

PRICE: \$10.00

LIGHT PALETTE THREE

*OPERATIONS MANUAL
ABRIDGED*



Strand Lighting

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Comments and suggestions for corrections and/or updates to this manual are appreciated and will be considered for the next printing if forwarded in writing (red-lined photocopy preferred) to the Documentation Manager or Applications Engineering Manager at the West Coast facility of Strand Lighting North America.

This manual is an abridged version, and does not include the tutorial section. The complete version of this manual is 3-450050-010 (bound), or 2-450050-010 (not bound), and is supplied with the console.

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INTRODUCTION

*Light Palette Three Operations Manual
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This section provides information on manual organization, and definition of the terms and conventions used in this manual. It also details procedures for getting your suggestions to Strand Lighting, and receiving help if necessary.

1. ABOUT THIS MANUAL

This manual provides information on the operating procedures for Light Palette Three Control Consoles equipped with V9 series software.

1.1 Manual Organization

This manual contains 4 major sections as shown below.

INTRODUCTION

Manual organization, and definitions and conventions (chapter 1)
How to get help (chapter 2)

SYSTEM INFORMATION

Specifications (chapter 3)
Cautions (Chapter 4)
Control Layout (Chapter 5)

QUICK REFERENCE

Command summaries for quick reference by experienced operators
(chapter 6)

MAINTENANCE

Basic trouble-shooting procedures (chapter 7)
Periodic maintenance procedures (chapter 8)

1.2 Definitions

This manual uses the following definitions to avoid confusion:

Circuit

Connection device and wiring for powering a lighting fixture from a dimmer.

Dimmer

Device controlling power to a lighting fixture. Two lights on the same dimmer cannot be separately controlled.

Channel

Device controlling a dimmer or group of dimmers. Historically, there is a physical controller (such as a slider) for each channel. On most current control systems, channels are numbers accessed by a numeric keypad. Each channel can control multiple dimmers.

Patch

Historically, the process of physically connecting circuits to dimmers. Now usually refers to electronic assignment of dimmers to channels. "Patch" does not refer to assignment of channels to cues or submasters.

Preset

A pre-defined setup of intensities for a set of channels, stored in memory for later replay.

Memory

Storage location for preset information.

Cue

The process of recalling a preset from its memory location and putting the result on stage.

NOTE: Preset, Memory, and Cue are often used interchangeably.

Submaster

A controller (usually a linear slider controller) which allows manual control of groups, effects, cues, or channels.

Fade

A gradual change in stage levels from one set of intensities ("look") to another.

Up-fade

The portion of a fade which involves only channels which are increasing in level.

Down-fade

The portion of a fade which involves only channels which are decreasing in level.

Crossfade

A fade which contains both an up-fade and a down-fade. Also may refer to any fade where the levels of one cue are replaced by the levels of another cue.

Bump

An instantaneous change in stage levels from one set of intensities ("look") to another.

1.3 Conventions

This manual shows color changes associated with light level setting, recording, and playback. The following conventions apply.

<u>TEXT</u>	<u>INDICATES</u>
[CUE]	(All capital Helvetica typeface in []) Refers to the actual function push-button labeled "CUE". A sequence of button pushes is thus shown as [1][+][2][+][3] etc. [D#] = Dimmer number [D list] = Dimmer List [C#] = Channel number [C list] = Channel List [L#] = Level
(PREVIEW)	(All capital Helvetica typeface in ()) Refers to a push-button on the display keypad.
{RETURN}	(All capital Helvetica typeface in { }) Refers to a push-button on the Alpha-numeric keypad.
ON	(All capital Helvetica typeface) Refers to the status of a function or switch, as in "Turn the switch ON."
Live	(Normal Helvetica type face) Name of a function or mode of operation, as in Live Mode, or Group Function.
PREVIEW	(All capital Courier Bold type face) Display on monitor in normal video.
PREVIEW	(All capital Courier type face) Display on monitor in amber video. Used only where sections of the screen are shown.

PREVIEW (All capital, underlined Courier Bold type face) Display on monitor in red reverse video.

PREVIEW (All capital Courier Bold Italics type face) Display on monitor in purple video.

Skip (COMMAND) keys in commands if the system is already in the specified mode.

2. TECHNICAL ASSISTANCE

Light Palette Three control consoles require a minimum of maintenance and servicing. The console includes a diagnostic routine to simplify field troubleshooting of any problems which may arise.

2.1 Problems

If equipment fails to operate properly upon installation, or under normal load and temperature conditions, and basic trouble-shooting procedures are not effective, please contact Strand Lighting Field Service at the office serving your area. Strand Lighting will issue an RGA (Return Goods Authorization) before the return of any defective materials. This allows tracking of returned equipment, and speeds its return to you.

2.2 Technical Questions

For technical questions regarding setup, operation, or maintenance of this equipment, please contact the Strand Lighting Field Service office serving your area (see reverse side of manual title sheet for addresses and phone numbers).

2.3 Parts Purchases

For purchase of spare parts or documentation, please contact Strand Lighting Customer Service in the Rancho Dominguez office.

2.4 Comments and Suggestions

For comments regarding equipment functions and/or possible improvements, please call or write to the Control and Dimming Product Manager at the Rancho Dominguez office.

For comments on this manual, please write to the Documentation Manager at the Rancho Dominguez office.

PLANTING IN THE WEST

The first step in planting is to select a site that is well-drained and receives full sunlight. The soil should be rich in organic matter and free of weeds and other plants. The plants should be spaced according to the manufacturer's instructions.

When planting, it is important to water the plants thoroughly. The plants should be watered regularly, especially during the first few weeks. The plants should be fertilized with a balanced fertilizer.

The plants should be protected from frost and other weather conditions. The plants should be covered with a frost blanket or other protective material.

The plants should be monitored for pests and diseases. The plants should be treated with pesticides and fungicides as needed.

The plants should be pruned and maintained regularly. The plants should be watered and fertilized as needed.

The plants should be harvested when they are ready. The plants should be stored properly.

SYSTEM INFORMATION

*Light Palette Three Operations Manual
Abridged*

This section provides specifications, cautions, and control layout information for Light Palette Three.

3. *SPECIFICATION*

Light Palette Three uses solid-state memory for rapid storage and retrieval of recorded data. Data is accessible at any time in either Live (active) or Preview (blind) Mode for playback or modification. The system is micro-computer based, and programmed specifically for processing and control of performance lighting. A special purpose keyboard provides operator interface to the console. An optional hand held Remote Control, and an optional Remote Console, provide additional control flexibility.

Light Palette Three allows system operation in either a "Move-Fade" mode ("Tracking"), or in a "Preset Console" mode ("Q-Only").

In the "Move-Fade," or "Tracking" mode, channels remain at set levels until told to move to a new level. This is roughly equivalent to a computerized piano board, in which dimmer handles stay where they are positioned until specifically moved. Once a channel is brought to an level, it remains at that level until instructed to move to a new level. Channels remaining at levels through multiple cues are said to "track" through the cues. This mode is very handy for initial setup of cues, particularly when setup is being done in Preview Mode.

In the "Preset Console," or "Q-only" mode, channel levels do not carry forward into following cues, unless told to do so, Each cue is an individual snap-shot of the stage picture. This mode is roughly equivalent to a computerized multi-scene preset control console.

Use [Q-ONLY/TRACK] to specify a single command in the opposite mode.

When deleting a cue in "Tracking" Mode, using [Q-ONLY/TRACK] records the channel move instructions from the deleted cue to the cue immediately following. Use this function to delete portions of a show without modifying cues after the deleted cue(s).

In "Q-Only" Mode, use this same push-button to assure that channels track through to later cues when required.

3.1 Basic Elements

- Dual CRTs
- 5 1/4" floppy disk drive (2 in full backup system)
- ON/NORMAL/BACKUP keyswitch (Playback Keyswitch)
- RECORD LOCK/ALL/AUTO keyswitch (Record Keyswitch)
- Operates as either a Move-fade console or a multi-scene memory preset ("Tracking" and "Q-Only" modes). Console mode can be switched at any time.
- Proportional Patching
- Circuit Naming (Alpha Patch)
- Special Effects software
- All major components are on a common baseplate.
- All Input/Output modules are on the rear of the console.
- Accommodates auxiliary functions in removable blank panel.
- 9-13 submasters (Menu selectable).
- Drives up to 1536 dimmers on 800 control channels.
- Printer connector and internal hardware standard.
- Printer optional
- Hand held Remote Control ("Focus Remote," or "Rigger's Remote") optional.
- Remote Console optional
- Full backup optional
- Remote Video Monitor optional

3.2 Electrical

- 115 VAC @ .6A 50/60Hz -or- 220 VAC @ .3A 50/60Hz. Operation with 220VAC requires a different console power supply. 50/60Hz selection is on video generator PCB.
- Memory retention greater than 30 days after power failure.

3.3 Mechanical

- All main console functions are built into a single cabinet.
- Walnut end panels and trim
- Sits on removable casted stand.

3.4 Environment

- 40C maximum ambient temperature, 5% to 80% humidity (non-condensing)

3.5 *Auxiliary*

- Opening next to CRT accommodates CD80 Auxiliary Dimming Control Panel or other custom auxiliary hardware for functions such as houselights and work lights.
- 14 pin or 37 pin Amp type round auxiliary connector installed on rear of console when required.

3.6 *Alphanumeric Keyboard*

An Alphanumeric keyboard located under a sliding panel provides access to labeling and circuit naming functions.

3.7 *Cable Lengths*

- AMX192 Dimmer Control Cable = Belden 9156 or equal
1500 feet maximum
- Remote Control Cable = Belden 9156 or equal
1000 feet maximum
No branching runs
- Remote Console Cable = Belden 9156 or equal
1000 feet maximum
No branching runs
- External Monochrome Video = RG-59/U
1000 feet maximum
No branching runs
- External Color Video = Belden 9159 or equal
50 feet maximum
No branching runs
Splitters/Repeaters available

3.8 *Printer (optional)*

- Okidata 82A, 182, or equivalent.
- 25 foot cable supplied with printers purchased from Strand Lighting.
- Protocol: EIA RS-232C, 1200 baud, 8 bit with 2 stop bits, no parity, busy indicated by MARK level on SSD. Consult Strand Lighting Field Service for additional details.
- Internal console printer electronics, rear panel connector, and printer control software are standard.

3.9 *Remote Control (optional)*

The hand held Remote Control allows control of dimmer functions and basic GO/STOP and GOTO functions for cues.

3.10 Remote Console (optional)

The remote console consists of a keyboard housing containing the keyboard and a Remote Console Clock Receiver PCB which has an integral power supply. The CRT is a separate assembly.

3.11 Full Backup (optional)

The Full Backup consists of a full backup I/O Module on the rear of the console in place of the regular I/O Module, and additional components mounted in the main system box, consisting of the following:

- Additional card cage.
- Additional PCBs in card cage: CPU, PROM/Disc Controller, Memory with battery (2), Video, and System Interface.
- Additional floppy disk drive.
- Power supply/fan assembly.
- Miscellaneous cabling.

4. CAUTIONS

4.1 Environment

Since Light Palette Three is computer-based, the following environmental requirements must be met:

A. Operation environment:

Temperature -- $20 \pm 5^{\circ} \text{C}$ ($68 \pm 9^{\circ} \text{F}$)

Humidity -- **90% R.H. maximum, no condensation**

Dust -- **Good office environment**

B. Power

Leave console connected to its primary power source (120VAC, 60Hz, 15A, or 240 VAC service for 240VAC consoles) unless maintenance is being done or console is not in use for extended periods of time. Systems with full backup have two AC lines, which should always remain connected.

Primary power should be exclusively for the console and not used for other devices such as power hand tools, motors, transformers, and dimmers.

4.2 Handling Floppy Disks

This equipment requires 5 1/4", single sided, single density floppy disks. Double sided and double density disks will also work.

Load disk with notch to the left. There will be a "click" when the disk is properly seated. Close disk drive "door." Disk loads take 8-10 seconds, during which the red "Active" LED will be ON.

Make two copies of all essential data. A rotation of three disks is recommended. When changes are made, make two copies of current data and keep the third disk as backup. If data is lost while recording new disks, or making changes in memory, the backup disk only needs one days worth of modifications.

Leave disk drive "door" open except when recording cues or loading memory.

Always place disks in protective envelopes and store in their dust container. Even tiny dust particles can cause damage.

DON'T force disks into drives or storage envelopes. If there is resistance, find and fix the cause before insertion.

Store disks vertically to avoid warping damage.

DON'T touch the magnetic oxide surface of disks. Body oils can damage the disk surface.

DON'T bend or fold disks. This causes the disk surface to flake, and may also damage the disk sleeve sufficiently to prevent disk rotation.

DON'T smoke while handling disks or operating a console with a disk installed in the drive.

DON'T write on the label attached to a disk. Use stick-on labels (usually packaged with the disks), and write on them before putting them on the disk. If writing on an attached label is unavoidable, use a felt tip pen and very light pressure.

DON'T erase a label attached to a disk. The pressure of erasing and eraser particles can damage the disk.

DON'T store disks where temperature exceeds 100° F.

DON'T store disks in areas of large magnetic fields. IF YOUR DIMMER RACKS ARE IN THE SAME ROOM AS THE CONSOLE, KEEP DISKS AS FAR AWAY FROM THE DIMMER BANK AS POSSIBLE. NEVER PLACE THEM NEXT TO OR ON TOP OF OPERATING STAGE DIMMERS.

DON'T count on a disk manufacturers lifetime guarantee and ignore the above cautions. Some manufacturers guarantee data recovery, but meanwhile your show data is out of reach.

Disks do not last forever. As they wear out, they may begin to feed "glitches" into the system. Check manufacturers recommended life span and retire disks before they cause damage to show data. A "lifetime" warranty simply means that the manufacturer will replace the disk, and/or try to recover its data, if there are problems.

5. CONTROLS AND DISPLAYS

Controls and displays for Light Palette Three are shown below.

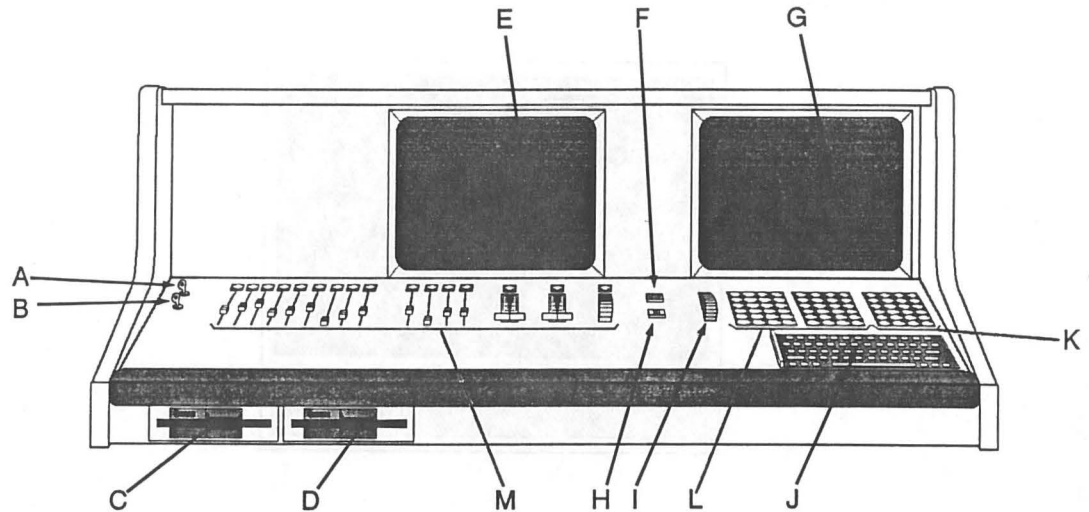


Figure 1. LIGHT PALETTE THREE CONTROL LAYOUT

A. Record Keyswitch

"NORMAL" allows data input, modification, or deletion. "LOCK" prevents modification of recorded data. "AUTO" allows automatic modification of recorded fade and delay times following live operation.

B. Playback Keyswitch

"OFF" turns console OFF. "NORMAL" turns console ON and interfaces keyboard and displays with main processor. "BACKUP" interfaces keyboard and displays with backup processor.

C. Normal Disk Drive

Used to load main memory from a pre-recorded disk or record main memory to an initialized disk when Playback Keyswitch is set to "NORMAL".

D. Backup Disk Drive (Full Backup consoles only).

Used to load backup memory from a pre-recorded disk or record backup memory to an initialized disk when Playback Keyswitch is set to "BACKUP".

E. Left Monitor

Shows Cue Sheet and Fader Status Display. When in Expand Mode, shows an expanded portion of the Current Mode Display and the Fader Status Display.

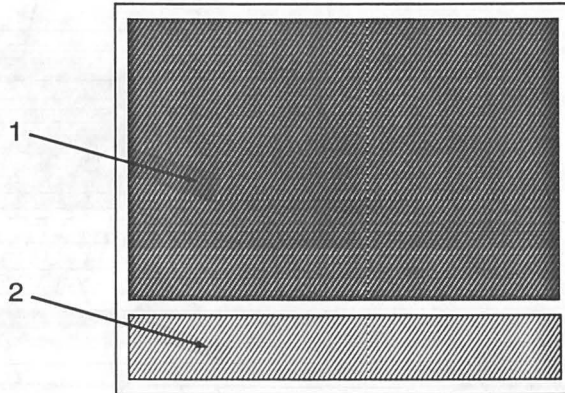


Figure 2. LEFT MONITOR

- 1) Cue Sheet Display
Shows cue Command Line information.
- 2) Fader Status Display
Shows cue execution status for Faders.

F. [STOP/BACK]

Stops all cues. If no cues are running, causes system to back into previous cue.

G. Right Monitor

Displays a variety of console information, with display selected by the Display keypad. Also displays the Command Line.

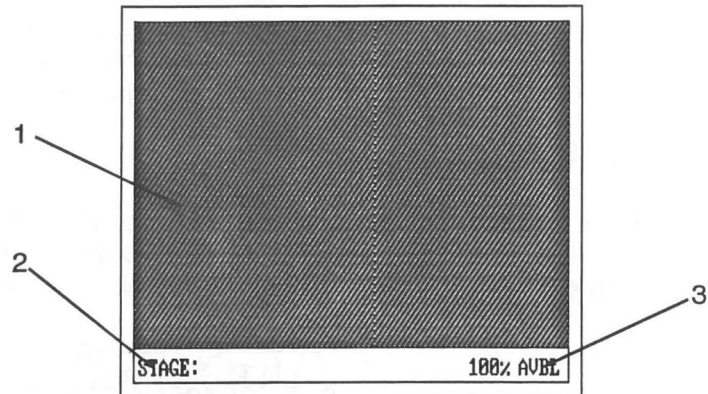


Figure 3. RIGHT MONITOR

1) Mode Display

Displays information for setup, cue recording, and assignment of submasters, groups, effects, profile, etc. The following appear in response to Display Keypad actions:

- Setup Menu
- Live Display
- Preview Display
- Group Channel Display
- Submaster Channel Display
- Patch Table
- Profile Display
- Effects Menu

2) Command Line

Shows current operating mode and provides a mimic of operator input.

3) Memory Availability

Always shows percent of memory available.

H. [GO]

Starts next cue or cue sequence.

I. **Level Wheel**

Used to set and modify light levels in Live and Preview Mode.

J. **Alphanumeric Keyboard**

Used to assign names to shows, cues, groups, and effects. When using CIRCUIT PATCH, allows assignment of names to dimmers. Dimmers with names assigned can be accessed using their name or number.

K. **(DISPLAY) Keys**

Selects operation mode and changes screen layout. Display key names are shown by (); for instance (EFFECT) refers to the Effect display key, while [EFFECT] refers to the Effect command key.

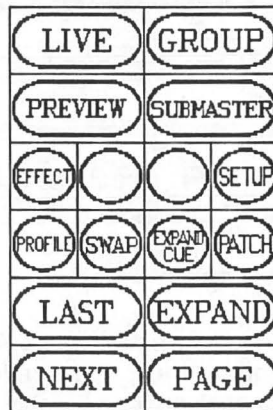
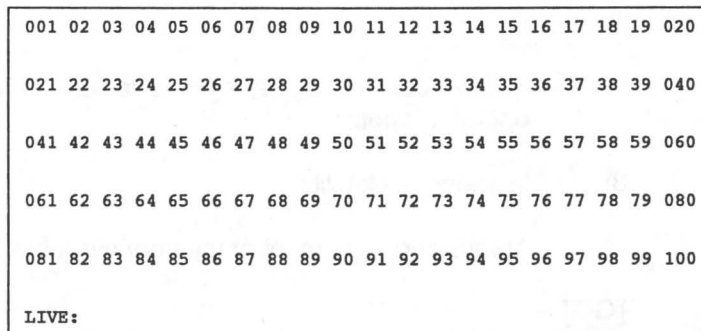


Figure 4. DISPLAY KEYPAD

1) **(LIVE)**

Selects Live Mode. Displays 100 channels on Mode Display. (PAGE) sequences displays in 100 channel increments.



2) (GROUP)

Selects Group Mode. Displays 100 channels on Mode Display. (PAGE) sequences display in 100 channel increments.

```
001 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 020
021 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 040
041 42 43 44 45 46 47 48 49 0 50 51 52 53 54 55 56 57 58 59 060 |
061 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 080
081 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
GROUP
```

3) (PREVIEW)

Selects Preview Mode. Displays 100 channels on Mode Display. (PAGE) sequences display in 100 channel increments.

```
001 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 020
021 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 040
041 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 060
061 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 080
081 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
PREVIEW:
```

4) (SUBMASTER)

Selects Submaster Mode. Displays 100 channels on Mode Display. (PAGE) sequences display in 100 channel increments.

```
001 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 020
021 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 040
041 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 060
061 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 080
081 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
SUBMASTER
```

5) (SETUP)

Selects Setup Mode. Displays Setup Menu on Mode Display.

LIGHT PALETTE III	
SETUP MENU	
1	CONFIGURATION
2	DEFAULTS
3	SUBMASTERS
4	DISK AND MISC I/O
5	
6	
7	CLEAR FUNCTIONS
8	PRINTER REQUESTS
9	REMOTE UNITS
SETUP:	100% AVBL

Additional menus are available by pushing the appropriate menu number.

6) (PATCH)

Selects Patch Mode. Displays patch information for 25 dimmers on Mode Display. (PAGE) sequences display in 25 dimmer increments. If console is in Circuit Mode, (NEXT) and (LAST) changes between circuit and dimmer lists.

DIM	0001	0002	0003	0004	0005
CHN	1	2	3	4	5
DIM	0006	0007	0008	0009	0010
CHN	6	7	8	9	10
DIM	0011	0012	0013	0014	0015
CHN	11	12	13	14	15
DIM	0016	0017	0018	0019	0020
CHN	16	17	18	19	20
DIM	0021	0022	0023	0024	0025
CHN	21	22	23	24	25
PATCH: DIMMER/CIRCUIT					

7) (EFFECT)

Selects Effects Mode. When an effect number is also specified using [#][*], system displays the Effects Menu on the Mode Display.

01-	81-HIGH LEVEL - FL
02-	82-LOW LEVEL - 0
03-	83-NEGATIVE
04-	84-ALTERNATE
05-	85-REVERSE
06-	86-BOUNCE
07-	87-BUILD
08-	88-RANDOM
09-	89-STEP TIME - 1
10-	90-CLEAR
11-	
12-	
13-	
14-	
EFFECT	

8) (PROFILE)

Selects Profile Mode. Displays Profile information on Mode Display.

PROFILE	10%	20%	30%	40%	50%	60%	70%	80%	90%
1	10	20	30	40	50	60	70	80	90
2	10	20	30	40	50	60	70	80	90
3	10	20	30	40	50	60	70	80	90
4	10	20	30	40	50	60	70	80	90
5	10	20	30	40	50	60	70	80	90
6	10	20	30	40	50	60	70	80	90
7	10	20	30	40	50	60	70	80	90
8	10	20	30	40	50	60	70	80	90
9	10	20	30	40	50	60	70	80	90
PROFILE:									

9) (SWAP)

Swaps displays on Left and Right Monitors. Used to display all data on a single monitor Remote Console. Should also be used if one screen is malfunctioning.

10) (EXPAND CUE)

Suppresses display information for Submasters 1 - 9, allowing an expanded Cue Sheet listing. Alternate action restores submaster listing.

11) (EXPAND)

Displays 80 additional channels of information on the Left Monitor in systems with more than 100 channels. Additional channels replace the Cue Sheet and Rate Display. Fader Status Display remains at bottom of Left Monitor. Alternate action restores Cue Sheet.

12) (PAGE)

Displays next page of information (100 channels for Live, Preview, Submaster and Group Modes; 25 dimmers for Patch Mode) on Mode Display.

13) (NEXT)

Displays next cue (in Preview Mode), submaster, group, or profile. When Circuit Patch is active, alternates between dimmer listings and circuit listings. In dimmer or channel check function, accesses next dimmer or channel.

14) (LAST)

Displays last cue (in Preview Mode), submaster, group, or profile. When Circuit Patch is active, alternates between dimmer listings and circuit listings. In dimmer or channel check function, accesses the last dimmer or channel.

L. [COMMAND] Keys

Selects function or inputs data. Command keys are shown by [].

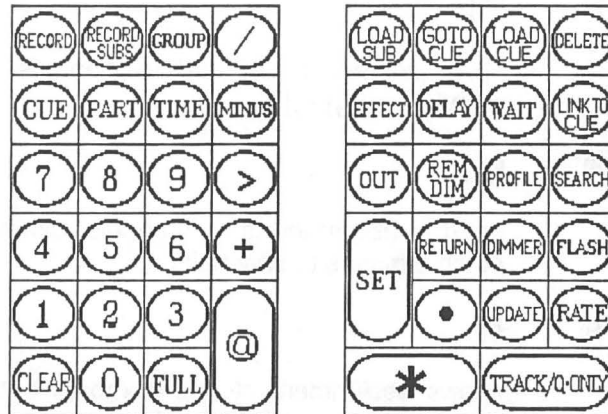


Figure 5. COMMAND KEYPAD

- 1) [0] through [9]
Inputs numerical value as engraved.
- 2) [CLEAR]
In the Command Line, this functions as a backspace key. When used after [*], it clears the entire Command Line.
- 3) [FULL]
Sets level at FULL (100% or FL) when setting channel and dimmer levels, and at full recorded intensity when recalling a group.
- 4) [/]
Used to divide recorded crossfade and delay times (e.g., 25/30) or to assign a step time (e.g., 20/0.6) to an effect, or to assign loop repetitions.
- 5) [MINUS]
Same as "Subtract From." Used to subtract channels or groups from a list; as in [5][THRU][1][0][MINUS][6].

- 6) [**>**] (shown as [THRU] in this text)
Allows entry of a range of channels. Can be used with [**+**] and [**MINUS**].
- 7) [**+**]
Allows combination of random channels or dimmers in a listing; as in [1][**+**][5][**+**][8].
- 8) [**@**]
Used to assign levels to channels, dimmers, and groups, and patch dimmers to channels.
- 9) [**.**]
Allows assignment of cue numbers between whole numbers (1.1, 2.4, etc.) and times shorter than a full second (0.5, 1.6, etc.). One digit is allowed after decimal point entry.
- 10) [*****]
Similar to a return or enter key on most computer keyboards. Push this to complete a command. Some actions require a second [*****].
- 11) [**RECORD**]
Allows record action of cues and groups.
- 12) [**RECORD -SUBS**]
Allows recording stage levels minus the levels generated by selected submasters to a cue or group.
- 13) [**CUE**]
Accesses cue memory stores for initial record action or later modification.
- 14) [**LOAD SUB**]
Allows direct loading of group levels or special effects to a submaster or list of submasters.
- 15) [**GROUP**]
Allows recording selected channel levels in memory as a group. Selects groups for assignment to submasters and recalls group memory store for live or blind playback.

- 16) [PART]
Selects cue part when recording or modifying multi-part cues.
- 17) [GOTO CUE]
Allows a fade to a specific cue. Fade starts when [*] is pushed, completing the Command Line.
- 18) [LOAD CUE]
Allows loading a specified cue into "pending for playback" when [*] is pushed, completing the Command Line. Push [GO] to start cue.
- 19) [DELETE]
Used to delete a cue or group from memory.
- 20) [EFFECT]
Used to assign the selected effect to a cue or submaster.
- 21) [TIME]
Accesses fade time function for cues and duration/step times for effects.
- 22) [DELAY]
Accesses delay time function for cues.
- 23) [WAIT]
Accesses wait time function for cues, allowing automatic follow of the next recorded cue.
- 24) [SET]
Immediate action button which sets selected dimmer(s), channel(s) or group(s) to the level defined by the Setup Menu.
- 25) [OUT]
Immediate action button which turns selected dimmer(s), channel(s) or group(s) OFF.
- 26) [REM DIM]
Sets selected channel(s) and/or group(s) to specified levels and turns remaining channels on stage OFF.

- 27) [PROFILE]
Used to assign selected profile to a cue.
- 28) [LINK TO CUE]
Links specified cue to any other cue for automatic non-sequential playback.
- 29) [RETURN]
Returns levels on stage or in a cue or group to levels before the last command. In dimmer mode, restores all dimmers to their patch assignments.
- 30) [DIMMER]
Addresses the selected dimmer(s) directly, rather than through control channel, allowing dimmer check and focus. System will not record levels provided using [DIMMER] into cues or groups.
- 31) [FLASH]
Causes selected dimmer(s) or channel(s) to flash between 15% and FULL.
- 32) [RATE]
Allows placement of fade times and effect times to Rate Wheel control.
- 33) [UPDATE]
Updates the specified submaster to modified stage levels.
- 34) [SEARCH]
Selects Search Mode, which locates all level changes for a specified channel.
- 35) [Q-ONLY/TRACK]
When the console is in Track Mode, use of this button displays a **Q-ONLY** on the screen and prevents level information from tracking into the following cue when adding new cues or modifying existing cues, in Live and Preview Modes.

When the console is in Q-Only Mode, use of this button displays a **TRACK** on the screen and allows level information to track into following cues when adding new cues or modifying existing cues, in Live and Preview Modes.

M. Faders And Submasters

Faders allow playback of cues and operator intervention during the process. Submasters allow manual controllers which can control channels, groups, or effects. The number of submasters can be between 9 and 13, and is user selectable. The remainder of the fader handles become Playback Faders.

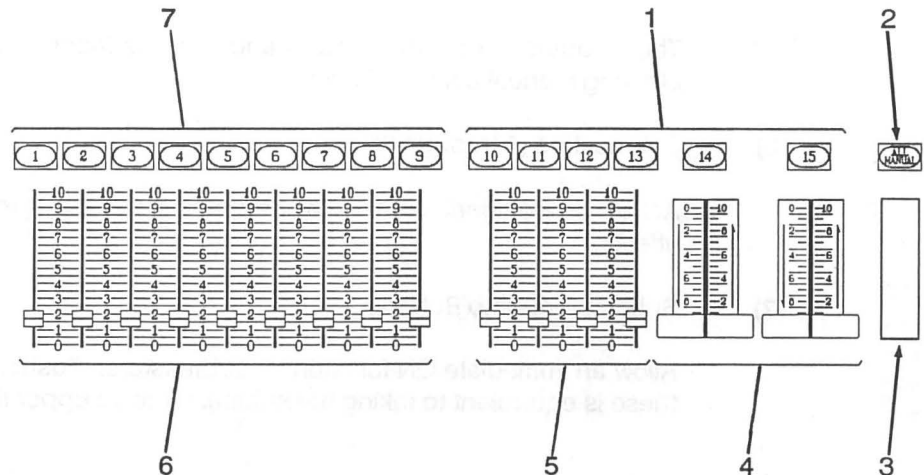


Figure 6. FADERS AND SUBMASTERS

1) [FADER 10] through [FADER 15]

Used to place fader directly below it into manual control of the fade in progress. Push this button to release cue from fader control when a manual fade is done. Fader 10 through Fader 13 may be assigned as submasters. If this is the case, these buttons act as bump buttons.

2) [ALL MANUAL]

Changes all running cues and cue parts to manual fades under Rate Wheel control. The Rate Wheel acts as a master fader, with faders following the movement of the wheel. Push [ALL MANUAL] again to release faders from manual mastering.

3) Rate Wheel

Allows adjustment of cue fade times. Also allows manual mastering of faders when used with [ALL MANUAL].

- 4) Split-Faders (Faders 14 and 15)
Allows manual control of cues which have different up and down fade times. The left handle controls the up fade (channels moving to a higher level), while the right handle controls the down fade (channels moving to a lower level).
- 5) Faders (Faders 10 through 13)
These faders act as submaster handles or as fader controllers, allowing manual control of cues.
- 6) Submasters (1 through 9)
Act as proportional masters for assigned channels, groups, or effects.
- 7) Submaster Bump Buttons
Allow an immediate ON function for submasters. Pushing one of these is equivalent to taking the submaster to its upper limit.

QUICK REFERENCE

*Light Palette Three Operations Manual
Abridged*

This section is a quick reference to command keystroke sequences used in Light Palette Three, and not a comprehensive tutorial for inexperienced users. A step by step tutorial on the operations of Light Palette Three starts with Chapter 7 of the unabridged manual shipped with the console.

Public Health Service

Department of Health and Human Services
Washington, D.C. 20492

6. *COMMAND FORMATS*

Light Palette Three commands are keystroke sequences completed by [*] (execute). The Command Line displays all keystrokes. Before command completion, use [CLEAR] to back up it[#] for cues without parts. In such cases, PART # does not appear on the Command Line.

6.1 *Main Setup Menu*

Push (SETUP) to enter the Setup Menu. The only function allowed in this menu is definition of an alphanumeric show label.

Key Entry: {ENTER}{alpha characters as required} {RETURN}.

Example: {ENTER}{D}{R}{E}{A}{M}{ }{G}{I}{R}{L}{S} {RETURN}

Defines or redefines show label which appears on the Cue Sheet.

Key Entry: {ENTER}{RETURN}

Erases show label.

Key Entry: [#]

Example: [2]

Displays selected submenu on Mode Display.

<u>Key Entry:</u>	<u>Menu:</u>
1	CONFIGURATION
2	DEFAULTS
3	SUBMASTERS
4	DISK AND MISC I/O
7	CLEAR FUNCTIONS
8	PRINTER REQUESTS
9	REMOTE UNITS

Push [0] from any submenu to return to Main Menu.

6.2 System Configuration

The Configuration Menu provides various system configuration commands. Push [1] from the Main Menu to display the Configuration Menu.

Key Entry: [1][# of channels][*][*]

Example: [1][3][5][0][*][*]

Command Line: **SETUP: 1- 1 # OF CHANNELS 350 * CLEAR MEMORY ***

Set number of channels in system (1-800). Default is 100 channels.

Key Entry: [2][# of dimmers][*][*]

Example: [2][7][6][8][*][*]

Command Line: **SETUP: 1- 2 # OF DIMMERS 768 * CLEAR MEMORY ***

Set number of dimmers in system (1-1536). Default is 100 dimmers.

Key Entry: [3][# of submasters][*][*]

Example: [3][9][*][*]

Command Line: **SETUP: 1- 3 # OF SUBMASTERS ? 9 * ARE YOU SURE ? ***

Set number of submasters in system (9-13). Default is 13 submasters (and 2 playback faders).

Key Entry: [4][*]

Command Line: **SETUP: 1- 4 COLOR MONITORS ON/OFF ?**

Turns color conversion for monitors ON/OFF (alternate action). Default is ON (displayed in amber).

Key Entry: [5][*][*]

Command Line: **SETUP: 1- 5 CREATE CIRCUIT NAMES ON/OFF ?**

Turns "Create Circuit Names" procedure ON/OFF (alternate action). Default is OFF (displayed in blue). When first activated, this function clears memory and changes the patch display until a "Clear Reset" is done. **Do not activate this function unless you intend to use it.**

Key Entry: [6][*]

Command Line: **SETUP: 1- 6 CHANNEL FORMAT ON/OFF ?**

Turns Channel Format ON/OFF (alternate action). Default is OFF (displayed in blue).

6.3 *Set System Defaults*

The Default Menu allows modification of various system defaults. Push [2] from the Main Menu to display the Default Menu.

Key Entry: [1][*]

Command Line: **SETUP: 2- 1 Q-ONLY ON/OFF ? ***

Turns Q-Only Function ON/OFF (alternate action). Default is ON (displayed in amber).

Key Entry: [2][L#][*]

Example: [2][7][5][*]

Command Line: **SETUP: 2- 2 SET LEVEL ? 75 ***

Change the [SET] level. Default is **FL**.

Key Entry: [3][#][*]

Example: [3][5][*]

Command Line: **SETUP: 2- 3 DEFAULT PROFILE ? 5 ***

Change default profile for cues. System default is profile 0 (linear fade).

Key Entry: [4][#][*]

Example: [4][1][0][*]

Command Line: **SETUP: 2- 4 TIME ? 10 ***

Change default fade time for cues. System default is 5 seconds.

6.4 Set Submaster Attributes

The Submaster Menu provides submaster setup commands. Push [3] from the Main Menu to display the Submaster Menu.

Key Entry: [1][#][*][*]

Example: [1][9][*][*]

Command Line: **SETUP: 3- 1 # OF SUBMASTERS ? 9 * ARE YOU SURE ? ***

Change number of submasters in system. Default is 13 (and 2 playback faders).

Key Entry: [2][list][*]

Example: [2][1][THRU][3][+][7][*]

Command Line: **SETUP: 3- 2 100% (NORMAL) ? 1 > 3 + 7 ***

Change which submasters have a 0-100% range. Default is all submasters in this mode. Assign this attribute to any or all submasters. Any submasters not assigned in this command change to a 0-150% range.

Key Entry: [3][list][*]

Example: [3][5][+][7][*]

Command Line: **SETUP: 3- 3 150% (OVERRANGE) ? 5 + 7 ***

Change which submasters have a 0-150% range. Default is all submasters with a 0-100% range. Assign this attribute to any or all submasters. Any submasters not assigned in this command change to a 0-100% range. If a submaster has both overrange and inhibitive attributes, the fader range from 100-150% is inactive.

Key Entry: [4][list][*]

Example: [4][1][THRU][5][*]

Command Line: **SETUP: 3- 4 PILE-ON ? 1 > 5 ***

Change which submasters have pile-on (additive) operation. Default is all submasters in this mode. Assign this attribute to any or all submasters. Any submasters not assigned by this command change to inhibitive.

Key Entry: [5][list][*]

Example: [5][6][+][8][*]

Command Line: **SETUP: 3- 5 INHIBITIVE ? 6 + 8 ***

Change which submasters have inhibitive operation. Default is all submasters pile-on (additive). Assign this attribute to any or all submasters. Any submasters not assigned by this command change to pile-on. If a submaster has both overrange and inhibitive attributes, the fader range from 100-150% is inactive.

6.5 *Transfer Disk And Memory Data*

The Disk and Misc. I/O Menu provides archiving commands and allows transfer of memory contents to the full backup. Push [4] from the Main Menu to display the Disk and Misc. I/O Menu.

Key Entry: [1][*][*]

Command Line: **SETUP: 4- 1 LOAD MEMORY FROM DISK ? * ARE YOU SURE ? ***

Load memory from disk. System uses current numbers of dimmers and channels, current 6K/12K assignments, and current circuit names, rather than extracting these from disk. This procedure is slower than **Boot System From Disk**, since it must "cut and trim" data as it loads.

Key Entry: [2][*][*]

Command Line: **SETUP: 4- 2 BOOT SYSTEM FROM DISK ? * ARE YOU SURE ? ***

Boot system from disk. Loads all system information from disk, including dimmer and channel numbers, 6K/12K assignments, and circuit names.

Key Entry: [3][*][*]

Command Line: **SETUP: 4- 3 RECORD DISK ? * ARE YOU SURE ? ***

Record all data in memory to disk.

Key Entry: [4][*][*]

Command Line: **SETUP: 4- 4 INITIALIZE DISK ? * ERASES DISK !! ***

Initialize (format) a new disk. This procedure must be run on all disks before first use.

Key Entry: [6][*][*]

Command Line: **SETUP: 4- 6 LOAD BACKUP ON ? * ARE YOU SURE ? ***

Load backup with main memory data and activate system tracking. If executed when in backup, loads main memory with information in backup.

Key Entry: [8][*][*]

Command Line: **SETUP: 4- 8 RUN DIAGNOSTICS ? * ERASES DISK !! ***

Run system diagnostic routine.

6.6 *Clear Data*

The Clear Function Menu provides commands for clearing memory. Push [7] from the Main Menu to display the Clear Function Menu.

Key Entry: [1][*][*]

Command Line: **SETUP: 7- 1 CLEAR CUES ? * ARE YOU SURE ? ***

Clear all cue information in memory.

Key Entry: [2][*][*]

Command Line: **SETUP: 7- 2 CLEAR PATCH ? * ARE YOU SURE ? ***

Clear system patch information, except 6K/12K selection and circuit names.

Key Entry: [3][*][*]

Command Line: **SETUP: 7- 3 CLEAR MEMORY ? * ARE YOU SURE ? ***

Clear all system memory.

6.7 *Print Hardcopy*

The Printer Request Menu provides printer commands. Push [8] from the Main Menu to display the Printer Request Menu. [AND] will not work in this menu for formulating lists.

Key Entry: [1][*]

Command Line: **SETUP: 8-1 PRINT CUE SHEET ? ***

Print entire Cue Sheet.

Key Entry: [1][Q list][*]

Example: [1][3][THRU][2][0][*]

Command Line: **SETUP: 8- 1 PRINT CUE SHEET ? 3 > 20 ***

Print selected range of Cue Sheet.

Key Entry: [2][*]

Command Line: **SETUP: 8- 2 PRINT CUES ? ***

Print preview display for all cues.

Key Entry: [2][Q list][*]

Example: [2][1][5][THRU][2][5][*]

Command Line: **SETUP: 8- 2 PRINT CUES ? 15 > 25 ***

Print preview display for listed cues.

Key Entry: [3][*]

Command Line: **SETUP: 8- 3 PRINT GROUPS ? ***

Print data for all groups.

Key Entry: [3][G list][*]

Example: [3][1][THRU][1][5][*]

Command Line: **SETUP: 8- 3 PRINT GROUPS ? 1 > 15 ***

Print data for listed groups.

Key Entry: [4][*]

Command Line: **SETUP: 8- 4 PRINT EFFECTS ? ***

Print data for all effects.

Key Entry: [4][E list][*]

Example: [4][5][THRU][9][*]

Command Line: **SETUP: 8- 4 PRINT EFFECTS ? 5 > 9 ***

Print data for listed effects.

Key Entry: [5][*]

Command Line: **SETUP: 8- 5 PRINT PATCH, PROFILE, SUBS ? ***

Print patch, profile, and submaster data. This information cannot be partially printed.

Key Entry: [9][*]

Command Line: **SETUP: 8- 9 HALT PRINTER ? ***

Stop all data output to printer. Depending on printer used, printing may continue until printer input buffer is empty.

6.8 *Configure Remote Units*

The Configure Remote Units Menu provides for turning remote units ON or OFF. Push [9] from the Main Menu to display the Configure Remote Units Menu.

Key Entry: [1][*]

Command Line: **SETUP: 9- 1 REMOTE CONSOLE ON/OFF ? ***

Turn Remote Console (Designer's Remote) ON/OFF (alternate action). When ON, system displays **REMOTE CONSOLE** in amber.

Key Entry: [2][*]

Command Line: **SETUP: 9- 2 REMOTE CONTROL ON/OFF ***

Turn Remote Control ON/OFF (alternate action). When ON, system displays **REMOTE CONTROL** in amber.

6.9 Patch Dimmers To Channels

Push (PATCH) to enter Patch Mode. Make dimmer type, maximum dimmer level (proportional patch), and dimmer to channel assignments in this mode. "[D#](or {CKname})" shows commands which use either a dimmer or circuit number if **CREATE CIRCUIT NAMES** is active (ON or OFF). Entries can then be made from the alphanumeric keyboard or the Command Keyboard. If **CREATE CIRCUIT NAMES** is not active, entries must be from the Command Keyboard.

Key Entry: [D#](or {CKname})[@][C#][*]

Example: [1][@][2][*]

Command Line: **DIMMER/CIRCUIT 1 @ CHANNEL 2 ***

Patch dimmer(s) to a channel without changing maximum level. System does not display maximum dimmer levels of 100%.

Key Entry: [@][C#][*]

Example: [@][2][*]

Command Line: **DIMMER/CIRCUIT @ CHANNEL 2 ***

Display list of dimmers or circuits assigned to the selected channel.

Key Entry: [D#](or {CKname})[@][C#][@][L#][*]

Example: [2][@][3][@][7][5][*]

Command Line: **DIMMER/CIRCUIT 2 @ CHANNEL 3 @ 75 ***

Patch dimmer(s) to a channel with a maximum level.

Key Entry: [D#](or {CKname})[@][@][L#][*]

Example: [1][@][@][8][*]

Command Line: **DIMMER/CIRCUIT 1 @ CHANNEL @ 80 ***

Assign/modify maximum level for dimmer(s) without altering channel assignment.

Key Entry: [D#](or {CKname})[@][*]

Example: [1][THRU][3][@][*]

Command Line: **DIMMER/CIRCUIT 1 > 3 @ ***

Unpatch dimmer(s) from their channel assignment.

Key Entry: [D#](or {CKname})[@][@][*]

Example: [2][@][@][*]

Command Line: **DIMMER/CIRCUIT 2 @ CHANNEL @ ***

Return maximum level of dimmer(s) to 100% (clear proportional patch).

Key Entry: [D#](or {CKname})[*]

Example: [3][*]

Command Line: DIMMER/CIRCUIT 3 *

Convert 2.4KW to 6/12KW assignments, and vice versa. For systems with demultiplexers driving analog dimmers, all dimmers are "2.4KW."

6.10 Create Circuit Names

Push (SETUP)[1][5][*][*] to create circuit names. If **Create Circuit Names** is inactive, **THIS SERIES OF KEYSTROKES CLEARS MEMORY** and changes the way patch information is displayed. The only way to inactivate **CREATE CIRCUIT NAMES** is to do a "Clear Reset." Turning this function OFF once **CREATE CIRCUIT NAMES** is active disables the ability to create new names. It does not disable the use of circuit names to access dimmers.

Push (PATCH) to enter Patch Mode and create circuit names.

Key Entry: {D#}{@}{ENTER}{CKname}{RETURN}

Example: {1}{@}{ENTER}{A}{0}{1}{RETURN}

Command Line: PATCH: DIMMER/CIRCUIT 1 @ A01 *

Assign a circuit name (up to five characters) for a dimmer. For proper ordering in the display, use appropriate leading zeros in any numbers so that the numeric portion of all names are the same length.

Key Entry: {D#}{@}{ENTER}{RETURN}

Example: {1}{@}{ENTER}{RETURN}

Command Line: PATCH: DIMMER/CIRCUIT 1 @ *

Delete circuit name from dimmer.

Key Entry: (NEXT)

Display patch data in circuit label order if it was in dimmer number order, or vice versa.

Key Entry: (LAST)

Display patch data in circuit label order if it was in dimmer number order, or vice versa.

Push (SETUP)[1][5][*][*] to disable circuit naming, but not dimmer access by circuit name. The Patch Display shows circuits with names, followed by unnamed dimmers in numerical order. Access circuits without names using their dimmer number.

6.11 Load And Execute Cues

The following commands are available from any mode and always modify stage light levels.

Key Entry: [GO]

Starts the next cue fade.

Key Entry: [STOP/BACK]

Stop all cues or effects. If no cues are running, starts a one second fade to the previous cue on stage.

Key Entry: [GOTO CUE][#][*]

Example: [GOTO CUE][2][*]

Command Line: **GO TO CUE 2 TIME 1 ***

Cause fade to a cue in one second.

Key Entry: [GOTO CUE][#][TIME][#][*]

Example: [GOTO CUE][4][TIME][5][*]

Command Line: **GO TO CUE 4 TIME 5 ***

Cause fade to a cue in specified time.

Key Entry: [GOTO CUE][#][TIME][*]

Example: [GOTO CUE][1][TIME][*]

Command Line: **GO TO CUE 1 TIME MAN ***

Load a cue to next available fader with manual fade time.

Key Entry: [LOAD CUE][#][*]

Example: [LOAD CUE][1][5][*]

Command Line: **LOAD CUE 15 ***

Load a cue to next available fader for playback at recorded time values when [GO] is next pushed.

Key Entry: [LOAD CUE][#][TIME][*]

Example: [LOAD CUE][1][5][TIME][*]

Command Line: **LOAD CUE 15 TIME MAN ***

Load a cue to next available fader for manual playback when [GO] is next pushed.

Key Entry: [LOAD CUE][#][TIME][#][*]
Example: [LOAD CUE][1][5][TIME][1][0][*]
Command Line: **LOAD CUE 15 TIME 10 ***

Load a cue to next available fader for playback at specified time values when [GO] is next pushed.

Key Entry: [RATE][*]
Command Line: **RATE ALL ***

Put all Faders under Rate Wheel control.

Key Entry: [RATE][Fader list][*]
Example: [RATE][3][+][5][*]
Command Line: **RATE 3+5 ***

Put only listed faders under Rate Wheel control.

6.12 *Control Channel Levels*

These commands are available from Live, Preview, Group, and Submaster Modes and allow control of channels within the current active mode. When system is in Live Mode, the results of these actions appear on stage. When system is in Preview, Group, or Submaster Modes, these commands modify cues, groups, and submasters respectively.

Key Entry: [C list][@][L#][*]
Example: [1][@][9][*]
Command Line: **CHANNEL 1 @ 90 ***

Set channel(s) to a level and put under Level Wheel control.

Key Entry: [C list][SET]
Example: [3][SET]
Command Line: **CHANNEL 3 @ SET ***

Set channel(s) to [SET] level (as determined by Defaults Menu item 2) and put under Level Wheel control.

Key Entry: (NEXT)
Command Line: **CHANNEL 3 @ SET ***

Access next channel at the same level and restore previous channel to prior level. Red reverse video cursor moves to next channel. Command Line does not change.

Key Entry: (LAST)

Command Line: **CHANNEL 3 @ SET ***

Access last channel at the same level and restore previous channel to prior level. Red reverse video cursor moves to last channel.

Key Entry: [C list][*]

Example: [1][THRU][3][*]

Command Line: **CHANNEL 1 > 3 ***

Put channel(s) under Level Wheel control.

Key Entry: [*]

Command Line: **CHANNEL ***

Put channel(s) with levels above ZERO under Level Wheel control.

Key Entry: [C list][OUT]

Example: [1][OUT]

Command Line: **CHANNEL 1 @ ***

Set channel(s) OFF (blank on screen) and put under Level Wheel control.

Key Entry: [C list][@][0][*]

Example: [1][@][0][*]

Command Line: **CHANNEL 1 @ 00 ***

Set channel(s) to ZERO and put under Level Wheel control.

Key Entry: [C list][@][*]

Example: [1][@][*]

Command Line: **CHANNEL 1 @ ***

Set channel(s) OFF and put under Level Wheel control.

Key Entry: [MINUS][C list][*]

Example: [MINUS][3][THRU][9][*]

Command Line: **- CHANNEL 3 > 9 ***

Put all channels with levels above ZERO, except listed channels, on the Level Wheel.

Key Entry: [C#][FLASH][*]

Example: [1][5][FLASH][*]

Command Line: **CHANNEL 15 FLASH ***

Starts selected channel(s) flashing between 15% and FULL. Push (NEXT) to flash next channel, (LAST) to flash previous channel, and [C] to clear the flash.

Key Entry: [RETURN][*]

Sets all channels to last command levels. This will also stop channel flashing and return unpatched dimmers to their channel level assignments.

Key Entry: [C list][REM DIM][*]

Example: [1][REM DIM][*]

Command Line: **CHANNEL 1 REMAINDER DIM ***

Sets all channels except the listed channels to ZERO, leaving the listed channels at their previous levels.

Key Entry: [C list][@][L#][REM DIM][*]

Example: [1][THRU][1][0][@][9][REM DIM][*]

Command Line: **CHANNEL 1 > 10 @ 90 REMAINDER DIM ***

Sets all channels except the listed channels to ZERO, setting the listed channels to (L#).

6.13 *Direct Dimmer Access*

Access dimmers and circuits directly using [DIMMER], bypassing the channel patch data. [D#/CK#] shows entries which may be made using either a dimmer or circuit number if **CREATE CIRCUIT NAMES** has been activated.

Key Entry: [DIMMER][D list](or {CKname list})[@][L#][*]

Example: [DIMMER][1][THRU][9][@][FULL][*]

Command Line: **DIMMER/CIRCUIT 1 > 9 @ FL ***

Set dimmer(s) to a level, bypassing channel assignment information.

Key Entry: [DIMMER][D list](or {CKname list})[SET]

Example: [DIMMER][1][SET]

Command Line: **DIMMER/CIRCUIT 1 @ SET ***

Set dimmer(s) to the [SET] level, bypassing channel assignment information.

Key Entry: (NEXT)

Command Line: **DIMMER/CIRCUIT 2 @ SET ***

Access next dimmer/circuit at the same level and restore previous dimmer to prior level. Only works when [D list](or {CKname list}) is a single dimmer.

Key Entry: (LAST)

Command Line: **DIMMER/CIRCUIT 1 @ SET ***

In Dimmer Address Mode, access last dimmer at the same level and restore previous dimmer to prior level. Only works when [D list](or {CKname list} is a single dimmer.

Key Entry: [DIMMER][D list](or {CKname list})[OUT]

Example: [DIMMER][1][OUT]

Command Line: **DIMMER/CIRCUIT 1 @ 00 ***

Set dimmer(s) to OFF, bypassing channel assignment information.

Key Entry: [DIMMER][D list](or {CKname list})[FLASH][*]

Example: [DIMMER][4][FLASH][*]

Command Line: **DIMMER/CIRCUIT 4 FLASH ***

Starts selected dimmer(s) flashing between 15% and FULL.

Key Entry: [DIMMER][RETURN][*]

Command Line: **DIMMER/CIRCUIT RETURN ***

Restores all dimmers to their previous patch assignment(s) and level(s).

Key Entry: [DIMMER][D list](or {CKname list})[RETURN][*]

Example: [DIMMER][1][THRU][5][RETURN][*]

Command Line: **DIMMER/CIRCUIT 1 > 5 RETURN ***

Restores listed dimmer(s) to their previous patch assignment(s) and level(s).

6.14 *Record Single Part Cues Live*

Push (LIVE) to enter Live Mode. Display, record, modify, or delete cue information in this mode. Any changes made in this mode appear on stage immediately.

Key Entry: [RECORD][CUE][#][TIME][*]

Example: [RECORD][CUE][3][TIME][*]

Command Line: **RECORD CUE 3 TIME MAN ***

Record stage levels with a manual fade time.

Key Entry: [RECORD][CUE][#][TIME][/][*]

Example: [RECORD][CUE][3][TIME][/][*]

Command Line: **RECORD CUE 3 TIME MAN/MAN ***

Record stage levels with a split manual fade time.

Key Entry: [RECORD][CUE][#][*]
Example: [RECORD][CUE][3][*]
Command Line: **RECORD CUE 3 TIME 5 ***

Record stage levels with the default fade time if this is a new cue.

Key Entry: [RECORD][CUE][#][TIME][#][*]
Example: [RECORD][CUE][3][TIME][2][*]
Command Line: **RECORD CUE 3 TIME 2 ***

Record stage levels and fade time to a cue.

Key Entry: [RECORD][CUE][#][TIME][#][/][#][*]
Example: [RECORD][CUE][3][TIME][5][/][7][*]
Command Line: **RECORD CUE 3 TIME 5/7 ***

Record stage levels and separate up-fade and down-fade times.

Key Entry: [RECORD][CUE][#][TIME][#][/][#][DELAY][#][/][*]
Example: [RECORD][CUE][5][TIME][5][/][8][DELAY][3][/][*]
Command Line: **RECORD CUE 3 TIME 5/8 DELAY 3/ ***

Record stage levels and separate up-fade and down-fade times, with a delay before start of up-fade.

Key Entry: [RECORD][CUE][#][TIME][#][/][#][DELAY][/][#][*]
Example: [RECORD][CUE][5][TIME][8][/][5][DELAY][/][3][*]
Command Line: **RECORD CUE 3 TIME 8/5 DELAY /3 ***

Record stage levels and separate up-fade and down-fade times, with a delay before start of down-fade.

Key Entry: [RECORD][CUE][#][TIME][#][/][#][DELAY][#][/][#][*]
Example: [RECORD][CUE][3][TIME][5][/][8][DELAY][5][/][2][*]
Command Line: **RECORD CUE 3 TIME 5/8 DELAY 5/2 ***

Record stage levels and separate up-fade and down-fade times, with a delay before start of up-fade and down-fades.

Key Entry: [RECORD][CUE][#][Q-ONLY/TRACK][*]
Example: [RECORD][CUE][1][Q-ONLY/TRACK][*]
Command Line: **RECORD CUE 1 Q-ONLY ***

Record stage levels and prevent them from tracking into the next cue.

If system is in Q-ONLY Mode, this action forces these levels to track into later cues. Command Line then shows **TRACK** rather than **Q-ONLY**.

6.15 Record A New Multi-Part Cue Live

Record cue parts in a multi-part cue just as single part cues, except use [CUE][#][PART][#] rather than [CUE][#] in the command.

A channel may appear only in one part of a multi-part cue. Recording it in a later part move the it to the new part. Each part may have its own time, delay, profile, and effect. All parts have the same wait time.

6.16 Split A Single Part Cue Into Parts Live

Split single part cues into multi-part cues live using the following format:

Key Entry: [C list][REC][CUE][#][PART][#][*]

Example: [1][THRU][5][REC][CUE][1][PART][1][*]

Command Line: CHANNEL 1 > 5 RECORD IN CUE 1 PART 1 TIME 5 *

Record listed channels into the selected cue and part, with the default fade time. The system re-records all other channels in the existing cue into a part 6. Repeat command to form other parts in the same cue. When all parts are recorded, delete part 6 if it has no channels. Add commands for assigning times, delays, profiles, or effects if required.

6.17 Modify Cues Live

Modification of cues and cue parts live is the same. However, for single part cues, do not enter [PART][#] where [CUE][#][PART][#] is shown below.

Key Entry: [CUE][#][WAIT][#][*]

Example: [CUE][2][WAIT][5][*]

Command Line: CUE 2 WAIT 5 *

Assign/modify wait time. Wait time is from start of cue to automatic start of next recorded cue.

Key Entry: [CUE][#][PART][#][TIME][#][*]

Example: [CUE][3][PART][1][TIME][.][5][*]

Command Line: CUE 3 PART 1 TIME .5 *

Assign/modify fade time. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][TIME][#][/][#][*]

Example: [CUE][3][PART][2][TIME][5][/][1][0][*]

Command Line: CUE 3 PART 2 TIME 5/10 *

Assign/modify separate fade times for up-fade and down-fade. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][DELAY][#][*]
Example: [CUE][3][PART][4][DELAY][5][*]
Command Line: **CUE 3 PART 4 TIME 5 DELAY 5 ***

Assign/modify delay time. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][DELAY][#][/][#][*]
Example: [CUE][3][PART][5][DELAY][4][/][*]
Command Line: **CUE 3 PART 4 TIME 5 DELAY 4/ ***

Assign/modify separate up-fade and down-fade times, with a delay before start of up-fade. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][TIME][#][DELAY][#][*]
Example: [CUE][3][PART][3][TIME][5][DELAY][2][*]
Command Line: **CUE 3 PART 3 TIME 5 DELAY 2 ***

Assign/modify fade and delay times. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][TIME][#][/][#][DELAY][#][/][#][*]
Example: [CUE][3][PART][3][TIME][5][/][9][DELAY][4][/][2][*]
Command Line: **CUE 3 PART 3 TIME 5/9 DELAY 4/2 ***

Assign/modify separate up-fade and down fade times, and delay both up-fade and down-fade. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][TIME][*]
Example: [CUE][3][PART][1][TIME][*]
Command Line: **CUE 3 PART 1 TIME MAN ***

Change fade time to manual. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][DELAY][*]
Example: [CUE][3][PART][3][DELAY][*]
Command Line: **CUE 3 PART 3 DELAY ***

Delete delay time.

Key Entry: [CUE][#][PART][#][TIME][DELAY][*]
Example: [CUE][3][PART][2][TIME][DELAY][*]
Command Line: **CUE 3 PART 2 TIME MAN DELAY ***

Change fade time to manual and delete delay time. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][WAIT][*]
Example: [CUE][5][WAIT][*]
Command Line: **CUE 5 WAIT ***

Delete wait time.

6.18 *Record Cues Blind*

Push (PREVIEW) to enter Preview Mode. Mode Display shows Preview Display. Display, record, modify, or delete channel levels, fade times, delays, and waits in this mode. The system automatically records all data as it is entered in this mode.

[CUE][#][PART][#][*] are optional keystrokes if correct cue and part number is already displayed. Do not enter [PART][#] for single part cues. When accessing a new part of the cue already displayed, [CUE][#] is not necessary. All Channel Commands work from, and cause a recording of new levels directly into the current preview cue. Channel commands have no effect on stage lights in this mode. For the following examples, the console is set to Track Mode (**Q- ONLY = OFF**).

Key Entry: (NEXT)

Display next cue for preview or modification.

Key Entry: (LAST)

Display last cue for preview or modification.

Key Entry: [CUE][#][PART][#][*] [#][@][#][*]
Example: [CUE][3][PART][4][*] [5][@][4][5][*]
Command Line: **CUE 3 PART 4 CHANNEL 5 @ 45 ***

Record channel levels. New levels will track into later cues. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][*] [#][@][#][Q-ONLY/TRACK][*]
Example: [CUE][3][PART][4][*] [5][@][4][5][Q-ONLY/TRACK][*]
Command Line: **CUE 3 PART 4 CHANNEL 5 @ 45 Q-ONLY ***

Record channel levels. New levels will not track into later cues. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][*] [WAIT][#][*]
Example: [CUE][4][*] [WAIT][5][*]
Command Line: **CUE 4 WAIT 5 ***

Assign/modify wait time for a cue.

Key Entry: [CUE][#][PART][#][*] [TIME][#][*]
Example: [CUE][5][PART][2][*] [TIME][4][*]
Command Line: CUE 5 PART 2 TIME 4 *

Assign/modify fade time. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][*] [TIME][#][/][#][*]
Example: [CUE][7][PART][2][*] [TIME][5][/][2][*]
Command Line: CUE 7 PART 2 TIME 5/2 *

Assign/modify separate up-fade and down-fade times. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][*] [DELAY][#][*]
Example: [CUE][3][PART][4][*] [DELAY][2][*]
Command Line: CUE 3 PART 4 TIME 4 DELAY 2 *

Assign/modify delay time. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][*] [TIME][*]
Example: [CUE][3][PART][3][*] [TIME][*]
Command Line: CUE 3 PART 3 TIME MAN *

Assign manual fade time. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][*] [DELAY][*]
Example: [CUE][2][PART][1][*] [DELAY][*]
Command Line: CUE 2 PART 1 TIME 3 DELAY *

Delete delay time. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][PART][#][*] [TIME][DELAY][*]
Example: [CUE][5][PART][1][*] [TIME][DELAY][*]
Command Line: CUE 5 PART 1 TIME MAN DELAY *

Delete delay time and change fade time to manual. For cues without parts, do not enter [PART][#].

Key Entry: [CUE][#][*][WAIT][*]
Example: [CUE][1][0][*][WAIT][*]
Command Line: CUE 10 WAIT *

Delete wait time.

6.19 *Modify Cues Blind*

The procedure for modifying cues blind is the same as that for recording cues blind.

6.20 *Delete Cues*

The commands for deleting cues are the same whether in Live or Preview (Blind) Mode. Commands for deleting cues and cue parts are the same, except do not enter [PART][#] for single part cues.

Key Entry: [DELETE][CUE][#][PART][#][*][*]

Example: [DELETE][CUE][7][5][PART][1][*][*]

Command Line: **DELETE CUE 75 PART 1 * ARE YOU SURE ? ***

Delete a cue or cue part and prevent its move instructions from recording into the next cue. ARE YOU SURE ? warns that existing information will be modified. Push [*] again to override warning, or [CLEAR] to abort procedure. For cues without parts, do not enter [PART][#].

Key Entry: [DELETE][CUE][#][PART][#][Q-ONLY/TRACK][*][*]

Example: [DELETE][CUE][7][PART][2][Q-ONLY/TRACK][*][*]

Command Line: **DELETE CUE 7 PART 1 Q-ONLY * ARE YOU SURE ? ***

Delete a cue and record its move instructions into the next cue. ARE YOU SURE ? warns that existing information will be modified. Push [*] again to override warning, or [CLEAR] to abort procedure. For cues without parts, do not enter [PART][#].

If the console is in Q-ONLY Mode, this action deletes the move instructions provided by the deleted cue.

6.21 *Copy Cues*

The procedure for copying cues is the same in the Live and Preview (Blind) Modes.

Key Entry: [CUE][#][@][CUE][#][*]

Example: [CUE][3][@][CUE][5][*]

Command Line: **CUE 3 @ CUE 5 ***

Copy contents of first cue into second cue.

6.22 *Record Groups Live*

Record groups live via the Live Display or blind via the Group Mode.

Key Entry: [RECORD][GROUP][#][*]

Example: [RECORD][GROUP][2][*]

Command Line: **RECORD GROUP 2 ***

Record live stage levels to a group.

Key Entry: [RECORD][GROUP][NEXT][*]

Command Line: **RECORD GROUP 3 ***

Record stage levels to the next unrecorded group number.

Key Entry: [GROUP][#][@][#][*]

Example: [GROUP][1][@][FULL][*]

Command Line: **GROUP 1 @ FULL ***

Bring a group on stage at the specified percentage.

6.23 *Record Groups Blind*

Push (GROUP) to enter Group Mode. This mode allows blind recording and modification of groups.

Key Entry: (GROUP)[#][*]

Example: (GROUP)[1][*]

Command Line: **GROUP 1:**

Select a group or create a new group.

Key Entry: (NEXT)

Command Line: **GROUP 2:**

Display next highest recorded group number for preview or modification.

Key Entry: (LAST)

Command Line: **GROUP 1:**

Display next lower recorded group number for preview or modification.

Key Entry: [GROUP][#][@][#][*]

Example: [GROUP][1][@][FULL][*]

Command Line: **GROUP 1 @ FULL ***

Bring a group into the displayed group at the specified percentage of recorded channel levels.

6.24 *Delete Groups*

Key Entry: [DELETE][GROUP][#][*]
Example: [DELETE][GROUP][3][*]
Command Line: **DELETE GROUP 3 ***

Delete a group from memory.

6.25 *Record Channel Data To Submaster*

Push (SUBMASTER) to enter Submaster Mode. This mode allows direct assignment or modification of channels to submasters. Once the correct submaster is displayed, enter channel levels as in Live Mode.

Key Entry: (SUBMASTER)[#][*]
Example: (SUBMASTER)[1][*]
Command Line: **SUBMASTER 1:**

Select submaster for preview or modification.

Key Entry: (NEXT)
Command Line: **SUBMASTER 2:**

Display next highest submaster number for preview or modification.

Key Entry: (LAST)
Command Line: **SUBMASTER 1:**

Display next lower submaster number for preview or modification.

6.26 *Load Submasters For Playback*

Key Entry: [LOAD SUB][#][GROUP][#][*]
Example: [LOAD SUB][1][GROUP][2][*]
Command Line: **LOAD SUB 1 GROUP 2 ***

Load a group onto a submaster. This requires a second push of [*] if submaster already contains other data.

Key Entry: [LOAD SUB][#][EFFECT][#][*]
Example: [LOAD SUB][3][EFFECT][3][*]
Command Line: **LOAD SUB 3 EFFECT 3 ***

Load an effect onto a submaster. This requires a second push of [*] if submaster already contains other data.

Key Entry: [LOAD SUB][submaster list][GROUP][group list][*]
Example: [LOAD SUB][1][THRU][4][GROUP][7][THRU][9][+][1][2][*]
Command Line: **LOAD SUB 1 > 4 GROUP 7 > 9 + 12 ***

Load selected groups onto specified submasters, replacing submaster contents. This requires a second push of [*] if submasters already contain other data.

Key Entry: [LOAD SUB][submaster list][EFFECT][effect list][*]
Example: [LOAD SUB][1][THRU][4][EFFECT][7][THRU][9][+][1][2][*]
Command Line: **LOAD SUB 1 > 4 EFFECT 7 > 9 + 12 ***

Load selected effects onto specified submasters, replacing submaster contents. This requires a second push of [*] if submasters already contain other data.

6.27 *Record Special Effects*

Push (EFFECT) to enter Effect Mode. This mode allows preview and modification of effects.

Key Entry: (EFFECT)[#][*]
Example: (EFFECT)[1][*]
Command Line: **EFFECT 1:**

Select an effect to create or modify.

Key Entry: (NEXT)
Command Line: **EFFECT 2:**

Display next highest recorded effect number to preview or modify.

Key Entry: (LAST)
Command Line: **EFFECT 1:**

Display next lower recorded effect number to preview or modify.

Key Entry: [#][#][C#][*]
Example: [0][1][5][*]
Command Line: **STEP 01 - CHANNELS 5 ***

Assign channel(s) to a step.

Key Entry: (NEXT)
Command Line: **STEP 02 -**

Access next effect step for channel assignment.

Key Entry: [8][1][L#][*]
Example: [8][1][9][*]
Command Line: **81 - HIGH LEVEL 90 ? ***

Assign/modify level of ON state.

Key Entry: [8][2][L#][*]
Example: [8][2][1][*]
Command Line: **82 - LOW LEVEL 10 ? ***

Assign/modify level of OFF state.

Key Entry: [8][3][*]
Command Line: **83 - NEGATIVE ON/OFF ? ***

Turn **NEGATIVE** attribute ON/OFF (alternate action).

Key Entry: [8][4][*]
Command Line: **ALTERNATE ON/OFF ? ***

Turn **ALTERNATE** attribute ON/OFF (alternate action).

Key Entry: [8][5][*]
Command Line: **REVERSE ON/OFF ? ***

Turn **REVERSE** attribute ON/OFF (alternate action).

Key Entry: [8][6][*]
Command Line: **BOUNCE ON/OFF ? ***

Turn **BOUNCE** attribute ON/OFF (alternate action).

Key Entry: [8][7][*]
Command Line: **BUILD ON/OFF ? ***

Turn **BUILD** attribute ON/OFF (alternate action).

Key Entry: [8][8][*]
Command Line: **RANDOM ON/OFF ? ***

Alternate action, turn **RANDOM** attribute ON or OFF.

Key Entry: [8][9][#][*]
Example: [8][9][.][5][*]
Command Line: **89 - STEP TIME ? .5 ***

Set default step time for submaster control.

Key Entry: [9][0][*][*]

Command Line: CLEAR EFFECT * ARE YOU SURE ? *

Clear the displayed effect.

6.28 *Set Profiles*

Push (PROFILE) to enter Profile Mode. Modify the 9 system fade profiles in this mode.

Key Entry: (NEXT)

Move cursor to next higher profile number.

Key Entry: (LAST)

Move cursor to next lower profile number.

Key Entry: [#][#][*]

Example: [3][6][*]

Command Line: 30% @ 60 *

Select percent fade completion and set desired percentage of voltage for that point in the fade.

6.29 *BACKUP*

Light Palette Three has an internal full tracking backup or a separate console for use if the main system fails.

The full tracking backup is a complete duplicate processor which operates exactly like the main processor except that the print request functions are suppressed. Activate the full backup by setting the Playback Keyswitch to "BACKUP". The backup electronics tracks and duplicates all operations of the main system. When a new disk is loaded, a system prompt reminds the operator to re-load the backup. This is done via in the Disk and Misc. I/O Menu. If, for some reason, the backup goes off line, the system displays BACKUP DATA LOSS. RELOAD??. This is usually due to a transmission error between the two systems. The backup system should be put back on-line using the backup command in the Disc And Misc. I/O Menu.

Systems with full tracking backup have a backup disk drive. This drive may be used to load information directly into the backup processor if necessary, rather than through the **Load Backup** (Disk And I/O Menu item #6).

6.30 **REMOTE CONTROL**

A hand held Remote Control (sometimes called a "Remote Focus" or "Rigger's Remote") is available for the Light Palette Three. It supports many of the console functions which do not need manual faders. Operation of these functions through the Remote Control is essentially the same as through the Control Console.

Remote Control functions are available only when the Remote Control is turned ON in the Setup Menu (see page). The Remote Control should be turned OFF in the Setup Menu when it is unplugged. If this is not done, the console is still looking for data from the Remote Control, and may interpret noise on the unterminated line as data.

MAINTENANCE

*Light Palette Three Operations Manual
Abridged*

This section provides basic trouble-shooting procedures to follow if you should have any problems with the equipment. It also provides a list of steps and equipment for periodic maintenance.

STATE OF NEW YORK

IN SENATE
January 10, 1917.

7. BASIC TROUBLE-SHOOTING

This chapter provides basic trouble-shooting procedures for Light Palette Three. It does not provide comprehensive maintenance data, but allows the user to solve simple problems which may occur, and helps to provide Strand Lighting with initial data when these procedures are not effective.

For best system operation, do a routine check and cleaning once each year unless the operating environment is unusually harsh or dirty. Service and maintenance operations other than this cleaning are seldom required. In case of problems, and in order to save time and aggravation, follow the procedures outlined here before calling Strand Lighting. Observe what happens at each step. These steps answer the first questions a Strand Lighting Service Representative will ask. The person doing the tests should call Strand Lighting in order to minimize translation errors and other misunderstandings.

Each section of this chapter describes a possible failure mode and actions to be taken. If all actions fail, please call the appropriate Strand Lighting office.

7.1 Things To Remember

A. System Setup

System Setup must be correct for your dimming system, or dimmer addressing will suffer. Once properly set, do not change the number of dimmers, multiplexing on/off and 6k/12k assignments. Post system setup assignments nearby for easy reference. Always check the system setup first in any dimmer malfunction or addressing problem.

B. Effects

Any channel captured by an effect is at zero at the end of the effect unless later commands recapture the channel. An "Infinite Time" effect continues to "run" on a fader even after all channels are recaptured by later commands. Cancel the effect manually to remove it from the fader.

7.2 *Basic Failure Types*

There are several modes of computer failure. Strand Lighting has experts who can help identify and correct any type of failure which you may see. Regardless of suspected failure type, call Strand Lighting Field Service if the following procedures do not work. They will evaluate failure type and involve the necessary experts.

A. **Operator Error**

Since this is the simplest type of failure to check for always recheck operating procedures before any other trouble-shooting. If you have questions not answered in this manual, call Strand Lighting Field Service.

B. **Memory "Glitch"**

This is different from a "bug." A "glitch" can be caused by electrical or electromagnetic events, and changes the system memory or information on a disk. Symptoms may not surface at the time the "glitch" is introduced, and may be drastic enough to halt the system when they do. In failures where operator error is ruled out, assume this failure mode first, and clear the system following instructions under "System Halt" in this chapter.

C. **Hard Failure**

This term describes the case of an actual component failure in the system. Depending on symptoms and the equipment in your possession, such failures can be diagnosed over the telephone and appropriate spare parts sent for swap out on site. Often such problems can be resolved without a Field Engineer on site, saving both time and expense. Even if a Field Engineer on site becomes necessary, this type of failure is usually be handled by a simple component or printed circuit board swapout, involving very little actual on-site repair time.

7.3 *System Halt*

Lights will not respond, and the keyboard does not respond. Lights go OFF or float to FULL depending on failure mode. If the keyboard and video respond, see under "Dimmer Addressing Problems" in this chapter. If the system halted during a disk transfer, see under "Disk Transfer Problems" in this chapter. Otherwise do the following tests. Do not continue with tests once the console is functioning properly. If lights float to full, the failure is probably on the I/O module or in the transmission line. If the console still does not function after tests are complete, call Strand Lighting Field Service. This should be done by the person doing the tests.

A. **Reset**

Turn console OFF, then back ON again. This resets the processor if there is a simple program hang-up.

B. **Clear Reset**

Push [CLEAR] and turn console off for 2-3 seconds, then back on again while [CLEAR] is still pushed. This clears memory, so re-load from a disk after this. In consoles with full backup, also clear the backup memory. Set Playback Keyswitch to "BACKUP", push [CLEAR], and turn the ON/OFF Keyswitch all the way OFF, wait 2-3 seconds, then turn the ON/OFF Keyswitch back ON with [CLEAR] still pushed. This is a "Clear Reset."

C. **Hard Reset**

If you have not done this procedure before, consult Strand Lighting Field Service before proceeding.

Turn console off. Unplug console from power. Remove both Memory cards from console. Remove W-X jumper (to the right of batteries, at top of memory board). Wait 2 minutes. Re-install jumper and replace Memory cards. This is a "hard reset." It completely wipes all memory locations to zero due to total power down. A "Clear Reset" may be necessary after this. If the console has Full Backup, the battery disconnect must be done in the full backup hardware along with the battery disconnect in the main system.

If a hard reset fails, and the batteries on the memory are known to be over two years old, repeat the process without reconnecting the battery jumpers. If the console operates, replace the batteries.

D. Intermittent Halt

If the console can be reset, but shuts off periodically (more than once every few months), there may be power problems in the building or in the console. In such cases do the following tests.

- 1) If a power conditioner is in use, plug the console directly into the wall to see if the conditioner has failed.
- 2) If the power conditioner seems to be functioning, a console power supply may be out of adjustment. Consult Strand Lighting Field Service for adjustment procedures.
- 3) If steps 1) and 2) above show that the equipment is properly functioning and adjusted, the AC Fail Detector in the console may be defective or out of adjustment. Consult Strand Lighting Field Service.
- 4) If the above check out, you may have to investigate the incoming power to the building. Consult Strand Lighting Field Service to determine if this is necessary.

7.4 Memory Corruption

For purposes of this manual, memory corruption is any problem with memory which do not cause a system halt. This is one form of Memory Glitch as defined under "Basic Failure Types." Memory corruption can take many forms. When in doubt, consult Strand Lighting Field Service.

A. Source

Memory corruption can occur from several sources. Some of these are:

- 1) A voltage spike which was not entirely eliminated by the power line conditioner or other input power conditioning device. Such spikes can result from close lightning strikes, from the power company itself, or from within your own building (i.e., air conditioning system turning on).
- 2) Voltage spikes caused by a faulty power conditioning device. These are electronically controlled and can fail. Usually the effects of such failures are more drastic than simple memory corruption (i.e., system halts).
- 3) A partial or full brownout, after which the return of power can be "dirty." There is sometimes enough "Trash" on line when power is restored to cause problems.

- 4) Transfer of bad data from a corrupted disk. Disks can be corrupted in several ways. Once a disk is corrupted, clearing the memory eliminates the problem only until memory is reloaded from the bad disk. Find an uncorrupted backup disk, or re-enter data by hand (see under "Disk Drive Problems" in this chapter).

B. Determination Of Extent

If memory is corrupted, to determine if the problem is on your show disk. The following procedures will help.

- 1) Copy the contents of memory to a disk. This disk is corrupted, but may be valuable as a reference, or as a backup.
- 2) Clear memory by doing a "hard reset" (See under "System Halt" in this chapter).
- 3) Try to duplicate the observed problem starting with a blank console. This shows if the problem is in the console itself. If the problem persists during this step, call Strand Lighting Field Service. If you cannot duplicate the problem proceed to step 4.
- 4) Load data from a show disk (not the one which was made above). If the problem re-occurs, it is on the disk. It will be necessary to find a way to work around the problem, find an older, uncorrupted disk to use for updating show data, or reprogram starting from a cleared console.
- 5) Once you have established an uncorrupted memory, make sure that appropriate disks and backups are re-recorded with uncorrupted data. Re-initialized disks before using them for new data.

7.5 *Disk Drive Problems*

A. **Halt on Read**

Attempt to transfer data into memory causes system halt.

- 1) Turn system off then on again to reset. This normally clears a halt caused by disk problems. If not, follow instructions under "System Halt" in this chapter.
- 2) Try one of your backup disks. If this causes the same problem, save both disks and obtain one on which data can be changed.
- 3) Initialize the diskette from 2. **This erases all previous data on the disk.**
- 4) If disk will not initialize, obtain another disk. Try at least 3 disks before giving up at this step.
- 5) Write several simple cues into memory.
- 6) Attempt to record cues written in step 5 to disk. If initialization succeeded, this should also work.
- 7) Attempt to load memory from the new disk. If successful, try the disk from step 1 again. If console halts, disk is bad.

B. **Halt on Record**

Attempt to record a disk causes system halt.

Use the procedure above to make certain that the problem is not a bad disk. Always test for disk failure before suspecting hardware. Although unusual, it is possible for several disks to be corrupted at once.

C. **Halt on all transfers**

Disk will not transfer either direction. Message comes back **ERROR - TRY AGAIN** (red LED on disk drive lights up for a while, then goes out).

Check for corrupted disk as above. If all disks seem defective, check cable between PROM card and disk drive. If this seems good but problems persist, call Strand Lighting Field Service.

D. **Cannot initialize diskette**

If one disk will not initialize, it is probably bad. In Full Backup Systems, all initialization can be done using the Full Backup section disk drive if the Main System disk drive is problematic. If these steps do not correct the problem, call Strand Lighting Field Service.

7.6 Video Problems

A. Non-Functioning CRT

- 1) Check brightness controls.
- 2) Open unit and ascertain that CRTs have power. If CRT has power, the rear end of the picture tube will glow. If there is no glow on both tubes, the +12V power supply may be faulty. This supply is used to activate the relay which applies 115VAC to the monitors. Strand Lighting Field Service can help you determine if the +12V power supply is functional. If there is power to one unit and not the other, the problem is in the CRT or its own power feed.
- 3) If an external monitor is available for testing, check the video generator by plugging the external monitor into one, then the other of the remote video outputs. If there is no picture on the remote, the problem is probably in one or both outputs of the video generator. If both outputs transmit properly to the remote monitor, the problem(s) are in the CRT(s).

B. CRT has a double image or "fuzzy" image

- 1) If a remote CRT is in use, the remote CRT cable is probably plugged into the back of the console, but with the remote monitor disconnected or improperly terminated. When you disconnect the remote monitor, you must also disconnect the cable at the console, or the cable must be properly terminated. If the remote monitor is connected, make certain that all CRTs are properly terminated.
- 2) Use of "Y" connectors in a video hookup is not proper procedure. If there is more than one monitor on the monochrome system, consult Strand Lighting or your local TV station for proper video hookup procedure.
- 3) If none of the above works, disconnect the video cable at the console anyway. This will show if there is a problem in the remote monitor or cable, or if the problem is in the console.

C. CRT in console dims when remote CRT is plugged in

Remote CRT is incorrectly terminated or there is a short circuit in the video distribution.

7.7 Dimmer Addressing Problems

A. Some or all dimmers float to full

- 1) In CD80 systems, make certain that the proper number of dimmers are assigned in the Configuration Menu, and that 6KW and 12KW dimmers are properly assigned in Patch.

If these are not correct, improper dimmer addressing will result. Each incorrect 6K/12K dimmer assignment will shift the dimmer output by one number.

- 2) If only a few dimmers are involved, make certain that the problem is not in the dimmer rack.
- 3) If an entire console output or more (a multiple of 96 dimmers) is involved, swap output cables to see whether the problem is in the console or dimmer rack (i.e., if all dimmers on control cable #1 are affected, swap cable #1 and cable #2 at the console outputs). If the same dimmer rack(s) is(are) affected, the problem is in the rack(s). If different dimmers are now affected, the output is faulty.

Be careful. Once you swap outputs, dimmer numbering will shift. If you have questions about how dimmer numbers will shift, consult Strand Lighting Field Service.

B. Console will not control correct dimmers

- 1) Check for correct patch assignment.
- 2) In CD80 systems, make certain that the proper number of dimmers are assigned in the Configuration Menu, and that 6KW and 12KW dimmers are properly assigned in Patch.

If these are not correct, improper dimmer addressing will result. Each incorrect 6K/12K dimmer assignment will shift the dimmer output by one number.

C. Control of dimmers is shifted

When a dimmer is brought up, a different dimmer comes up instead, and is shifted by a fixed amount.

In CD80 systems, make certain that the proper number of dimmers are assigned in the Configuration Menu, and that 6KW and 12KW dimmers are properly assigned in Patch.

If these are not correct, improper dimmer addressing will result. Each incorrect 6K/12K dimmer assignment will shift the dimmer output by one number.

D. Some dimmers cannot be controlled, or act as non-dims

- 1) Check "Patch" to ascertain that all patches are correct.
- 2) Check "Submaster" to make sure that dimmers are not being held ON or OFF by a submaster.

If these check, the problem is probably in the dimmer rack.

E. Certain dimmers will not go up to full

Check "Patch" to make certain they are not proportionally patched to a lower level. Check submasters to make certain they are not being inhibited. If these are proper, check the dimmer rack for problems.

Some of the most important of these are:

1. The need to ensure that the system is secure.

2. The need to ensure that the system is available to all users.

3. The need to ensure that the system is easy to use.

4. The need to ensure that the system is reliable.

5. The need to ensure that the system is scalable.

8. PERIODIC MAINTENANCE

Periodic Maintenance should be done every six (6) to twelve (12) months, depending on the environmental conditions. Although a detailed discussion of this procedure is beyond the scope of this manual, basic checklists are provided to show what is involved. Users wishing to do these procedures on their own should consult Strand Lighting Field Service.

Basic Periodic Maintenance consists of the following steps:

1. Clean console
2. Clean all mechanical connections
3. Re-install all removed components, and power up.
4. Check and adjust power supplies
5. Check and adjust A.C. Fail circuit
6. Check and adjust all mechanical controls
7. Clean disk drive
8. Check and adjust CRT if necessary
9. Check and adjust all console outputs
10. Check backup system
11. Re-lamp illuminated push-buttons and worklights where applicable.

Equipment necessary to do the above, but not provided by Strand Lighting, includes:

1. Compressed air (must be oil and moisture free).
2. Soft paint brush
3. Digital volt-ohm-meter
4. Oscilloscope
5. Distilled water (20%) + denatured alcohol (80%).
6. Floppy disk drive head cleaning kit
7. Variac transformer to vary console input voltage.

STATE OF NEW YORK

IN SENATE
January 12, 1910.

REPORT OF THE

COMMISSIONERS OF THE LAND OFFICE
IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE
MAY 15, 1909.

ALBANY: JAMES BROWN PUBLISHER, 1910.

ALBANY: JAMES BROWN PUBLISHER, 1910.

Appendix A

VIDEO PARAMETERS

*Light Palette Three Operations Manual
Abridged*

GENERAL

Light Palette Three generates RGB TTL video signals. Connecting a monitor which is not set up for TTL inputs may damage Light Palette Three, the monitor, or both.

PINOUT

The pinout for the 8-pin video connector is shown below.

PIN #	SIGNAL NAME
1	GND
2	TTL RED signal
3	TTL GREEN signal
4	TTL BLUE signal
5	GND
6	GND
7	HORIZONTAL OR COMPOSITE SYNC
8	VERTICAL SYNC

FACTORY SETTINGS

Sync is set at the factory for composite negative output sync. This is for use with the Sanyo DMC7600 monitor and is subject to change with shipment of different monitors. To accommodate a variety of color monitors, horizontal and vertical sync can be separately set for either +SYNC or -SYNC and for either composite sync, or separate sync lines. Sync pulse width and horizontal blanking time are adjustable in the console. Consult Strand Lighting Field Service or the "Light Palette Remotes Installation Manual (P/N8 -70004-000) for additional details.

The color video signal output from the console is good for 50 feet with no branches. Repeaters are available to extend this distance or allowing branching. Consult Strand Lighting Applications Engineering for details.

CABLE CONSTRUCTION

CABLE: Belden 9159, #18AWG, twisted pairs
CONNECTORS: Comprehensive E8P (both ends)
CONNECTION: Pin to pin
LENGTH: 0 feet maximum

Strand Lighting color code for this 5 twisted pair cable is shown below. Note that ground wires for pairs 2 and 5 are both tied to pin 5, and ground wires for pairs 3 and 4 are tied to pin 6. For use with the Sanyo DMC7600 monitor, 200ohm resistors must be tied between each signal and ground pair at the monitor end of this cable only.

PAIR	PIN #	COLOR	SIGNAL
1	1	Black	GND
	2	Red	TTL RED signal
2	3	Green	TTL GREEN signal
	5	Black	GND
3	4	Blue	TTL BLUE signal
	6	Black	GND
4	6	Black	GND
	7	Yellow	HORIZ. OR COMP. SYNC
5	5	Black	GND
	8	White	VERT. SYNC

Appendix B

DIMMER HOOKUP

*Light Palette Three Operations Manual
Abridged*

CHAMBER BOOKS

GENERAL

Light Palette Three is designed to drive dimmers which conform to the USITT AMX192 Dimmer Signal Specification.

CONNECTION

The three types of connections provided in Strand Lighting equipment for the AMX192 signal are the XLR style connector, the TA4/TY4 Series Mini-SwitchCraft connector, and terminal blocks. Pin numbering and designation for these is shown below.

Function	XLR Pin #	TA4/TY4 Pin #	CD80 Term. Block Pin #
- CLOCK	4	1	1
+ CLOCK	2	3	3
COMMON	1	2	2
ANALOG	3	4	4

ADAPTER

Interconnection between equipment with different plug types requires an adapter cable. **The plugs on this adapter are not connected pin to pin.** See figure below for proper adapter wiring.

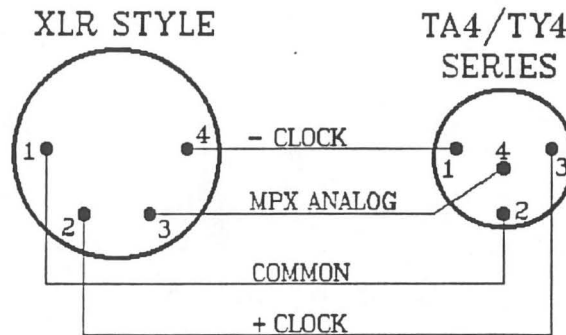


Figure 7. XLR TO MINI-SWITCHCRAFT ADAPTER

GENERAL

REPLY TO THE DIRECTOR OF THE BUREAU OF THE ARMY AND AIR FORCE

COMMITTEE

LETTER TO THE DIRECTOR OF THE BUREAU OF THE ARMY AND AIR FORCE

MEMORANDUM FOR THE DIRECTOR OF THE BUREAU OF THE ARMY AND AIR FORCE

MEMORANDUM FOR THE DIRECTOR OF THE BUREAU OF THE ARMY AND AIR FORCE



MEMORANDUM FOR THE DIRECTOR OF THE BUREAU OF THE ARMY AND AIR FORCE

Appendix C

PRINTER HOOKUP

*Light Palette Three Operations Manual
Abridged*

MEMORANDUM

TO : [Illegible]

GENERAL

The printer supplied by Strand Lighting for Light Palette Three is an Okidata ML182 with the super high speed serial interface installed. This interface is necessary for the on-board buffer, and not for its extra speed.

PRINTER SETUP

Set up an Okidata 182 with super high speed serial interface for use with Light Palette Three by removing the switch access cover on the upper rear of the printer and setting the circuit board and serial interface switches as shown below.

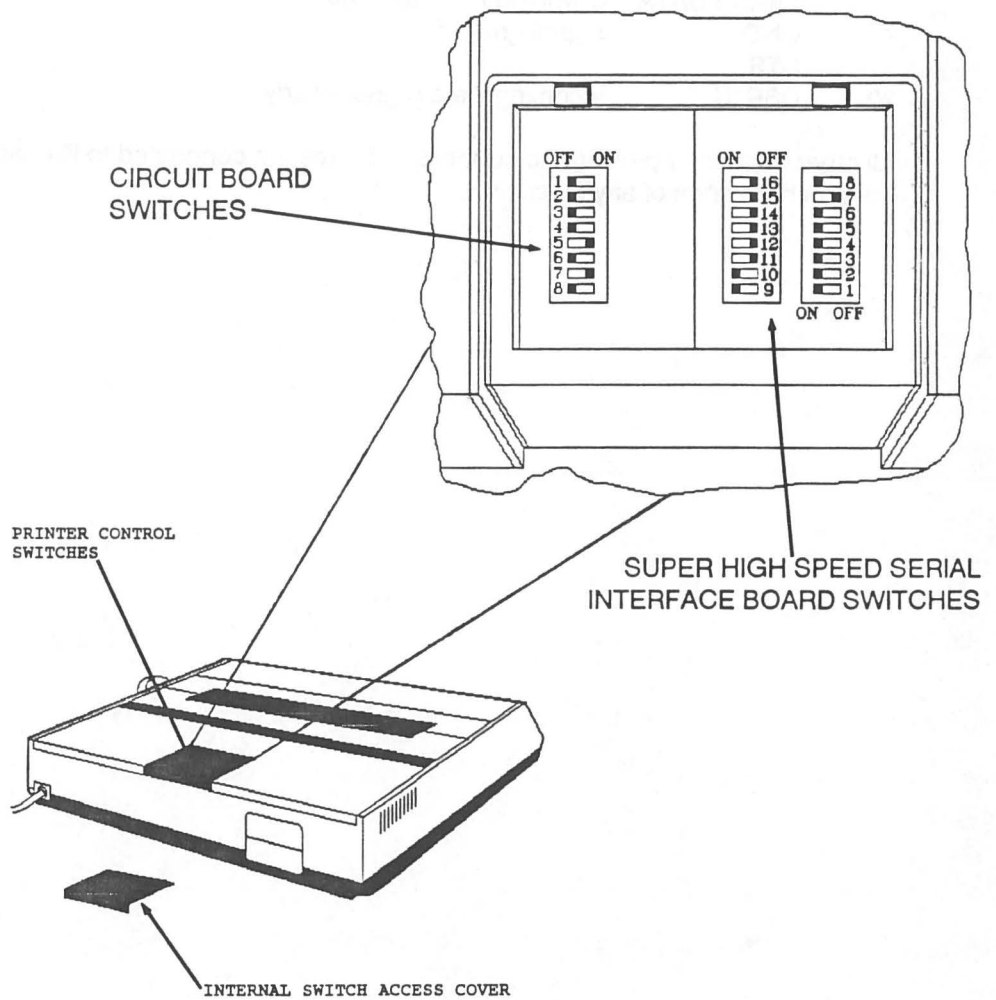


Figure 8. OKIDATA 182 SWITCH CONFIGURATION

CONSOLE OUTPUT

EIA RS-232C, 1200 baud, 8 bit with 2 stop bits, no parity, busy indicated by MARK level on SSD.

CONSOLE PINOUT

CONNECTOR TYPE: 25-pin "D" TYPE
CABLE: 50 feet maximum

PIN #	SIGNAL NAME	COMMENT
3	TRANS DATA	Outgoing RS-232C data
7	GND	Signal ground
11	CTS	
20	DSR IN	Incoming Data Signal Ready

All other connector pins are no connect. All wires are connected to like pin numbers on both ends of any extension.

Appendix D

CONNECTOR PINOUT

*Light Palette Three Operations Manual
Abridged*

LIGHT PALETTE THREE CONNECTOR PINOUTS

TTL RGB Video

CONNECTOR NAME: Video RGB
CONNECTOR TYPE: 8 pin Comprehensive #E8JCM
CABLE: Supplied cable only

PIN #	SIGNAL NAME
1	GND
2	TTL RED signal
3	TTL GREEN signal
4	TTL BLUE signal
5	GND
6	GND
7	HORIZONTAL OR COMPOSITE SYNC
8	VERTICAL SYNC

Composite Video

CONNECTOR NAME: Video Monochrome
CONNECTOR TYPE: BNC
CABLE: RG-59/U - 1000 feet Maximum
No branching runs

PIN #	SIGNAL NAME
-------	-------------

Shield	signal ground
Center	video

AMX192

CONNECTOR NAME: Dimmer 1, Dimmer 2, etc.
CONNECTOR TYPE: 4-pin SwitchCraft TA4/TY4 series mini connector
CABLE: Belden 9156 or equal - 1500 feet maximum

PIN#	SIGNAL NAME	COMMENTS
1	-CLOCK	Dimmer clock complement
3	+CLOCK	Dimmer clock true
2	GROUND	Analog ground
4	ANALOG	Multiplexed analog

The adapter for TA4/TY4 style to XLR style plug conversion is not pin-to-pin wired (see page 79).

Printer

CONNECTOR NAME: Printer
CONNECTOR TYPE: 25-pin "D" TYPE
CABLE: 50 feet maximum

PIN #	SIGNAL NAME	COMMENT
3	TRANS DATA	Outgoing RS-232C data
7	GND	Signal ground
11	CTS	
20	DSR IN	Incoming Data Signal Ready

All other connector pins are no connect.

Remote Control

CONNECTOR NAME: Remote Control
CONNECTOR TYPE: 4-pin SwitchCraft TA4/TY4 series mini connector
CABLE: Belden 9156 or equal - 1000 feet maximum

PIN#	SIGNAL NAME	COMMENTS
1	POWER	+12VDC power
3	CLOCK	Signal clock
2	GROUND	Analog ground
4	ANALOG	Multiplexed analog to console

Remote Console (I/O Module output)

CONNECTOR NAME: Remote Console
CONNECTOR TYPE: 4-pin SwitchCraft TA4/TY4 series mini connector
CABLE: Belden 9156 or equal - 1000 feet maximum

PIN#	SIGNAL NAME	COMMENTS
1	POWER	+12VDC power
3	CLOCK	Signal clock
2	GROUND	Analog ground
4	ANALOG	Multiplexed analog to console

Remote Console (Clock Driver Output)

CONNECTOR NAME: Remote Control
CONNECTOR TYPE: 4-pin SwitchCraft TA4/TY4 series mini connector
CABLE: Belden 9156 or equal - 1000 feet maximum

PIN#	SIGNAL NAME	COMMENTS
1	-CLOCK	Clock complement
3	+CLOCK	Clock true
2	GROUND	Analog ground
4	ANALOG	Multiplexed analog to console

Remote Console/Remote Control Adapter

The adapter for TA4/TY4 style to XLR style connector conversion is not pin-to-pin wired, and is the same as the equivalent adapter for the AMX192 Dimmer signal (see page 79).

General Order of the Board of Directors

Resolved, that the Board of Directors do hereby authorize the President of the Corporation to execute and deliver to the Secretary of the Corporation a certificate of incorporation and the articles of association of the Corporation, together with the necessary fees, to be filed with the Secretary of State of the State of New York, for the purpose of incorporating the Corporation under the laws of the State of New York.

Resolved, that the Board of Directors do hereby authorize the President of the Corporation to execute and deliver to the Secretary of the Corporation a certificate of incorporation and the articles of association of the Corporation, together with the necessary fees, to be filed with the Secretary of State of the State of New York, for the purpose of incorporating the Corporation under the laws of the State of New York.

Witness my hand and the seal of the Corporation this _____ day of _____, 19____.

President

Secretary

Treasurer

Attorney-in-Fact

IN WITNESS WHEREOF, the Board of Directors has caused this resolution to be signed by its President and Secretary, and the seal of the Corporation to be hereunto affixed, this _____ day of _____, 19____.

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