

## LIGHT PALETTE 3

### SPECIFICATIONS

#### I. GENERAL DESCRIPTION

The Light Palette 3 console shall be a micro-computer based lighting control system specifically designed and constructed for the control of theatrical and television dimming systems. Uniquely designed with a variety of operator selectable system defaults, the program facilitates expanded recording and playback flexibility. The control console shall utilize high speed random access memory for the processing of up to 1536 solid state dimmers on a maximum of 800 user selectable control channels.

All major electronic components shall be plug-in and housed within the control console in an easily accessible manner. The console shall be engineered to provide instantaneous and explicit operation, incorporating two integral color displays to inform the operator of lighting and console status at all times.

The operative data processing program shall be a non-volatile read-only-memory. The control console shall not require the use of any peripheral storage/retrieval devices such as disk drive or cassette to function. Such equipment shall be for library storage only. In case of power failure, the random access memory shall be retained by a battery backup power supply for 30 days.

The control console shall be a self supporting, casted desk, containing two integral CRT's displaying all cue sheet, submaster and playback information. The desk shall be constructed of code gauge steel, finished in brown, with a silkscreened and plated pewter control panel. A clearly defined area for the use and placement of an open 8-1/2" x 11" binder shall be provided as standard, the front edge of the cue sheet shall be padded. A full scale, complete alphabet keyboard shall be provided.

The control console shall be a Strand Lighting Light Palette 3 (LP/3).

## II. STANDARD FEATURES

The console, designed to control up to 1536 dimmers on 800 channels, shall provide, but not be limited to, the following features:

1. 3 - 24 way keypads controlling all functions of set-up, intensity setting and recording, cue sheet composition, playback, disk recording and print out.
2. 2 - Integral high speed, dynamic color CRT's for display of and access to, all of the above functions and information.
3. 1 - Level wheel, knurled for tactile feedback to the operator, for intensity control of a channel, group of channels, or the entire stage output without need for matching. The level wheel shall provide proportional over-ranging control shall not be acceptable.
4. 1 - (Go) button for starting cues, each of which may contain up to six parts, and an automatic follow on.
5. 1 - (Stop/Back) button for halting active cues and reversing cue action.
6. 1 - Rate wheel for direct modification of any or all running fades and effects.
7. 2 - Split handle crossfaders for timed or manual control of increasing and decreasing channel levels.
8. 4 - Single handle potentiometers, individually selectable as either crossfaders or submasters.
9. 9 - Fully overlapping, Submasters for manual control of directly assigned and/or pre-recorded groups of channels, or effects. Each submaster may be individually assigned as additive or inhibitive, with the option for 150% overrange playback.
10. 17 - Buttons over the playback faders, which establish manual override if the associated potentiometer is acting as a crossfader or as a bump button if assigned as a submaster.

11. 1 - Full scale alpha keyboard recessed into the desk to provide labelling capability. The operator may include messages as part of the cue information, and identifications of groups and effects.
12. 1 - Disk recording module for library storage of all recorded information. Systems using devices for library storage exceeding a maximum of 20 seconds for transfer of all information to or from disk shall not be accepted.
13. 2 - Keyswitches for system Off/Normal/Backup Operation and Record/Record-Lock/Auto-Record. Access to Backup operation shall be instantaneous. Auto-record shall provide automatic recording of time modifications to running fades and effects.
14. 1 - System backup consisting of either a LightBoard M #8810 control console, transfer switch and amber monitor, or a full tracking backup.

### **III. OPERATING FUNCTIONS**

The system shall provide at least, but not be limited to, the following functions:

#### **A. SET UP**

1. A main setup display shall allow access to a number of sub-menus. The title of the show may be written via the alpha keyboard.
2. The configuration menu allows setting and previewing the number of submasters, dimmers and control channels, activating alpha patch and channel format, whereby only channels which have been set to a level are displayed. It shall be possible to reset the number of submasters, dimmers, and control channels without clearing the memory.
3. The default menu defines the operator selectable system parameters, including Q-only or tracking operation, (Set) button value, default system profile and fade time.

4. The submaster menu allows the operator to select the number of submasters, from 9 to 13, and establish which submasters are to have 150% overrange/normal and additive/inhibitive output. Submasters default to a normal/additive state.
5. Sub menus shall be provided for disk transfer and initialization operations, diagnostics and load backup actions, system clear instructions, print routines and activating remote equipment. It shall be possible with the disk transfer operation to reconfigure the entire system or to only reload the RAM with stored data.
6. A set up display provides access to the interactive dimmer to channel patch assignments, allowing individual proportional dimmer levels to be established.

#### **B. LEVEL SETTING AND RECORDING**

1. A channel, several channels, a group or series of groups may be addressed using (Thru), (And), and (Minus). Levels may then be set digitally and on the level wheel.
2. Any or all channels may be recorded into a group, a cue or a cue part, regardless of the level origin.
3. Levels may be modified proportionally by the level wheel or submasters, even after they reach a level of full.
4. The output of an individual submaster or group may be isolated and channels balanced live or blind.
5. Channel levels may be tracking or not tracking on an individual basis. The function of the (Q-only/Track) button shall be the opposite value of the operator selectable system default.
6. Up to 24 dimmers may be selected simultaneously for direct access.
7. A selected channel or dimmer may be isolated and flagged between 15% and Full for temporary identification.

8. A channel, group of channels, or a dimmer may be taken to a default level or zero with a single keystroke using (Set) and (Out).
9. A specified channel, list of channels or groups of channels, may be held at their levels while all others are driven to zero using (Remainder Dim).
10. (Return) may be used to restore a channel or group of channels to levels established prior to modification.
11. The levels of a selected channel may be displayed and modified through a series of cues without disturbing stage output, using the (Search) function.
12. All level setting and recording may be accomplished live or blind.
13. It shall be possible to record the entire stage output less the input from all submasters or selected submasters.
14. Cues may be recorded in any order. Up to nine cues may be inserted between any two numerically sequential cues.
15. Each cue may contain up to six parts.
16. Cues may be copied into new cues, deleted, and renamed in live and blind modes.
17. Groups may be copied into new groups, deleted, and renamed in live and blind modes.
18. Each cue may be recording with the following information:
  - a. Fade time of up to 999 seconds, with split up and down as required.
  - b. Delay time of up to 999 seconds, with split up and down delay as required.
  - c. Manual fades times.
  - d. Default fade time.
  - e. Special effects assignment.
  - f. Profile assignment.
  - g. Cue label.
  - h. Link-to-Cue command.
  - i. Automatic follow of a next sequential cue in up to 999 seconds.

19. Cue timing information may be modified live or blind with a simple command line address, without affecting stage levels.

### C. PLAYBACK

1. One button starts an entire cue, comprising up to six parts. No loading of faders shall be required to activate multipart cues or to provide manual over-ride of any running cue or part.
2. Display of running fade times and delays are dynamic.
3. Cues assigned to faders may be stopped, reversed or converted to manual at any time. The recorded time value of a may be proportionally adjusted with the rate wheel.
4. Cues may be played back out of sequence in a specified time or manually operated.
5. A channel or group may be stopped, held out of a running cue and controlled independently.
6. The submasters may be loaded with recorded groups, effects and by direct channel address. It shall be possible to assign the submasters individually or in groups. In the event an active submaster is given a new assignment, the current submaster output shall be maintained until that submaster is returned to zero.
7. Momentary flash buttons shall provide proportional on/off operation of the submaster output stores.
8. Groups controlled by submasters may be modified and automatically rerecorded live with the (Update) function.
9. Cues, groups and submasters shall interact in a highest-takes-precedence manner.
10. Dimmers may be substituted or unpatched at any time.

11. The playback monitor shall display the cue sheet, with recorded times and other attributes, the function and load status of the 15 playback potentiometers, including submaster assignments and titles, active cues and dynamic time displays.
12. The percentage of memory remaining be present at all times in the right display, with an indicator when the level drops below 5%.

#### **D. SPECIAL EFFECTS**

A special effect is defined as a series of lighting steps, executed repeatedly for a specified length of time, with a specified amount of time between each step. Up to 100 effects may be defined. The effect may be assigned to a cue for automatic playback or may be assigned to any submaster for manual playback. Up to 13 distinct effects may be run simultaneously on the submasters and combined with six running effects and/or fades in the cue sheet.

An effect may be written as part of a cue and run with other parts of a timed fade. The rate of an effect running in the cue sheet or on a submaster may be modified by the rate wheel.

The effect steps and other attributes are defined in the Effect display. Channel lists of up to eight elements each may be specified for up to eighty steps. Channel "high" and "low" levels may be set, and any combination of effect attributes may be specified.

If no attributes are set, the step list is considered "positive" and executed in order from step 1 through the last step specified. At the completion of the last step, the step list is executed again. This continues as long as the controlling submaster is active, or until the cue completes.

Other chase attributes, if selected, affect the execution as follows:

NEGATIVE - At the beginning of each pass through the step list, all channels in the effect are activated to the specified "high level". Each step will force its associated channels to the specified "low level" and restore channels forced out by the previous step.

ALTERNATE - Each pass through the step list alternates the chase output from positive to negative.



REVERSE - Causes the step list to be executed in reverse order, beginning with the last step specified.

BOUNCE - Each pass through the step list alternates the chase output from forward to reverse.

BUILD - Prevents channels in the previous step from returning the the "low level". Each channel activated remains on until the entire step list is executed. If the list is performed in a negative sense, each channel forced to the "low level" remains so until the entire step list is run.

RANDOM - All steps in the effect are executed, but in a random order.

#### **E. DIAGNOSTICS**

There shall be a self-test diagnostic program provided as standard in the LP/3. The diagnostic program shall test memory, disk and video operations.

1. **Memory Test:** All locations in memory are sequentially written and read with various test patterns. If all read match writes, the memory test has passed.
2. **Disk Test:** All locations on the diskette are written with test data, then read. If all reads match writes, the disk test has passed. Failure can also occur if the disk drive is open, no disk is inserted, or the disk is write-protected.
3. **Video Test:** All dot positions are tested for visibility, viability of character locations, and legibility. Two test patterns are provided, verifying pixels and potential focus blur caused by incorrect adjustment of brightness and contrast controls.

#### **F. BACKUP SYSTEMS**

1. Standard (Eight racks or less)

A 96 channel, 24 submaster LightBoard M console with amber video monitor shall be included as standard to act as backup protection. In the event of a main system failure, a switch shall be provided in the LightBoard M to transfer the control signal to the backup console.



The LightBoard M shall provide digital access to all dimmers on 96 channels, 200 memories, 24 fully assignable submasters, 4 patch tables, 2 effects generators, blackout switch and grand master. The console shall also provide off line storage via a 3-1/2" floppy disk drive.

Power input shall be separate from the main system. In the event of a power failure, backup information shall be held in the console by a super cap for 72 hours.

2. Full Backup: (Alternate - required for over eight racks)

This Backup system shall consist of a duplicate complement of electronics including power supply and disk drive. A second A.C. power cord shall provide power to the main and backup systems from separate sources. The system shall be housed in the console and interwired for full tracking of all operations. The backup may be switched on line at any time with no change in operation.

Redundancy of the keypads and playback control surfaces may be provided by the Designer's Remote Console.

#### IV. PERIPHERAL EQUIPMENT

Optional peripheral equipment may be added to an existing system at any time. All wiring and software provisions are furnished in the system on its initial delivery.

1. **Hard Copy High Speed Printer**

Provides a printed record of cue level information, the complete cue sheet, patch, submaster assignments and effects. It shall be a 150 cps dual direction, impact printer using standard edge perforated, fan folded paper.

2. **Designer's Remote Console**

This shall be a self contained portable console duplicating all functions of the main console except manual cue operations, submaster modifications, alpha keyboard and keyswitch operations. It incorporates the following:

- 3 - 24 way keypads controlling all functions of set-up, intensity setting and recording, cue sheet composition, playback, disk recording and print out.
- 1 - High speed, 12" diagonal dynamic CRT for display of and access to, all of the above functions and information.
- 1 - Level wheel for intensity control of a channel, group of channels or an entire cue without need for any matching action.
- 1 - (Go) button for initiating cues, each of which may contain up to six parts.
- 1 - (Stop/Back) button.
- 1 - Set of 25' control cables with plugs.

The remote console shall plug directly into the main console or into a remote receptacle stations as required. Receptacle stations shall be provided as required in the bill of material.

### 3) Remote Control Module

This shall be a hand-held module containing a keypad controlling dimmer, channel, group and cue access, level setting, and cue activation. It shall be provided with a 6' control cable and one 25' extension cable.

The module is designed for use in remote locations. It shall not exceed 6" high x 4-1/2" wide x 1" deep. The module shall plug directly into the main console or into remote receptacle stations as required. Receptacle stations shall be provided as required in the bill of material.

#### **V. AUXILIARY CONTROL MODULE**

It shall be possible to install two auxiliary panels to allow control of houselights, worklights, take control and panic functions, or other equipment. It shall contain the following:

1. \_\_\_\_\_ manual linear potentiometers for individual control of the houselight dimmers.
2. One manual linear potentiometer for proportional mastering of \_\_\_\_\_ houselight potentiometers.
3. One set of rear-illuminated pushbutton switches marked "Panic/Normal" to transfer specified houselight loads to full output.
4. One rear-illuminated pushbutton switch marked "Take Control" to activate local auxiliary control.

#### **VI. POWER REQUIREMENTS**

The standard control system shall operate on 120 Volts, 60 Hz, 2 wire and ground AC power. 220/240 Volt, 50 Hz is also available. The console shall be provided with one 6" power cord, 25' data control and overtemperature cables.

# Marketing News

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## Light Palette 3

GENERATION AFTER GENERATION  
THE BEST KEEP GETTING BETTER

-- Retaining the most popular features of Light Palette 2 --

Default Profile  
Default Set  
Remainder Dim  
Return  
Proportional Patching

### FEATURING THE FOLLOWING ENHANCEMENTS

- Operator Selectable Default Track or Q-only --
  - Default Fade Times --
- 15 Playback Potentiometers with Unique Set Up Flexibility --
  - which allows
  - Up to 13 Submasters
  - Up to 6 Playback Faders
- Bank Loading of Submasters --
- Submaster Bump Buttons --
- Any Submaster With Overrange Capability --
- Any Submaster with Additive/Inhibitive Operation --
- Updated CRT Displays --
- One console for Theatre and TV/Film --

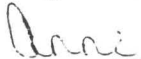


## Strand Lighting

Strand Lighting 18111 So. Santa Fe Ave., P.O. Box 9004, Rancho Dominguez, CA 90224 U.S.A. Tel. (213) 637-7500

LP/3 incorporates the use of the same peripheral equipment as V8 and TV2B. The console is available for shipment immediately. See LP/3 at USITT and Lighting World. Specifications are included. Contact quotations for pricing information.

Regards,



Anne Morris  
Dimming and Control  
Product Manager

Attachment

# LIGHT PALETTE 3



Strand  
Lighting

*From the Most Respected  
Name in Lighting Control*

- ◀ Complete system enhancement
- ◀ Increased speed — increased memory capacity
- ◀ Easy, fast system reconfiguration

- ◀ More operator-selectable features
  - Number of cue faders and submasters
  - Default Track or Q-only operation
  - Default fade times
  - Submaster overrange
- ◀ Enhanced submaster operation, including
  - Bank loading of submasters
  - Submaster bump buttons