

   1. The console shall be supplied with an external, 24VDC power supply unit.

   2. The following data input/output connectors shall be provided:

      a. DMX Output: 5-pin XLR - Female
      b. AMX Output: 4-pin XLR - Male
      c. D54 Output: 3-pin XLR - Female
      d. DMX Input: 5-pin XLR - Female
      e. MIDI in/out/thru: 5-pin DIN socket(180°) - Female
      f. Remote Handheld: RS-485: 6 pin XLR - Female
      g. Serial Printer RS-232 port: 9 pin D-type - Male
      h. 12 Analogue Inputs: +10V, 15 pin D-type - Female
      i. Audio input, 10mV to 10V balanced, 5 pin DIN - Female
      j. VGA monitor, high density: 15 pin D-type - Female

   3. The console shall be in designed to comply with the following standards: SELV, EMC emissions to EN50081-1, EN55014; EMC immunity to EN50082-1, IEC1000-2-2; design and manufactured within a quality control system approved to BS EN ISO 9001 The power supply shall be UL listed.

E. OPERATING SOFTWARE PROGRAMS

   1. The control console shall support a disk loadable Operating Program. There shall be a variety of Application Programs enabling channel upgrades in steps of 25 channels up to the maximum number of channels supported by the control console. There shall be further Application Programs enabling the addition of specialist functions such as specialist color scroller functions, advanced effects functions and advanced communications functions.

   2. The Operating Program shall be stored in Flash EPROM internal non-volatile re programmable memory allowing program upgrades by 3.5" floppy disks. Program upgrades shall not require exchange of internal memory devices.

F. OPERATIONAL FEATURES

   1. The console shall provide, but not be limited to, the following controls and features:

   2. Memory Capacity: The console shall provide memory capacities of up to 200 cues, 24 submasters (120 submaster memories), up to 30 effect memories, 10 user programmable macros, 2 fully proportional electronic softpatches of up to 125 control channels by 512 dimmer or color scroller assignments and a variety of user programmable default assignments. This information shall constitute a "show" and shall be stored in non-volatile memory.

3. The console shall include a backlit four line by sixteen character Liquid Crystal Display above the command keypad with the following functions:

    a. Selection of VDU screens
    b. Context sensitive soft function key labels
    c. Operation without the video display as a backup in case of monitor failure

4. The console shall include a Command Keypad with the following direct action keys: Numeric keypad (0-9), . (decimal point) key, '+' and '-' , THRU, @ (level), @COL, ON, CUE, SUB, FX, TIME, NEXT and LAST, MACRO, CLEAR, DISPLAY, * (enter), and the Soft function keys F1, F2 and F3.

5. The record keypad shall provide the following keys: RECORD, RECORD TIME, and RECORD MINUS SUBMASTER.

6. The console shall provide cursor keys separate from the command keypad and all other keys. The keys (up, down, left, right) shall be used to select and modify data in selected CRT screens.

7. Additional keys shall be provided for the following functions: UNDO, UPDATE, REMAINDER-DIM, SOLO, @FULL, THRU ON, and HELP.

8. The console shall include the following displays: Live, Cue Preview, Submaster, Effect, Patch, Macro, Setup, Help, and Diagnostics.

9. The console shall provide a continuous wheel to provide level control, color frame control, playback rate and effects over-ride control. The wheel shall be selectable, via setup, to operate as a proportional master or shaft master.

10. The console shall provide a Grand Master fader and a Blackout key. The Blackout key shall have a LED that shall be illuminated when Blackout is active.

11. The console shall provide manual A/B Playback crossfaders consisting of the following controls with LED indicators:

    a. LOAD A key
    b. LOAD B key
    c. SEQUENCE/MANUAL TIME key

12. The console shall provide an automatic X Playback allowing up to six simultaneous separately timed fades and shall provide the following controls:

    a. GO key
    b. STOP/BACK key
    c. LOAD X key
    d. CUT key
    e. MANUAL TIME key
    f. RATE over-ride key
    g. UPDATE X playback

13. The console shall provide 24 submaster faders.

    a. There shall be 5 pages of submasters, for a total of 120 submaster memories.
    b. Submasters functions shall include in/out fade timing, pile-on, inhibitive independent as standard. Communique software shall add support for DMX Input master, sound to light master, and remote submaster.

14. The console shall provide 12 Flash keys, with Shift-Flash to access all 24 Submasters. The Submaster Flash Control section shall include the following controls and LED key indicators:

    a. Flash Level fader
    b. FLASH/SOLO key
    c. LATCH/OFF key

15. The console shall contain up to 30 different Effect memories, each with the following features:

    a. Multiple channels per step
    b. The following effect types: Chase, Build, Cycle, Flicker, Random, Audio/MIDI.
    c. The following effect directions: Forward, Reverse, Bounce.

16. The console shall provide an Effects Control section for direct control of up to three simultaneous running effects. The effects control section shall provide the following controls and LED indicators:

    a. Load/Selection keys

b. GO/STOP key
c. STEP key, for manual step control
d. Effect type
e. Effect direction
f. Effects master fader
g. STEP TIME over-ride key
h. FADE TIME over-ride key
i. AUDIO/MIDI over-ride key

17. The console shall provide a 3.5" floppy disk drive for library recording, retrieval and storage using 1.44 MB MS-DOS format. The console shall be able to format new disks, read complete shows, read setup data and read single or groups of cues, submasters and effects.

18. Two control systems may be joined through their MIDI connections to provide a tracking backup system.

19. User and field service personnel oriented diagnostic tests and an electronic fault log shall be provided.

G. WEIGHTS AND DIMENSIONS

1. The console shall be no larger than 29.6" (751 mm) wide x 11.2" (285 mm) deep x 2.6" (65 mm) long. Weight shall not exceed 12 lbs (5.5 kg).

H. OPERATING ENVIRONMENT

1. The console should be operated under general office level conditions, with a minimum of dust.

2. The maximum operating ambient temperature shall be 32° - 95°F (0° - 35°C).

3. The relative humidity shall be 10% - 95% (non-condensing).

I. INCLUDED FURNISHINGS

The console shall be supplied with:

1. (1) Power supply

2. (1) 25' DMX control cable

J. PERIPHERAL EQUIPMENT

1. One VGA color monitor.

2. The control system shall support a remote hand held unit that shall consist of a lightweight housing with 40 tactile keys and a back-lit 4 line by 16 character LCD display.

3. The control system shall support a printer interface with the ability to provide ASCII output and printer drivers for the following standard printer types: Epson FX-80, IBM Pro-Printer II, HP LaserJet II (PLC3), HP DeskJet.

K. ACCESSORIES

1. A vinyl cover shall be available for the console and for its monitor.

2. A touring case shall be available for the console and its monitor.

3. An Off-Line Editing program for PC computers shall be available for the control console. The program shall feature full record and edit capabilities, and shall have screens and shall use commands that are the same as those of the control console. The program shall store shows on to 3.5" floppy disks may then be transferred into the control console.

L. PROVIDE THE FOLLOWING:

Qty.	Cat No.	Description
#	64001	GSX Console with North American 120V power supply (requires Genius operating software minimum)
#	67011	Genius 25 Operating software
#	67021	Genius 50 Operating software
#	67031	Genius 75 Operating software
#	67041	Genius 100 Operating software
#	67051	Genius 125 Operating software

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#	67001	Genius 25 channel extension software
#	67061	Kaleidoscope Application software
#	67071	Communiqué Application software
#	67121	Genius Off Line Editor for PC, with manual and keyboard template
#	66011	Monitor, 14", VGA (120V)
#	66021	Printer, InkJet (120V)
#	66041	Hand held remote - wired
#	66071	Cable Extension for hand held remote -30' (10m)
#	66072	Cable Extension for hand held remote - 80' (24m)
#	95521	AMX output cable, A4F/A4M, 12'(3.6m)
#	95524	AMX output cable, A4F/A4M, 25' (6m)
#	95522	AMX output cable, A4F/A4M, 50' (15m)
#	95523	AMX output cable, A4F/A4M, 100' (30m)
#	95090	DMX output cable, A5M/A5F, 25' (7.6m)
#	95091	DMX output cable, A5M/A5F, 50' (15m)
#	95092	DMX output cable, A5M/A5F, 100' (30m)
#	66031	Dust cover, GSX console
#	66032	Dust cover, 14" monitor
#	66051	Touring case, GSX Console
#	66052	Touring case, 14" monitor