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250ML Lighting Control Console

For Console Software Version 1.1.x & Up

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250ML Lighting Control Console Operation Guide
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IMPORTANT INFORMATION

Warnings and Notices

When using electrical equipment, basic safety precautions should always be followed including the following:

a. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS**.

b. Do not use outdoors.

c. Keep dry. This product is not waterproof, and may malfunction if exposed to high levels of humidity. Rusting of the internal mechanism can cause irreparable damage.

d. Do not mount near gas or electric heaters.

e. Keep away from strong magnetic fields. Do not use or place this device in vicinity of equipment that generates strong electromagnetic radiation or magnetic fields. Strong static charges or strong magnetic fields produced by equipment such as radio transmitters could interfere with the display or affect the product's internal circuitry.

f. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.

g. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.

h. Do not use this equipment for other than intended use.

i. Refer service to qualified personnel.

SAVE THESE INSTRUCTIONS.

WARNING: You must have access to a main circuit breaker or other power disconnect device before installing any wiring. Be sure that power is disconnected by removing fuses or turning the main circuit breaker off before installation. Installing the device with power on may expose you to dangerous voltages and damage the device. A qualified electrician must perform this installation.

WARNING: Refer to National Electrical Code® and local codes for cable specifications. Failure to use proper cable can result in damage to equipment or danger to personnel.

WARNING: This equipment is intended for installation in accordance with the National Electric Code® and local regulations. It is also intended for installation in indoor applications only. Before any electrical work is performed, disconnect power at the circuit breaker or remove the fuse to avoid shock or damage to the control. It is recommended that a qualified electrician perform this installation.

Additional Resources for DMX512

For more information on installing DMX512 control systems, the following publication is available for purchase from the United States Institute for Theatre Technology (USITT), "Recommended Practice for DMX512: A Guide for Users and Installers, 2nd edition" (ISBN: 9780955703522). USITT Contact Information:

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Syracuse, NY 13210-1844
Phone: 1.800.938.7488 or 1.315.463.6463
www.usitt.org

Philips Strand Lighting Limited Two-Year Warranty

Philips Strand Lighting offers a two-year limited warranty of its products against defects in materials or workmanship from the date of delivery. A copy of Philips Strand Lighting two-year limited warranty containing specific terms and conditions can be obtained by contacting your local Philips Strand Lighting office.

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PREFACE

1. About this Guide

Congratulations on your purchase of your Philips Strand Lighting 250ML Control Console. It is a compact lighting control console, versatile, powerful, and the perfect desk to introduce you to the world of intelligent fixture control.

Every unit has been thoroughly tested and carefully packed before shipment.

Unpack the shipping carton carefully, saving the carton and all packing materials for possible later use. Refer to "Included Items" for a complete list of items and accessories that are provided as part of your console.

Note: Check carefully that your product has not been damaged and that there are no accessories missing. If your product appears to be damaged or missing any accessories, please do not use the console and contact your Authorized Philips Strand Lighting Dealer immediately.

250ML Control Console Product Page

Please read this manual carefully and thoroughly, as it gives important information regarding safety, use and maintenance. Keep this manual with the console for possible future reference.

You can use the QR code (to the right) on any QR code enabled smartphone to connect directly to the 250ML Control Console product page and download the product manual or other product data.

Note: This version of the Operation Guide covers software version 1.1.x. Should your 250ML Control Console need to be upgraded, go to www.strandlighting.com and click on the product downloads area in the Support section for the latest software available.

2. Included Items

Each 250ML Lighting Control Console includes the following items:

• Lighting control console (with integrated video [VGA] card)

• Console dust cover

• Universal voltage power supply

• USB key drive

• LED desk lamp

• 250ML Console QuickStart Guide *(not this document)*

Note: Monitors, cables and other accessories are not included and are sold separately. For available accessories, please contact you local Authorized Strand Lighting Dealer. A list of Authorized Dealers is located on the Strand Lighting web site at www.strandlighting.com.

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OVERVIEW

1. Basic Console Layout
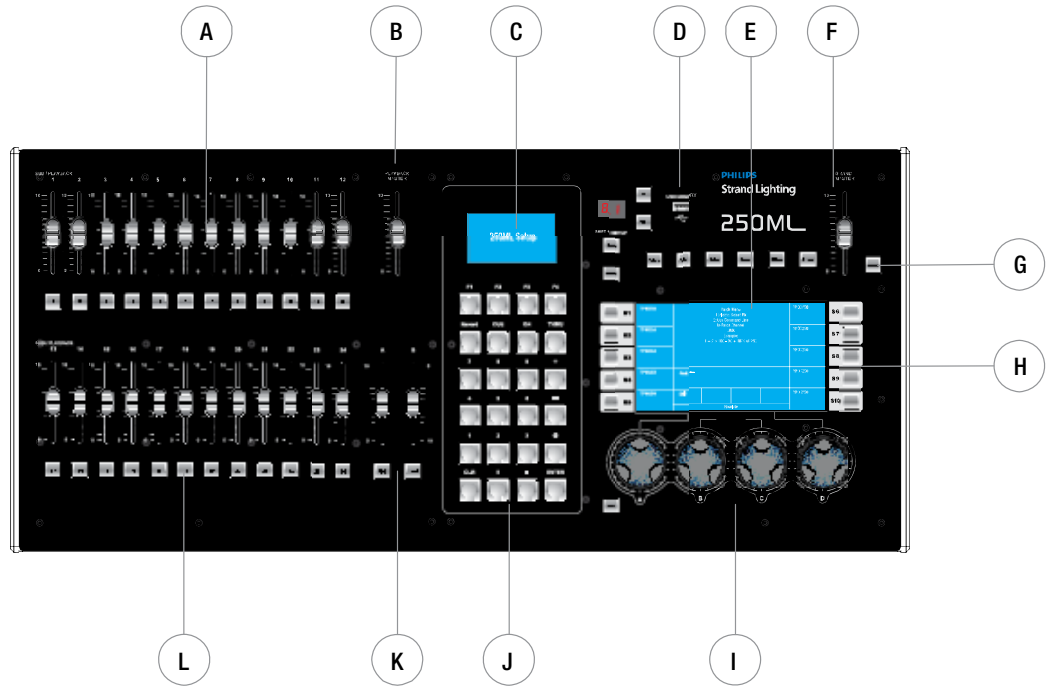
Legend

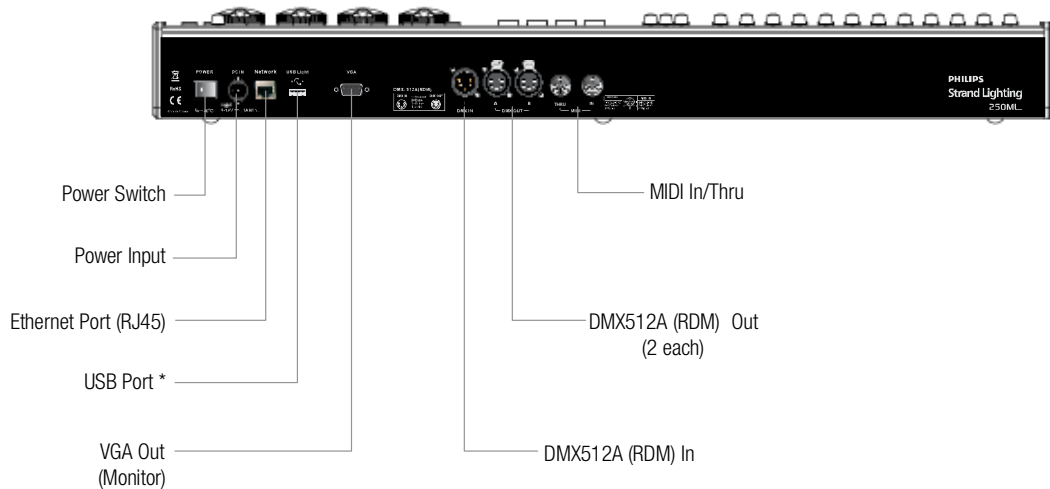|			
A.	24 Faders / Submasters	G.	Black Out Button
B.	Playback Master	H.	Softkeys (10 each)
C.	Programming LCD Display	I.	Encoders (4 each)
D.	USB Port (showfile storage, USB key sold separately)	J.	Programming Buttons
E.	Main Console LCD Color Display	K.	A / B Playback Controls (with Go and Load buttons)
F.	Grand Master	L.	24 Bump Buttons

250ML Console - Rear Panel Connections

Power Switch

Power Input

Ethernet Port (RJ45)

USB Port *

VGA Out
(Monitor)

MIDI In/Thru

DMX512A (RDM) Out
(2 each)

DMX512A (RDM) In

(*For USB LED desk lamp. Not for showfile storage.)

2.   Console Features and Connections

Power Switch

Turns console On or Off. Note, turning off this switch does not disconnect power from console.

Power Input

Power into console from universal (AC to DC) power supply. Refer to the QuickStart guide supplied with console on how to connect power using provided power supply. The power supply shipped with your 250ML Control Console is an auto-ranging, universal voltage supply. It operates between 90 to 240 VAC.

Ethernet Port (RJ45)

For future expansion of Ethernet protocols.

Faceplate USB Port (Library Storage)

USB connection for connection of a USB drive to load libraries, save shows, or update console software.

Rear USB Port

USB port for connection of USB LED desk lamp connection. Not for showfile storage.

VGA Out (Monitor)

VGA connection for driving a VGA video monitor. Refer to the QuickStart guide supplied with console for VGA connections. Note, video monitor sold separately.

MIDI In/Thru

The console provides two standard 6-pin MIDI connectors. The MIDI In can connect to a MIDI generator and the MIDI Thru can connect to another MIDI device.

DMX512 In (1 Connection)

DMX512 input connection for DMX512 signals from another console or device.

DMX512 Out (2 Connections)

The console provides two standard, female XLR 5-pin connector for connecting to, and controlling, DMX512 devices. DMX512 is for outputting to a universe of DMX devices for your primary output. This can include dimmers, LED fixtures, and moving lights.

Note: For more information on DMX512, refer to "Additional Resources for DMX512" on page 1.

3.   Connecting Power

To connect the power supply:

Step 1. Make sure unit's power switch is set to "Off"

Step 2. Connect DC connector from power supply to DC IN on console.

Step 3. Connect power supply to AC supply source.

Step 4. Turn on console at Console On / Off Switch.

Note: You must connect the console to the lighting system via DMX512 before it is capable of providing control. Refer to the QuickStart Guide provided with the console for DMX512 connection information.

4.   Glossary of Terms

This section covers some of the common terms used throughout this manual.

- Fader / Submaster / Playback - Slider hardware to control the level of stored information.

- Fader / Submaster / Playback Bump Button - button hardware that activates the stored information on the submaster or playback.

- Playback Master - a master inhibitive slider for all playback data.

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- **A and B Master** - master inhibitive sliders for A and B playbacks. A is at 100% at the top end of its travel while the B is at 100% at the bottom end of its travel. This allows the execution of dipless crossfades by moving both sliders in the same direction.

- **GO** - advances the next available cue.

- **LOAD** - allows the preparation for the next cue advanced by the [GO] button.

- **Programming LCD Display** - this small LCD display will display pertinent information based on the active item being programmed or played back. This screen also shows the function of the four softkeys labeled (F1) - (F4).

- **Programming Buttons** - these allow for traditional Command Line operation for setting levels and storing items like Cues and Subs.

- **Record** - command used to store information.

- **Cue** - cues are items to be played back in time and in sequential order.

- **ON** - level of 100%. Example: [1] [ON]

- **Thru** - allows a collection of a range of channels. Example: [1] [THRU] [5] [ON].

- **0 thru 9** - numerical entry key for Command Line operation.

- **Plus "+"** - allows the addition of channels to a Command Line string. Example: [1] [+] [2] [ON]. Also if pressed without a pre-existing channel list, it will Page Up the channel display. If the Fixture button is selected, it will Page Up the Fixture display.

- **Minus "-"** - allows the subtraction of channels to a Command Line string. Example: [1] [THRU] [5] [-] [3] [ON]. This will place 1, 2, 4, and 5 at Full. Also if pressed without a pre-existing channel list, it will Page Down the channel display. If the Fixture button is selected, it will Page Down the Fixture display.

- **AT "@"** - command that tells the desk that the next numerical entry is a level of brightness. Example: [1] [@] [5] [0] [ENTER].

- **CLR** - clears the Command Line plus releases channels. CLR will remove the last command entered into the Command Line. In the event that there is nothing entered into the Command Line, [CLR] [CLR] will release all Selected Channels (in the Red Box) a third [CLR] shall release all Adjusted Channels (Red Text).

- **Decimal "."** - allows the entry of DMX values rather than percentage values. Example: [1] [@] [.] [2] [5] [5] [ENTER].

- **ENTER** - allows the completion of any command entered into the Command Line. Example: [1] [@] [5] [0] [ENTER], [RECORD] [CUE] [1] [ENTER].

- **Arrow Up and Arrow Down** (adjacent to the small LCD screen) - Allows the ability to change pages.

- **Untag** - This button has multiple functions. It can untag (deselect) fixtures, attribute families or individual attributes. See Tagging and Untagging for details. Selecting SHIFT + UNTAG allows the user entry in the Setup pages for system configuration settings.

- **Home** - sets the channel or fixture back to its default position.

- **Fixture** - fixture is the term for attributed luminaires (LEDs and Moving Lights). This button allows access to the patched attributed luminaires.

- **Position** - allows access to programming for position attributes on an attributed luminaire.

- **Color** - allows access to programming for color attributes on an attributed luminaire.

- **Beam** - allows access to programming for beam parameters on an attributed luminaire.

- **Effect** - allows access to programming for effect parameters on an attributed luminaire.

- **Group** - Allows access to programming a collection of channels or fixtures.

- **Grand Master** - an inhibitive master for all outputting intensity levels.

- **Blackout Button** - single button access that will set all outputting intensity levels to zero.

- Main Console LCD Display - primary programming display. This 7-inch color display will display the Command Line, recording commands, all configuration information, 10 softkey labels and 4 encoder's information.

- Shift - used to gain access to the Setup environment as well as access to additional advanced commands.

  - Shift + UNTAG = Setup

  - Shift + ENTER = Encoder Intensity control on selected channels.

  - Shift + Encoders = can gain access to advanced features on some items. For example, on Fade Up / Fade Down this will allow for time adjustment in 1/10th second.

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5. Text Conventions

When a key is referred to in the manual it will be in hard brackets. For instance [RECORD] would refer to the record button. A softkey command on the LCD screen will be written inside ( ). So for instance the (S9-Enter) would refer to a softkey option available on the LCD screen. For operational information, refer to "OPERATION" on page 21.

The example in **Figure 1** represents any command button like Record used in teaching examples.

Figure 1: Command Button Example

The example in **Figure 2** represents any bump button or softkey used in teaching examples.

Figure 2: Bump Button Example

CONSOLE SETUP

1.   Main Menu

Holding down the [SHIFT] + [UNTAG] for 3 seconds will launch into the Setup portion of the 250ML Console.

Figure 3: Main Menu

The following options are available for the 250ML Control Console:

Setup

(S1 - Setup): Setup allows the user to adjust the console to work the way that's most comfortable for the user. Any options within the main screen on the Setup Menu can be navigated to using Encoder D to scroll Up/Down the list of setup options.

Figure 4: Setup Menu

Within Setup, there are options that determine how the console functions. The setup options are…

Record Options

Record Options determine how the record action works. By default the Mode (which refers to the Record Mode is set to Full. That means that everything that is being outputted from the console will be stored. By pressing S1 the Mode can be changed. If the Mode is set to Partial, then the other softkeys shall control how Brightness (Intensity), Color, Beamshape and Position parameters shall be stored.

Figure 5: Record Options

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When the attribute family (Position, Color or Beam) option is set to ALL, then when one parameter is adjusted, all parameters for that family will be highlighted to be stored. For example, if programming color on a 3 color LED and the Red is adjusted, the Green and Blue will be highlighted as well.

When the attribute family option is set to CHANNEL, then when one parameter is adjusted, only that parameter will be highlighted to be stored. For example, if programming color on a 3 color LED and the Red is adjusted, the Green and Blue will not be highlighted.

Lock/Unlock

This features allows the locking and unlocking of the console from any accidental use.

Use Encoder D to scroll down to <Lock/Unlock>, press down on Encoder D and the Lock/Unlock option will appear. This is password protected and the password must be entered to engage/disengage this feature.

Note: The password is **168168**.

Figure 6: Lock Console Screen

MIDI Setup

This feature allows the console to communicate with other consoles using the MIDI interface. MIDI In and Thru are available. Just connect a standard MIDI cable from a third party console to the 250ML console's MIDI In port. If you need to communicate to a third console, a MIDI cable can be connected from the 250ML console's MIDI Thru port to another third party console.

Figure 7: MIDI Setup Screen

• From the MIDI Setup screen, S1 will Enable MIDI while S2 will disable MIDI.

• Encoder A will configure the Channel (0 - 15) and Encoder D will configure the Note (0 - 127).

Note: There are different types of MIDI messages. The only one that the 250ML console supports is *Channel Voice*. The Channel setting allows the console to listen to any channel from 0 to 15. The Note variable allows the console to listen to individual Voice Channels 0 to 127.

Playback Setup

This setting determines how the last cue in the playback responds when run sequentially.

Figure 8: Playback Setup Screen

The options are:

- (S1-PB Cue Release) whereby the last cue will be released from the playback.

- (S2-PB Cue Last Hold) whereby the playback will hold the last outputted value.

DMX In Setup

This option turns on the DMX In port on the back of the console to allow another DMX control device (like a console) to affect changes on the 250ML Control Console.

Figure 9: DMX In Setup Screen

The options are:

- (S1-DMX In Enable) - enable DMX input signals from another DMX control source.

- (S2-DMX In Disable) - disables DMX input signals from another DMX control source.

Once DMX In is enabled and a DMX512 cable has been connected from the DMX512 Out port on the external console to the DMX In port of the 250ML console, the external console will control the first 96 channels in a 1 to 1 fashion. For example, Channel 1 on the external console will control Channel 1 on the 250ML console and continue in numerical sequence up to a capacity of 96 channels.

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Display Setup

Allows the adjustment of the backlight level settings for the color display screen on the console.

Figure 10: Display Setup Screen

The options are:

- (S1-Backlight High) - sets console display to highest brightness level.

- (S2-Backlight Medium) - sets console display to the medium brightness level.

- (S3-Backlight Low) - sets console display to lowest brightness level.

2.   Patch

Patch allows the operator to determine the channel and fixture numbers that control each DMX channel whether they are a dimmer or an automated luminaire such as an LED or moving light.

The 250ML Control Console starts out with a one-to-one default patch for the capacity of the console and no automated luminaires patched. That's 250 channels. A one-to-one patch means that each dimmer will be patched and controlled by a channel that is the same number. Example: Dimmer 1 is controlled by Channel 1, Dimmer 2 by Channel 2 and so on up to Dimmer 250 being controlled by Channel 250.

Patching conventional channels on the 250ML Control Console is accomplished with Setup. Press [SHIFT] + [UNTAG] to go into the Setup menu.

Press S2- Patch to go into the Patch menu.

Figure 11: Patch Menu

Patching Conventions

Use Encoder D to roll the selector up/down to DMX Patch (the active option will be in a white background) and click on Encoder D to select DMX Patch. The monitor will now display the patch screen to show what the current channel assignments are. As shown in **Figure 12**, the DMX output number is the top line in white and the second line is the control channel in yellow.

Figure 12: VGA Patch Screen

Note: After 250 you only see the DMX output numbers displayed. Remember that the console has a limit of 250 control channels.

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Patch Screen

The Patch screen is the point of information for all DMX output assignments. Pressing [F3 – Patch] will open the patch screen on the VGA monitor. From the Patch Screen, [+] and [–] will page the patch screen to view all DMX outputs from 1 to 1024 and their patch assignment. DMX512 Port A will output 1 thru 512. The first universe of DMX. DMX512 Port B will output 513 to 1024. The second universe of DMX.

Figure 13: Patch Screen

This is for display only. Any patch adjustment shall be done thru Setup and instructions can be found in "Setup" on page 10.

Viewing Patch

Patch can be viewed at anytime, whether in the Setup screen for patching activities or not. In many screens, the F keys will give you a Patch option. When the F key for Patch is pressed, the patch screen above will be displayed. The [+] and [-] keys will advance the patch screens to show you all 1024 patch outputs. Pressing the F key for Patch will return the console to the previous screen.

While in the Patch Menu, the F keys will access paging the patch screen with [PATCH +] and [PATCH -].

In order to change the default patch, direct your attention to the color screen on the console as illustrated in **Figure 14**.

Figure 14: Console LCD Patch Menu

The second option (and the examples) focus on using Command Line to patch. The syntax will be [DIMMER] [@] [CHANNEL] so if you need dimmer 2 to be controlled by channel 1, type [2] [@] [1] [ENTER]. Once that is done, the channel number (yellow) will have changed under dimmer 2 to reflect its assignment to channel 1. Any patching done will appear in the Command Line section of the color screen. Just repeat this process for any non-default patching that is required. Notice that you can use THRU, + and - to speed up the patching process.

Range Patching

Range patching allows the patching of multiple dimmers and multiple channels using a single command. Below are some examples of range patching.

Should you need multiple dimmers controlled by the same channel, [DIMMER] [THRU] [DIMMER] [@] [CHANNEL] [ENTER]. Example: [1] [THRU] [5] [@] [1] [ENTER] will patch dimmers 1 thru 5 to channel 1.

Should you need a consecutive dimmer range to be patched to a consecutive channel range, [DIMMER] [THRU] [DIMMER] [@] [CHANNEL] [THRU] [CHANNEL] [ENTER]. Example: [1] [THRU] [5] [@] [11] [THRU] [15] [ENTER] will patch dimmer 1 to channel 11, dimmer 2 to channel 12 and so on for the range limit that was entered.

Removing Patching Assignment

To remove any patch assignment to any dimmer, just type [DIMMER] [@] [ENTER]. This will remove any channel assignment to the selected dimmer and any previous channel number (yellow) will be removed. Notice that [THRU], [+] and [-] will help you speed up the patching process.

Note: Refer to "Range Patching" (above) on how to use [THRU], [+] and [-].

Patching Intelligent Fixtures

Intelligent fixtures such as LEDs and Moving Lights require a more sophisticated control system and the 250ML Control Console has everything you need to get started with intelligent fixture control.

Note: There is a limit of 30 intelligent fixtures and 40 parameter capacity on the 250ML Control Console.

From the Setup menu (hold [SHIFT] + [UNTAG] for 3 seconds), press (S2 - Patch) and roll Encoder D clockwise to move the cursor (white background) down to "Assign Fixture" and press the Encoder D to select.
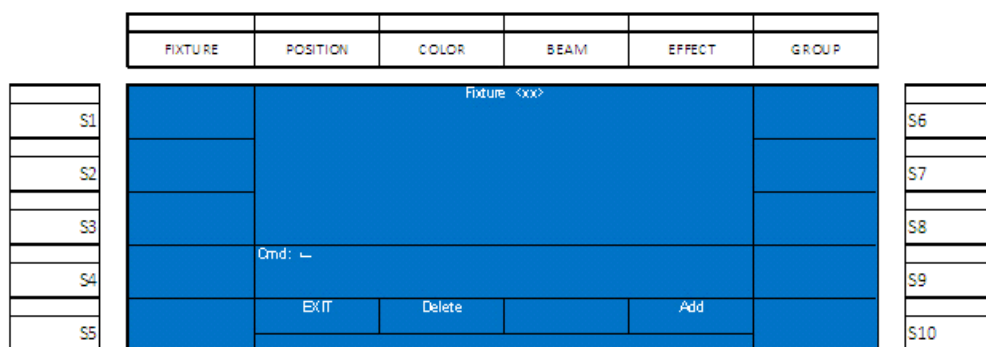
Figure 15: Patching Intelligent Fixtures - Fixture Screen

From the fixture screen, select Encode D to Add a fixture.
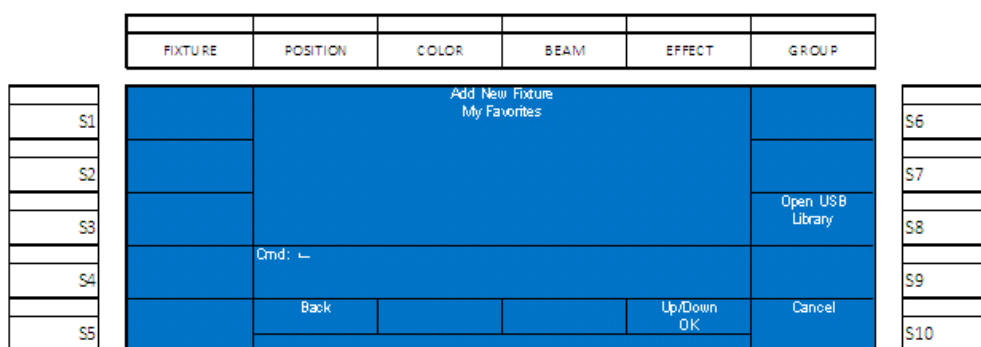
Figure 16: Patching Intelligent Fixtures - Fixture Screen (Adding a Fixture)

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Fixtures are added from the 250ML Fixture Library via a USB key. The fixture library can be downloaded from www.strandlighting.com in the Support section. Select (S8 - Open) USB Library.

Figure 17: Patching Intelligent Fixtures - Fixture Library

The manufacturers shall appear on the S keys. Philips companies are on the left and other manufacturers are on the right. If you don't see the manufacturer on the existing softkeys, just roll Encoder D to advance the non-Philips manufacturer on the right and press the appropriate softkey. Once a manufacturer is selected, the manufacturer's models will appear in the center of the color screen. Rolling Encoder D up / down shall highlight each fixture type. Press Encoder D to select the appropriate fixture model.

Figure 18: Patching Intelligent Fixtures - Selecting a Fixture from Fixture Library

Now a location must be selected for the fixture. These will be accessed by the softkeys. It is recommended that you start with S1, but you can select any softkey. When the appropriate softkey is selected (it will be lit red) select Encoder D to "assign" the fixture. Once that is complete, the name will appear for the softkey.

Now that particular fixture is assigned to a softkey, patching subsequent fixtures shall appear in "My Favorites" and the USB key with the fixture library shall only be needed to add a different model fixture.

Patch/Unpatch Fixture to DMX Address

Now that the appropriate fixture has been assigned, it must still be assigned a DMX address in order for it to function. Select Encoder A to restore to the Setup screen.

Select (S2 - Patch) and then the first option of DMX Patch with rolling Encoder D to the correct option and pressing Encoder D to select.

Figure 19: Patch/Unpatch Fixture to DMX Address

You will see the Patch menu but the newly assigned intelligent fixture shall be available on the appropriate softkey. In this case, (S1). Select (S1).

Figure 20: Patch Menu - Patching Fixtures Screen

Select (S6 - Add).

Note: If you are clearing out the DMX assignment of a particular fixture, pressing (S7 - Delete) will accomplish this.

Figure 21: Patch Menu - Assigning Fixtures

Select (S1 - Line 1) for the first universe of DMX512. This will be 1 thru 512.

Select (S2 - Line 2) for the second universe of DMX512. This will be 513 thru 1024.

Notice that the first available DMX512 address is automatically populated on the command line. That's 251 for DMX universe 1 and 513 for DMX universe 2.

To accept the default press [ENTER].

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When patched, you'll see the new patch information on the VGA monitor as shown in **Figure 22**.

Figure 22: VGA Monitor Patch Screen

The grey bar shows the range of DMX channels that are being used for fixture 1. In the example above, it is nine addresses. Repeat the above operations to assign additional fixtures.

Fixture Pages

As illustrated in **Figure 23**, use the Arrow Up and Arrow Down next to the LCD screen to identify the fixture page to which the units are being patched. Page 1 shall be fixtures 1 thru 10 accessed by (S1) - (S10). Page 2 shall be fixtures 11 thru 20 and page 3 will be fixtures 21 thru 30.

LCD Screen   *Arrow Up*   *Arrow Down*

Figure 23: Fixture Pages - LCD and Arrow Buttons

Pan/Tilt Options

There are many pan/tilt options to allow the customization of the operation of any patched moving light.

Figure 24: Patch Menu Options Screen

From the Patch menu, roll Encoder D to highlight Pan/Tilt Options and press down on Encoder D to select.

Figure 25: Patch Menu - Pan/Tilt Options

Select the fixture to adjust (S1 in the example's case) then use the appropriate encoders to change the setting.

* Pan Invert - shall invert the pan values so that clockwise movement on the encoder shall lower the pan value.

* Tilt Invert - shall invert the tilt values so that clockwise movement on the encoder shall lower the tilt value.

* Pan / Tilt Swap - shall allow the pan encoder to affect tilt and the tilt encoder to affect pan.

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OPERATION

Once the 250ML control console is properly connected to power and DMX512 control network, the user can immediately begin programming as the console will be initially setup for 250 conventional dimmer channels with a default patch of 1 to 1. If this matches your installation then begin programming as outlined in this guide. If it does not match your installation then proceed to this manual's section on Patch to get the console setup correctly to match your installation.

1. Console VGA Monitor Display Attributes

When a VGA monitor (sold separately) is connected to the console, **Figure 26** represents the console's output when the console is powered up for the first time with a default showfile.

A. Shows current Software Version in console.
B. Current Playback Master Level.
C. Current Grand Master Level.
D. Displays channel numbers and their current intensities.
E. Displays fixture numbers, their intensities and attribute data.
F. Displays Submaster data for the selected Submaster page.
G. Displays Cue Data

Figure 26: Console VGA Monitor Display Attributes

Note: A VGA monitor, while not required, is highly recommended for console operation.

2.   Console 7-Inch Display Attributes

Figure 27 depicts the console's 7-inch display and its attributes.
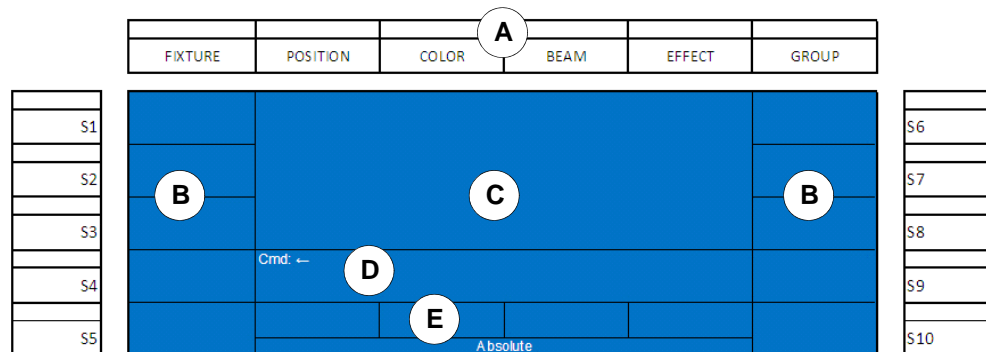
A.   Hard Item keys
B.   Softkeys and Labels
C.   Main Screen Area
D.   Command Line
E.   Encoders and Labels

Figure 27: 7-Inch Console Display Attributes

Note: The softkeys are empty and the Command Line indicates that the console is ready to accept commands.

3.   Channels and Channel Levels

Channels are the control handle that control dimmers for intensity control. Channels are the items that are stored in cues, submasters, playbacks and effects.

Channel Levels is the channel's intensity represented in percentages from 0% to 100% otherwise known as Full.

Assigning Channel Levels

The following commands can be accepted to give the conventional channel's intensity.

[CHANNEL] [ON]

The simplest example is [1] [ON]. This will put channel 1 at 100%. However, the user is not limited to applying an intensity level to a single channel at a time. The user can apply any combination of numbers, the THRU, + and - keys. Examples: 1 THRU 5 ON, 1 + 3 + 5 ON, 1 THRU 5 - 3 ON.

[CHANNEL] [@] [LEVEL] [ENTER]

Any selection of channels can be assigned any level in a percentage value from 0% to 100 %.

Example: 1 @ 50 ENTER, 1 @ 5 ENTER (the single digit is assumed), 1 @ 45 ENTER.

The user can also assign a channel's level using DMX values. [1] [@] [.] [127] [ENTER]. This shall place channel 1's intensity at 50%.

This shows channels that have been given levels as represented on the monitor as shown in **Figure 28**.

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Note: Channel levels that are in red have been manually adjusted.
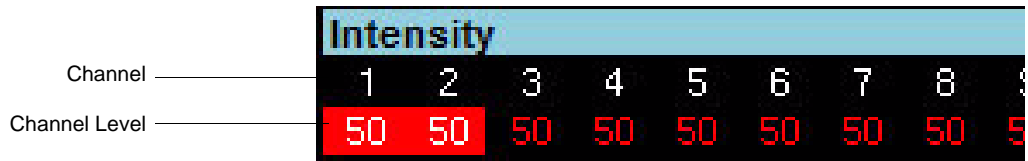
Figure 28: Channels & Channel Levels

Channels that are in a Red Box with White Text are currently selected. This gives you the ability to apply a new value without reentering the Channel numbers. So if 1 is currently selected at Full just typing [@] [5] [ENTER] will set the level to 50%. Any channels in red text are adjusted but not currently selected.

Intensity on Encoder

With selected channels, pressing [SHIFT] + [ENTER] will give you intensity on Encoder A. This shall adjust the DMX value that is being outputted in either a Relative manner or an Absolute one. It defaults to Relative and the Shift key will place you so Encoder A works in absolute values. Look to the color screen for DMX values and look to the monitor for percentage values.

Releasing Channels

[CLR] will remove the last entry onto the command line. [CLR] [CLR] will release any "selected" channels. Those in a red box with white text. Pressing [CLR] one more time (the third press) will release all adjusted channels.
.

Clear Button

Note: Channel levels that are in red have been manually adjusted.

4. Recording A Cue

Once the channels levels are at the desired levels, the first step is to place the desk into Record Mode. for instructions on setting levels.

Figure 29: Recording a Cue Screen

Note: In Record Mode, many commands are limited to recording actions.

The next step is to press the CUE button and the following screen will appear as shown in **Figure 30**.

Figure 30: Record Screen for Recording a Cue

This screen gives the user the option to change the settings that are stored with the cue. Most of these settings will determine how the cue outputs its stored data when activated. Let's go through the options starting with the softkeys.

Cue Options

S2 - Color, S3 - Beamshape, and S4 - Position:

Color refers to all Color parameters, Beamshape refers to all beam related parameters and Position refers to pan / tilt and any other position related parameters.

• Snap - color, beam and position values shall output to their stored values in a zero time when the cue is activated.

• Fade - color, beam and position values shall fade with the transition of the cue using the time of the cue.

• Snap@100% - color, beam and position values shall output to the stored values in a zero time when the cue is completed.

S6 - Delete All Cues:

This option allows the ability to delete all stored cues as illustrated in **Figure 31**. When in this screen Press (S9) for Yes and (S10) for No.

⚠ **WARNING!** Once executed, this command cannot be reversed.

Figure 31: Delete All Cues Screen

S8 - Delete Cue:

This option allows the ability to delete any single stored cue.

S9-Record as State Cue

The 250ML Console is a Move Fade console. This means that when accessing cues, the console will only change the output based on what is actually stored as instructions in the cue. Any channels or fixtures that have no data in the cue (are not given an instruction to go to a level or value) will not be affected.

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Simply put, if a channel or fixture is not told to do anything in a cue, then running the cue will not affect those channels or fixtures. This means that if you run cues out of order, you could find your lighting state not reflecting what you expect it to see.

As long as you run in order, the output will be as expected.

A State Cue (indicated as a SF on the Cue List for State Fade) will insure that when you run the cue, you will go to the state of the entire system for that cue. Recommended use for a State Fade will be at the beginning of a scene so that if you are running the show out of order, this will insure that you get the look that you want.

When recording, just press S9-Record as State Fade to toggle this on as a State Fade cue.

WARNING! Once executed, this command cannot be reversed.

Figure 32: Delete A Cue Screen

S10 - Name:

This feature allows the ability to label the cue. Pressing (S10 - Name) shall bring up the following screen (as shown in **Figure 33**) for labeling a cue.

Figure 33: Adding a Label (Name) to a Cue

- Rotate Encoder D to identify the first letter for the label (Shift will allow for Upper Case letters) and press down on Encoder D to Select the highlighted letter. Repeat as necessary to add all letters to the label.

- Once the name is selected use Encoder D to select ENTER to complete the naming of the Cue.

- The screen now returns to the Recording screen.

- Encoder B: allows the adjustment of the Follow time. Follow is a command that instructs the cue to countdown the Follow time whereby the next cue will automatically be triggered to "follow" the current cue. Adjusting the encoder clockwise will add time in seconds. Adjusting the encoder counterclockwise will reduce time in seconds. Holding the shift key will rotating shall adjust in 1/10th of a second.

- Encoder C: allows the adjustment of fade up time. Adjusting the encoder clockwise will add time in seconds. Adjusting the encoder counterclockwise will reduce time in seconds. Holding the shift key while rotating shall adjust in 1/10th of a second.

- Encoder D: allows the adjustment of fade down time. Adjusting the encoder clockwise will add time in seconds. Adjusting the encoder counterclockwise will reduce time in seconds. Holding the shift key while rotating shall adjust in 1/10th of a second.

- When all settings are correct, press ENTER to complete the record cue action.

- Once the cue is recorded, the channel's levels will still be active in red. Press acre to release and now the cue shall be able to function correctly.

Record (Minus Subs) Cue

Record (Minus Subs) allows the ability to record a cue ignoring all values that are outputting from active submasters.

All options and rules about recording still apply with the exception of excluding active submaster levels.

This can be very useful if looks are recorded onto submasters that are currently outputting but you don't want that information to be captured in the new items that is being stored. (House lights and work lights are a great example).

Record (Minus Subs) can be activated by holding down the SHIFT key while pressing Record. This shall be referred to as SHIFT + RECORD.
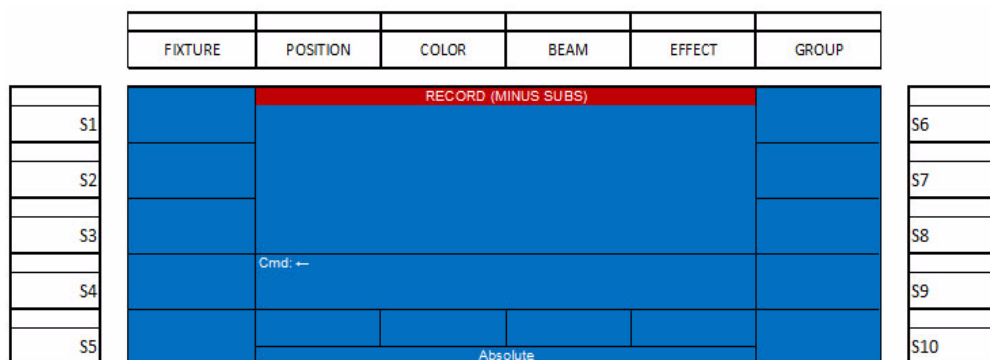
Figure 34: Record Minus Subs Screen

From here press [CUE] [#] [ENTER] to complete the record process.

5. Running a Cue

In order to playback a cue, use the following command.

[CUE] [#] [LOAD] [GO] or [CUE] [#] [GO]

The Cue key is on the main command panel, the number is the number of the cue that you want to load. Load and GO are below the crossfade sliders.

The continued pressing of the GO key will automatically trigger the next sequentially numbered cue in the cue list. Once you are at the end of the cue list, the GO button has nothing other to trigger. However, you can load the sequence again by [CUE] [#] [LOAD] to start at any point in the sequence.

[CUE] [0] [LOAD] [GO] or [CUE] [0] [GO] shall release the current cue list and all levels from the cue will go out.

6. # Pausing A Cue

A running cue can be paused or frozen at any point by typing [SHIFT] + [GO]. Pressing Go will resume the running of the cue from the point at which it was paused.

A running cue will display in a red background while a paused cue will display in a purple background.

7. Playback Operation

Cues can also be played back using the playback faders instead of the Load and Go buttons.

Once the cues have been stored, cycle the A/B faders *(shown to the right)* to zero. The playback faders will be loaded when the first cues background color changes to cyan.

Once the first cue has been loaded onto the faders, take both faders to full. The cue will transition from beginning to end corresponding to the movement of the faders from bottom to top. While the cue is fading, the cue's background color will be *pink*. When the cue is finished fading and outputting, the

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cue's background color will change to *yellow* and the next cue's background color will be *cyan*. That indicates that the cue is complete and the next cue is loaded.

Figure 35: Cue Running Graphic

The desk is now ready to transition to the second cue by crossfading the faders from top to bottom. The same color changes to the cue's background color will occur to acknowledge the loaded *cyan*, fading *pink* and completed *yellow* states.

Figure 36: Cue Transitioning Graphic

8.   Cue List

The Cue List will allow the ability to view the list of cues as well as edit cue properties, preview cue content and delete cues.

Start by pressing the CUE button on the command panel and the color screen will display the recorded cues as see in **Figure 37**.

Figure 37: Cue List

Figure 37 shows cues 1 and 2 in the list. The cue with the white background is the highlighted cue and shall respond to all softkey commands.

Note: Many command line commands may not be available when viewing the Cue List. It is recommended that you exit (press down on Encoder A) the Cue List for these commands.

Cue List Options

S1 - Edit Time:

This option allows the ability to edit times on the selected cue.

Figure 38: Cue List Options - Edit Time

- This screen allows the editing of attribute family timing, follow, fade up and fade down time.

- In addition, the ability to Preview the cue is available by pressing S9. If you change anything in the preview screen, just press Edit Time or List to save and restore to the previous screen.

S2-Copy Command:

The copy command allows the ability to copy cues. Just use Encoder D to highlight the source cue that you want to copy. Then press the S2-Copy softkey and it will select the highlighted cue. Now type in the destination cue number that you want to create. Finish by pressing ENTER.

Ranges of cues can be copied when you highlight multiple cues with the Shift button and Encoder D.

Note: The destination cue number must be available before the copy procedure can be accomplished.

Figure 39: Copy Command - Copy Cue

S3-Move Command:

The Move command allows the ability to move cues. Just use Encoder D to highlight the source cue that you want to move. Then press the S3-Move softkey and it will select the highlighted cue. Now type in the destination cue number that you want to create. Finish by pressing ENTER.

Ranges of cues can be moved when you highlight multiple cues with the Shift button and Encoder D.

Note: The destination cue number must be available before the move procedure can be accomplished.

Figure 40: Move Command - Move Cue

9. Recording a Submaster

Once the channels levels are at the desired levels, the first step is to place the desk into Record Mode. for more information.

Figure 41: Recording a Submaster - Record Mode

Note: In Record Mode, many commands are limited to recording actions.

Submaster Pages

In order to record levels to a submaster on a particular page, when the [RECORD] button is pressed, look for the page indication on the two number LCD display. By default it will say 01. If another submaster page is desired, use the Arrow Up and Arrow Down keys (as shown in **Figure 42**) to change pages and then complete the normal recording procedure.

LCD Screen   Arrow Up   Arrow Down

Figure 42: Submaster Pages - LCD and Arrow Buttons

The next step after RECORD is pressed is to select a submaster by pressing its bump button. The selected submaster's bump button will flash red to indicate that the active live channels are in the process of being stored into the selected submaster. **Figure 43** shows the options once the submaster has been selected by pressing its bump button.

Figure 43: Recording a Submaster - Record Mode Options

This screen gives the user the option to change the settings that are stored on the submaster. Most of these settings will determine how the submaster outputs its stored data when activated. Let's go through the options starting with the softkeys.

Convention: When the text is in yellow, that indicates that there are other options.

Submaster Options

S1 - Bump:

This setting determines how the submaster's bump button will function. Pressing the S1 key shall change the bump button's setting.

The options are:

- Off - the bump button shall not function.

- Flash - the button when held down shall send all channels to their stored value as long as the button is held down. When the button is released, the channels will restore to their previous level.

- Solo - the button when held down shall remove all other channel's levels and allow the channels that are stored in the selected sub to output based on the level of the submaster as long as the button is held down. When the button is released, all affected channels will restore to their previous levels.

- Latch - the button when pressed and released shall send all channels to their stored value and shall remain that way until the button is pressed again to release the channels to their previous level.

- Flash + Solo - the button when held down shall send all channels to their stored values and remove all other channel's levels as long as the button is held down. When the button is released, all affected channels will restore to their previous levels.

- Go/Run - the button shall be transformed into a GO button. This is effective when the submaster's levels have been stored as a Playback.

S2 - Color, S3 - Beamshape, and S4 - Position:

Color refers to all Color parameters, Beamshape refers to all beam related parameters and Position refers to pan / tilt and any other position related parameters.

- Snap - color, beam and position values shall output to their stored values in a zero time when the submaster is activated.

- Fade Up - color, beam and position values shall output to their stored values in the fade up time when the submaster is activated.

- Fade Down - color, beam and position values shall release to their previous values in the fade down time when the submaster is reduced.

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S5 - Type:

This selection refers to the different mode in which the submaster can be stored.

- Normal - this submaster shall function as a standard pile-on submaster. This is often referred to as HTP or Highest Takes Precedence.

- Chase - this submaster shall function as an effect chase. Multiple recordings of different effect steps are required for this to function properly.

- Playback - this submaster shall function as a playback. This allows multiple looks to be stored on this submaster and played back in order.

- Inhibitive - this submaster shall function as a master for the channels that have been stored within. Think of it as a grand master for user selected channels. An Inhibitive submaster's bump button shall be lit in white and will be marked with an "I" in the submaster display area of the monitor.

Note: Any Inhibitive submaster should normally be in the UP position. It will affect the output of all stored channel's levels if it is at any other value that full.

A good example is to put all of the Front of House (FOH) channels in this so that when you need to remove all FOH light when the curtain comes in, you just pull the FOH Inhibitive submaster down.

- Exclusive - this submaster shall function as a sub whereby all stored values will output only from this submaster when active and will not be recorded. This is a great place to put channels that you don't want to be recorded into your cues. House lights and work lights are an example.

S6 - Del All Sub:

This setting allows the ability to delete all stored submasters as shown in **Figure 44 on page 31**.

WARNING! Once executed, this command cannot be reversed.
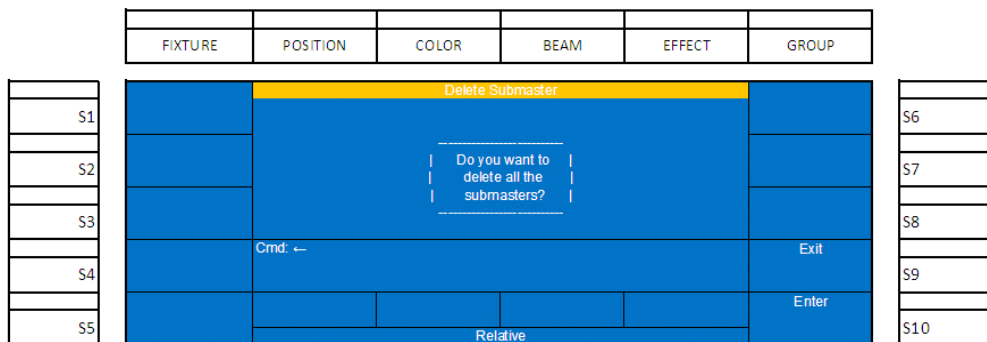
Figure 44: Delete All Submasters (Del All Sub) Screen

S7 - Del Page Sub:

This setting, as shown in **Figure 45**, allows the ability to delete all stored submasters from the current page.

⚠ **WARNING!** Once executed, this command cannot be reversed.

Figure 45: Delete All Subpages (Del Page Sub) Screen

S8 - Del Sub:

This setting allows the ability to delete the selected submaster. Note, the XX-XX indicates SubPage - Submaster.

⚠ **WARNING!** Once executed, this command cannot be reversed.

Figure 46: Deleting Selected Submaster (Del Sub) Screen.

S10 - Name:

This option allows the ability to label the submaster. Pressing (S10 - Name) shall bring up the following screen for labeling.

Figure 47: Adding a Label (Name) to a Submaster

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- Rotate Encoder D to identify the first letter for the label (Shift will allow for Upper Case letters) and press down on Encoder D to Select the highlighted letter. Repeat as necessary to add all letters to the label.

- Once the name is selected use Encoder D to select ENTER to complete the naming of the Submaster.

- The screen now returns to the Recording screen.

- Encoder C: allows the adjustment of fade up time. Reference **Figure 43 on page 30** for the remaining encoder information.

- Adjusting the encoder clockwise will add time in seconds. Adjusting the encoder counterclockwise will reduce time in seconds. Holding the shift key will rotating shall adjust in 1/10th of a second.

- Encoder D: allows the adjustment of fade down time. Adjusting the encoder clockwise will add time in seconds. Adjusting the encoder counterclockwise will reduce time in seconds. Holding the shift key will rotating shall adjust in 1/10th of a second.

- When all settings are correct, press [ENTER] to complete the record sub action. An alternate method is to press and hold the submaster's bump button for 3 seconds to complete the record command.

- Once the submaster is recorded, the submaster's bump button will be lit in red and the channel's levels will still be active in red. Press [CLR] [CLR] to release and now the submaster shall function correctly.

When the channels have been released, take the submaster to full and confirm that the submaster was recorded as expected as shown in **Figure 48**.
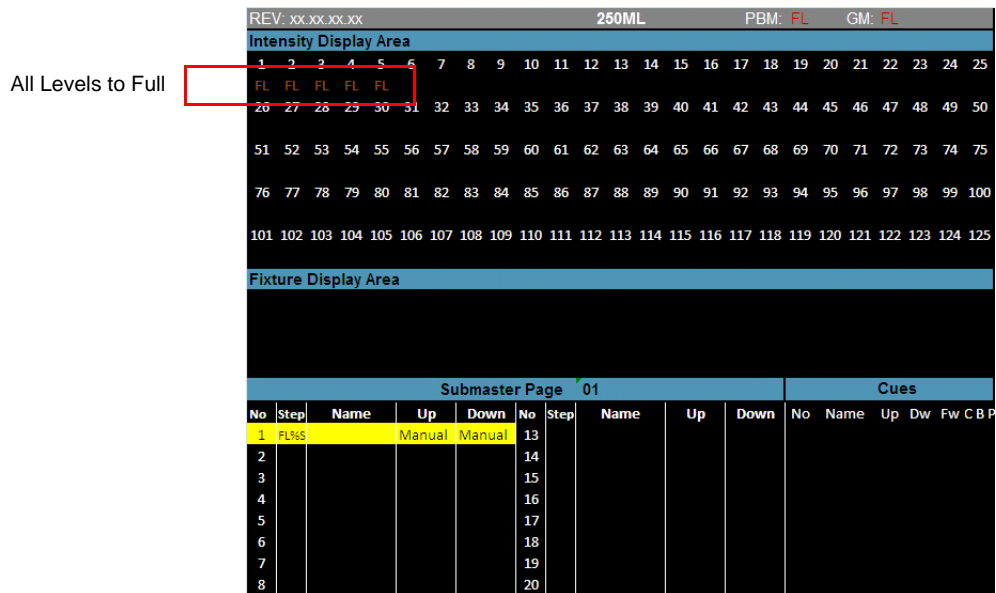
Figure 48: Recorded Channels to Full

Note: Not only will the channel's level display in amber but the sub listing will show the sub's level in the Step column and the submaster's background will be in yellow.

10. Record (Minus Subs) Submaster

Record (Minus Subs) allows the ability to record a submaster ignoring all values that are outputting from active submasters.

All options and rules about recording still apply with the exception of active submaster levels.

This can be very useful if looks are recorded onto submasters that are currently outputting but you don't want that information to be captured in the new items that is being stored. (House lights and work lights are a great example).

Record (Minus Subs) can be activated by holding down the SHIFT key while pressing Record. This shall be referred to as SHIFT + RECORD.

Figure 49: Record Minus Subs Screen

From here, press the submaster bump button in which you want to record the console's output and then ENTER to confirm (or you can press and hold the bump button for 3 seconds).

11. Recording a Playback

Once the channels levels are at the desired levels, the first step is to place the desk into Record Mode. See "Channels and Channel Levels" on page 22 for more information.

Figure 50: Recording a Playback - Record Mode Screen

Note: In Record Mode, many commands are limited to recording actions.

The next step after RECORD is pressed is to select a submaster by pressing its bump button. The selected submaster's bump button will flash red to indicate that the active live channels are in the process of being stored into the selected submaster. The following screen shows the options once the submaster has been selected by pressing its bump button.

Figure 51: Changing the Settings of Stored Submaster

- This screen gives the user the option to change the settings that are stored on the submaster. Most of these settings will determine how the submaster outputs its stored data when activated.

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- See "Submaster Options" on page 30 to go through all options available.

- To continue recording a Playback, as indicated in **Figure 51**, press (S5 - Type) twice to change the Type setting to Playback.

- When all settings are correct, press ENTER to complete the record sub action. An alternate method is to press and hold the submaster's bump button for 3 seconds to complete the record command.

- Once the submaster is recorded, the submaster's bump button will be lit in blue and the channel's levels will still be active in red. Press [CLR] [CLR] to release and now the submaster shall function correctly.

- At this point the playback submaster will function as a normal submaster simply because there is only one set of stored data. Repeat the process of setting levels and recording into the same submaster [RECORD][BUMP][ENTER] to store the second set of levels to the same submaster.

Record Playback Options

When the playback's bump button is pressed, the following playback screen will appear as shown in **Figure 52**.

Figure 52: Record Playback Options

S2 - Color, S3 - Beamshape, and S4 - Position:

Color refers to all Color parameters, Beamshape refers to all beam related parameters and Position refers to pan / tilt and any other position related parameters.

- Snap - color, beam and position values shall output to their stored values in a zero time when the cue is activated.

- Fade - color, beam and position values shall fade with the transition of the cue using the time of the cue.

- Snap@100% - color, beam and position values shall output to the stored values in a zero time when the cue is completed.

S6 - Insert:

This option will store the current values and add a step prior to the existing step.

S7 - Delete:

This option will delete the selected playback. Once (S7) is pressed, this operation must be aborted or confirmed. Press (S9 - Exit) to abort or (S10 - Enter) to confirm.

WARNING! Once executed, this command cannot be reversed.

Encoder A - C - Step U/D (Current Step):

Notice that the Current Step indicator in the screen is one number higher than the total steps and there is an asterisk. This indicates that a new step will be added. By adjusting the Current Step encoder, the Current Step will change to one of the existing recorded steps and allow the ability to record over an existing step indicated by Current Step. Normally this encoder would not be adjusted and the current values will be added as a new step in the submaster playback.

- Encoder B - Speed: this will adjust the rate at which the playback's step will wait prior to triggering the next step.

- Encoder C - Fade Up: this will adjust the rate at which the playback's step will fade up.

- Encoder D - Fade Down: this will adjust the rate at which the playback's step will fade down.

Note: Repeat this process for the number of looks that are required on that submaster playback.

12. Recording an Effect

This topic shall go over basic effect recording. Effects allow constant movement of light in either a step based environment or in an effect engine based environment. The 250ML Control Console gives you the ability to do step based effects for intensity and engine based effects for automated luminaires.

Note: See "Effects Tutorial" on page 51 for more information.

Once the channels levels are at the desired levels, the first step is to place the desk into Record Mode as shown in **Figure 53**.

Figure 53: Recording an Effect

Note: In Record Mode, many commands are limited to recording actions.

The next step after [RECORD] is pressed is to select a submaster by pressing its bump button. The selected submaster's bump button will flash red to indicate that the active live channels are in the process of being stored into the selected submaster. The following screen shows the options once the submaster has been selected by pressing its bump button.

Figure 54: Changing the Settings of an Effect

- This screen gives the user the option to change the settings that are stored on the submaster. Most of these settings will determine how the submaster outputs its stored data when activated.

- See "Submaster Options" on page 30 to go through all options available.

- To continue recording an Effect, as indicated in **Figure 54**, press (S5 - Type) once to change the Type setting to Chase.

- When all settings are correct, press [ENTER] to complete the record sub action. An alternate method is to press and hold the submaster's bump button for 3 seconds to complete the record command.

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- Once the submaster is recorded, the submaster's bump button will be lit in purple and the channel's levels will still be active in red. Press [CLR] [CLR] to release and now the submaster shall function correctly.

- At this point the playback submaster will function as a normal submaster simply because there is only one set of stored data. Repeat the process of setting levels and recording into the same submaster [RECORD][BUMP][ENTER] to store the second set of levels to the same submaster.

Record Effect Options

When the effect's bump button is pressed, the following effect screen will appear as shown in **Figure 55**.

Figure 55: Record Effect Options

S1 - Bump:

This option determines the submaster's bump button action.

- Off - bump button is disabled.

S2 - Color, S3 - Beamshape, and S4 - Position:

Color refers to all Color parameters, Beamshape refers to all beam related parameters and Position refers to pan / tilt and any other position related parameters.

- Snap - color, beam and position values shall output to their stored values in a zero time when the cue is activated.

- Fade - color, beam and position values shall fade with the transition of the cue using the time of the cue.

- Snap@100% - color, beam and position values shall output to the stored values in a zero time when the cue is completed.

S5 - Direction:

This option determines the path in which the effect will run.

- Forward - runs in numerical order (1...2...3...).

- Backwards - runs in reverse numerical order (3...2...1...).

- Bounce - runs in numerical order then in reverse order (1...2...3...2...1...).

- Random - runs in a randomized order.

S6 - Insert:

This option will store the current values and add a step prior to the existing step.

S7 - Delete (Chase):

This setting will delete the selected effect. Once (S7) is pressed, this operation must be aborted or confirmed. Press (S9 - Exit) to abort or Press (S10 - Enter) to confirm.

⚠ **WARNING!** Once executed, this command cannot be reversed.

S8 - Delete (Step):

This setting will delete the selected step of the effect. Once (S7) is pressed, this operation must be aborted or confirmed. Press (S9 - Exit) to abort or Press (S10 - Enter) to confirm.

⚠ **WARNING!** Once executed, this command cannot be reversed.

S10 - Name:

This option allows the ability to label the cue. Pressing (S10 - Name) shall bring up the naming screen for labeling.

Encoder A - C-Step U/D (Current Step):

Notice that the Current Step indicator in the screen is one number higher than the total steps and there is an asterisk. This indicates that a new step will be added. By adjusting the Current Step encoder, the Current Step will change to one of the existing recorded steps and allow the ability to record over an existing step indicated by Current Step. Normally this encoder would not be adjusted and the current values will be added as a new step in the submaster effect.

Encoder B - Speed:

This option will adjust the rate at which the effect's step will wait prior to triggering the next step.

Note: Repeat this process for the number of steps that are required on that submaster effect.

13. Cue/Submaster Preview

The Cue/Submaster preview screen (**Figure 56**) is in a grey background to let you know you are in preview.

Figure 56: Cue/Submaster Preview Screen

- Level information is in the Intensity section for conventional and can be edited as needed.

- The Fixture section is for fixture data and below that will be unit's data.

- To edit level information in preview, adjust the information via command line as you normally would.
  Example: [1] [@] [5] [ENTER]

- This shall place channel 1 at 50%. If you want this information stored, just press the LIST softkey to store and return to the previous key.

- This screen also allows the editing of Cue Timing information. Just adjust via the Encoders and then press the LIST softkey to store the changes.

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14. Submaster List

The Submaster List is the point of information for all settings regarding data stored in faders. Remember that a fader can be a submaster, playback or effect and all of its info can be seen and edited from the Submaster List.

Pressing [F2-Sub] will open up the Sub List on the color screen.

Note: *Helpful Hint:* No matter which option is chosen from here, this (**Figure 57**) is the only screen from which you can exit the Submaster List and get back to the Main Screen.

Figure 57: Sub List Screen

The list will display everything you need to know about what is stored in the submasters. Let's discuss the columns of information in the main window on the color screen.

- The No. column displays the sub page in the first set of numbers (01-) while the fader number is the second set of numbers (-01).

- The Step column displays how many steps are stored. S is for Submaster.

- Up displays the up time. This is often referred to as the "in" time.

- Dw displays the down time. This is often referred to as the "out" time.

- In the example above, Fader 1 is stored as a submaster as is fader 2. However, fader 7 has an effect stored on it with 2 steps. Purple text let's you know it's an effect. Fader 12 is stored as a playback with 3 steps. Blue text let's you know it's a playback.

- (S1 - Edit Time) will allow the editing of the submaster's parameters.

- For (S6-Delete Sub All), (S7-Delete Sub Page) and (S8-Delete Sub One), see "Submaster Options" on page 30 for more information.

- (S9-Step List): will display a list of all steps stored in a submaster effect or playback.

Editing a Submaster

Once a fader is stored as a submaster, it can be edited without the need to recreate the look onstage and rerecord.

Here is a description of the S keys and their functions.

S1 - Edit Time

This will allow the editing of all parameters of the sub that was selected as well as editing the item in Preview.

Figure 58: Sub List Preview Screen

- (S1 - Bump): changes how the bump button functions. Options are Off, Flash, Solo, Latch, Flash+Solo, and Go/Run. See Submaster Options for more information.

- (S2 - S4: Color, Beam and Position): changes how the attribute family plays back when activated. Options are Snap, Fade Up and Fade Down. See "Submaster Options" on page 30 for more information.

- (S6 - Sub List): This button functions as both the [ENTER] key for accepting changes and returns the screen to the main Sub List screen options.

- (S9 - Preview): Allows previewing and editing the content of the submaster. See "Cue/Submaster Preview" on page 38 for more info.

While in Sub Preview, the monitor will appear with a grey background. That's the indication that you are in preview. Editing can be done at this point. A simple example of editing levels while in preview:

[CHANNEL] [ON] [S9-LIST]

After the channels' levels have been changed, pressing (S9-List) is the equivalent to the [ENTER] key to update the item.

Figure 59: Sub Preview Screen

Encoder C/D - Fade Up / Fade Down: rotating the encoder to change the fade up / down times. Press (S9-List) to accept the edits.

Editing a Submaster Effect

Once an effect is stored as a submaster, it can be edited without the need to recreate the look onstage and rerecord.

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Here is a description of the S keys and their functions.

Figure 60: Editing a Submaster Effect

- (S1 - Edit Time): This will allow the editing of all parameters of the submaster effect that was selected as well as editing the item in Preview.

- (S2 - Sub List): will restore the screen back to the Sub List.

- (S7 - Delete All Steps): will delete all steps of the effect.

- (S8 - Delete Step): Will delete the highlighted step of the effect.

- (S9 - Preview): will show the content of the step in blind where it can be edited. Just press (S9-List) to confirm the changes to the effect step once they are made.

- Encoder D - use the Up/Down action to highlight the effect step that is to be affected.

Edit a Submaster Playback

Once a playback is stored as a submaster, it can be edited without the need to recreate the look onstage and rerecord.

Figure 61: Edit a Submaster Playback

- (S1 - Edit Time): This will allow the editing of all parameters of the submaster effect that was selected as well as editing the item in Preview.

- (S2 - Sub List): will restore the screen back to the Sub List.

- (S7 - Delete All Steps): will delete all steps of the effect.

- (S8 - Delete Step): Will delete the highlighted step of the effect.

- (S9 - Preview): will show the content of the step in blind where it can be edited. Just press S9-List to confirm the changes to the effect step once they are made.

- Encoder D - use the Up/Down action to highlight the effect step that is to be affected.

15. FX List

The effects list is the point of information for all effects that are actively running based on fader output. Pressing [F1 – FX] will open the FX List on the color screen.

Figure 62: FX List Screen

Figure 62 shows 2 effects that are running based upon the faders with the effects being active. The No. shows the page and fader number, the Step shows the active step. The Name shows the labeled name of the effect. Direct is the direction in which the effect is running. Speed is the rate at which the effect is running and Status will be Active for any running effect.

This effect screen shall allow the user to manipulate effects. Use Encoder D to highlight any active effect. Clockwise will go down the list highlighting each effect with a white background bar. Counterclockwise will go up the list. Each highlighted effect can be manipulated life with the (S6-Run) that shall start the effect from the beginning. (S9-GO) shall restart a paused effect. (S10-Pause) Shall freeze or pause a running effect.

16. Recording a Group

A Group is a collection of fixtures only (not channels) used by programmers to speed up the act of assigning levels to fixtures. The first step is to select the fixtures that you want stored in the group Select FIXTURE button and then (S1) through (S10).

Then press [RECORD] [GROUP] and the appropriate softkey. The first group will likely be assigned to S1 but any softkey is available.

Figure 63: Recording a Group

Select Encoder A to bring up the naming screen to label a group.

17. Applying Groups

Once the Groups are recorded, simply press the [GROUP] key and this will bring up the recorded group screen. Any softkey that has a group assigned to it will be lit in red. Simply press the appropriate S key and you will immediately go to the Fixture screen with the Group's Fixtures selected.

18. Basic Automated Luminaire Control

Basic automated luminaire control starts by understanding the premise that channels are for dimmer control and accessed through the numeric keypad; while fixtures are for automated luminaires (moving lights, LEDs and other devices) and are accessed through the color screen and their surrounding buttons.

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Once a moving light is properly patched, fixtures can be accessed by pressing the FIXTURE button.

The patched fixtures shall appear on the S keys. By selecting a fixture, the appropriate S key shall flash. Multiple fixtures can be manipulated at the same time by selecting multiple S keys. Multiple S keys will be lit red if they are active although only one will flash. The flashing fixture shall be the one displayed on the monitor even though the other selected fixtures are being affected.

The LCD screen shall identify the fixture page. Page 1 shall access fixtures 1 thru 10. Page 2 shall access fixtures 11 thru 20 and page 3 shall access fixtures 21 thru 30. Use the Arrow Up and Arrow Down keys next to the LCD screen to change fixture pages.

Basic attributes like Intensity shall appear on the color screen and are accessed from Encoders A thru D.

Figure 64: Automated Luminaire Control

Engaging the encoder shall change the values for the selected attribute. When the attribute's value has been changed, the background shall change to white and the numbers shall advance.

Home

The HOME button shall take the selected fixtures attributes back to their default position and deselect the attributes.

Example: Select the first fixture by pressing (S1) button. If this fixture has intensity, that will be available on Encoder A sitting in its default value unchanged.

Figure 65: Intensity Control

Now adjust Encoder A and the intensities value shall change plus the background has changed to white. This indicates that the value has been changed.

Figure 66: Intensity Control (Value Change)

When recorded, this value will be stored in the fader or the cue.

Figure 67: Fixture Display - Patched Fixture Attributes

The fixture area display shall show all fixtures that are patched. **Figure 67** shows 3 fixtures, each with 7 attributes. Should there be more than 7 attributes, the attribute blocks will wrap around to the second line.

• Fixtures that are selected with have the fixture block in red.

• Fixtures that were adjusted but are no longer selected have the fixture block text in red.

Attributes that have been adjusted will appear in a red box. Adjusting Pan will also select Tilt. Some attribute families will work collectively (selecting all parameters for the selected attribute family, some will work independently. This will depend upon the family and the fixture.)

Stored parameter values that have been changed in the current cue will appear in blue. Values that have changed in a different cue will appear in magenta. Values that have not been changed shall remain in white.

Paging the Fixture Display

When the FIXTURE key is selected, the plus "+" key will "page" the fixture display. This will page patched fixtures in numerical order from fixtures 1 thru 30, based upon the number of fixtures and attributes that fully populates the set fixture area. There is space for 4 fixtures if all attributes fit on the same horizontal line.

Tagging and Untagging

With Fixtures that are patched, adjusting any parameter will "tag" that parameter. A tagged parameter will appear on the color screen in a white background. On the monitor, the parameter will appear in a red background.

If in Setup, the Record Mode is at the default setting of "Full", recording an attributed fixture shall record all changes based upon the tagging even if the values are at zero.

• Tagging of a fixture occurs when the parameter has been changed. (On Monitor: Red background, white text)

• Untagging of a fixture occurs to change the fixture to no longer be selected.

Several things can be untagged:

• All Fixtures can be untagged by [UNTAG] + [FIXTURE]

• Individual Fixtures can be untagged by [UNTAG] + [S1/S10]

• Attribute Families can be untagged by [UNTAG] + [POSITION / COLOR / BEAM]

• Individual Attributes can be untagged by [UNTAG] + [Encoder A / B / C / D] when the Encoders are populated with the desired attributes.

If the Record Mode is not default and is set to "Channel", then only the tagged values shall be recorded and values at zero will be ignored.

This allows you to decide if a attributes recorded onto submasters should be absolute. (record mode should be set to "Full") or if the recorded colors should be able to mix with each other (not absolute), (record mode for color should be set to "Channel".)

19. Palettes

Palettes store specific attributes data for recall and storing into faders and cues. There are many reasons to use a palette over storing raw numerical data.

• You can name a palette. Seeing a moving light in Pan/Tilt "P:02" or "Chair" instead of Pan 038 and Tilt 185 can be more user friendly.

• Palettes can be reused multiple times. The previously mentioned "P:02" position palette can then be accessed for storage in different faders and cues.

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• If the data in a palette gets changed or updated, then all of the faders and cues are automatically updated.

Recording a Palette

The process of recording a palette allows the storage of position, color and beam information into an easily accessible state.

The following is the process to record a palette:

Adjust the parameters that are to be stored. The parameter's data will appear in a white box.

Figure 68: Recording a Palette

Note: This screen shot shows the typical parameters of pan and tilt. If you are using color mixing fixtures and recording color or beam parameters, the attributes will be different.

Press the [RECORD] key. Then press the proper attribute family button (position, color or beam) above the color screen. The screen shot below show recording position as an example.

Figure 69: Recording a Palette - Position Example

Use Encoder A to assign a Name to the palette. *(Note, this step is optional.)*

To complete the recording process, press [ENTER]

The recording position(s) will now appear and be accessed by the S keys.

Applying A Palette

Once palettes have been recorded, they can be access and applied by first selected the fixture(s).

Pressing FIXTURE then S1 key or any combination of the S keys to select the appropriate fixtures.

Now select the appropriate attribute family. Example, press the POSITION key.

Then select the appropriate S key to access the desired palette. The image below shows that two position palettes have been stored. Position 1 has no name, while Position 2 has been labeled "Chair". The fixture(s) have been placed in Position 1 by pressing S1 key.

Figure 70: Applying a Palette

Once the palette has been applied and all output is correct, the fixture can be stored into a fader or cue.

Accessing Fixtures using Channel Numbers

All fixtures shall display a 900 series number as the softkeys label on the color screen. This is a channel alias and shall allow access of the fixture from the numerical keypad. For example, the first fixture patched will have a channel alias of 901. From the Command Line, press [9] [0] [1] [ENTER]. This shall have the same effect as selecting the S1 softkey.

20. Focus

The Focus button, [F2], is the point of information for all focus positions that are recorded in the current showfile. Each type of focus point (Position, Color and Beam) are available and can be manipulated here.

Figure 71: Focus List Screen

Use Encoder D to move up and down the focus list. The selected type of focus point will be highlighted in the white background bar. Press (S9-Show List) to see the list of each type or Encoder A - Exit to return to the previous screen.

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S9-Show List

This will display all focuses that have been stored of the type selected.

Figure 72: Preview Position Focus Screen

This example shows the 2 focus positions that have been stored. The first one without a name, the second one has been labeled "Chair".

- Encoder D – Up/Down will allow the user to select any focus by rotating the encoder. (S6-Focus List) shall take the user back to the list of focus types.

- (S7-Delete All) allows the user to delete all stored focus points. A warning screen shall allow the user to select (S9-Yes) or (S10-No).

⚠ **WARNING!** Once executed, this command cannot be reversed.

- (S8-Delete Focus) allows the user to delete the highlighted focus point. A warning screen shall allow the user to select (S9-Yes) or (S10-No).

⚠ **WARNING!** Once executed, this command cannot be reversed.

- (S9-Preview) allows the user to preview the highlighted focus point. The VGA monitor will display the stored focus information to be viewed.

- (S10-Name) allows the user to label the focus point.

21. Automated Luminaire Effects

Effects allow constant movement of light in either a step based environment or in an effect engine based environment. The 250ML Control Console gives you the ability to do step based affects for intensity and engine based effects for automated luminaires.

The moving light effects engine can be applied to the movement parameters of any patched moving light. This will give you the ability to select from available prebuilt effects, change the size on both axis, speed and direction.

The effect engine shall be accessed by the Effect button once the fixtures have been selected.

Start by pressing the FIXTURE button and then selecting the appropriate S keys for the fixtures that you want the effect to apply to. Then press the EFFECT button to present the effect's options on the color screen.

Figure 73: Set Fixture Effect Status

- (S1) thru (S5) preset the prebuilt effect options. (S1 - None), (S2 - Ellipse) *or an Oval*, (S3 - Figure 8) *or a Ballyhoo*, (S4 - Quad) *or Square*, and (S5 - Triangle). The effect that is selected will appear in yellow text.

- (S6 - Direction): determines the direction of the movement. Options are Clockwise and Counterclockwise.

- Encoder B - Size X: determines the scale of the movement on the X axis.

- Encoder C - Size Y: determines the scale of the movement on the Y axis.

- Encoder D - Speed: determines the speed at which the effect operates.

22. Archive

The Archive screen in Setup allows many utility actions to occur.

Figure 74: Archive Menu

Save Show

This will allow the saving of the showfile onto a USB key.

Figure 75: Save Show Menu

Using Encoder D, scroll up/down to highlight Save Show and press down on Encoder D to select.

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Create a folder location to store the showfile using Encoder D to highlight the letter and press down on Encoder D to select. The file folder must be created using the following rules.

Folder Naming Rules

• A letter of the alphabet must be the first character. *Numbers are not allowed to be the first character in a folder name.*

• The folder name must have at least six characters. *Five or less characters are not acceptable for folder names.*

When the proper six character name has been selected, press ENTER using Encoder D to highlight and select and the file will be saved.

Note: When viewing the showfile on a PC, the showfile that was created will be in the directory #:\250ML\SHOW.

Clear Memory / Subs

This maintenance action will clear all stored cues, subs and playbacks from the memory of the console.

Figure 76: Setup Menu - Clearing Memory / Subs

WARNING! This action is password protected for the safety of the show data. This action is not recoverable, nor reversible. Password: 168168.

Clear Palettes

This maintenance action will clear all stored palettes from the memory of the console.

Figure 77: Setup Menu - Clearing Palettes

WARNING! This action is password protected for the safety of the show data. This action is not recoverable, nor reversible. Password: 168168.

Default Setup

This maintenance action shall default all of the setup options for the 250ML Control Console.

Figure 78: Setup Menu - Resetting to Default Setup

WARNING! This action is password protected for the safety of the show data. This action is not recoverable, nor reversible. Password: 168168.

Load Show

This maintenance action allows the loading of a previously stored showfile.

Figure 79: Loading a Showfile

Using Encoder D, scroll up/down to highlight the show to load and select (S10 - Enter) to confirm the showfile.

Figure 80: Showfile Loading

With the softkeys, the user can select which items within the showfile will be loaded. All selected items shall have the appropriate softkey lit in red. Press [Encoder D - Enter] when the selection settings are correct.

While the showfile is loading, progress will be reported in the center of the color screen.

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Once a showfile is selected to load, it replaces the showfile that currently exists in the memory of the console. If you need to keep the existing showfile, save it prior to loading a different showfile.

23. Effects Tutorial

Effects allow constant movement of light in either a step based environment or in an effect engine based environment. The 250ML Control Console gives you the ability to do step based affects for intensity and engine based effects for automated luminaires.

Creating an Intensity Effect

In order to use an intensity based effect, the console must have intensity values stored into multiple steps. These steps shall be stored on a fader. Start by setting levels, storing the effect on a submaster, releasing the channels then repeat this process until all steps are recorded.

Here is a key to the images in the example…

This image (**Figure 81**) represents the smaller buttons on the console. These are bump buttons and softkeys.

Figure 81: Small Button on Console

This image (**Figure 81**) represents the larger buttons on the console. These are the command line keys.

Figure 82: Large Button on Console

Here is an example…

Set levels by pressing.

Store the first step to Submaster 1 as follows:

Figure 83 is what is displayed after the RECORD key and Sub 1's bump button is pressed. Pressing (S5) shall change the type from "Normal" to "Chase" prior to pressing [ENTER]. This is when it is recommend to change the Fade Up / Down times for the intensities in this step.

Figure 83: Creating Intensity Effects - Recording to Submaster 1

Note: When the submaster is stored with an effect, the bump button shall be lit purple.

Finish by clearing out the adjusted channels as follows:

Repeat level adjustment as follows:

Store the second step to Submaster 1 as follows:

Figure 84: Record Step Chase

Since the info in Submaster 1 has already been designated as an effect, that step doesn't need to be repeated. However Total Step will display as 01 and Current Step as 02. If you want the default of the current step adding to the end of the step list, then no adjustment is needed. However if you need the step that you are recording to be in front of the currently recorded step 1, then adjust the C-Step U/D option on Encoder A. Also, this is a good time to adjust the Speed of the effect. For this example, please leave the Current Step set to 02.
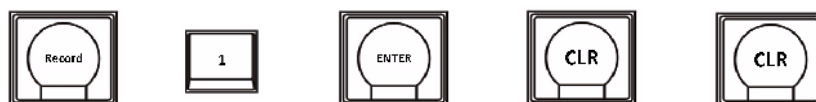
Finish by clearing out the adjusted channels as follows:

Repeat level adjustment as follows:

Store the third step to Submaster 1 as follows:

Just move the submaster's fader to full to see the effect run.

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MAINTENANCE

The Maintenance section provides tools for resetting, testing and upgrading the 250ML Control Console.

Figure 85: Maintenance Menu Screen

⚠ **WARNING!** The items described in this section are password protected for the safety of the show data. These actions, once executed, are not recoverable, nor reversible. Should you have questions regarding executing any of the maintenance items in this section, please consult your Philips Selecon dealer or technical support.

1. Reset Desk

This shall remove all show data and default the console back to its original settings.

Figure 86: Maintenance Screen - Reset Desk Option

⚠ **WARNING!** This action is password protected for the safety of the show data. This action is not recoverable, nor reversible. Password: 168168.

2. Update Software

This shall allow the user to update the operational software of the 250ML Control Console. Please download the latest version of the 250ML software from www.strandlighting.com. Insert the USB key with the software into the USB port on the top of the console.

Note: Do not use the port on the back plate of the desk as this is reserved for a USB light.

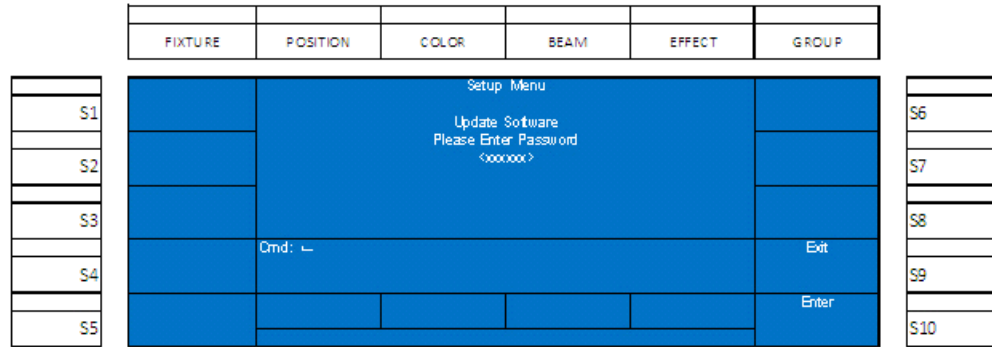Use Encoder D to navigate to the Update Software option and press to select.

Figure 87: Setup Menu - Software Update Screen

⚠️ **WARNING!** This action is password protected for the safety of the show data. This action is not recoverable, nor reversible. Password: 168168.

3. Update VGA Screen

This shall allow the user to update the video output software of the 250ML Control Console. Please download the latest version of the 250ML software from www.strandlighting.com. Insert the USB key with the software into the USB port on the top of the console. Do not use the port on the back plate of the desk as this is reserved for a USB light.

Use Encoder D to navigate to the Update VGA Screen option and press to select.
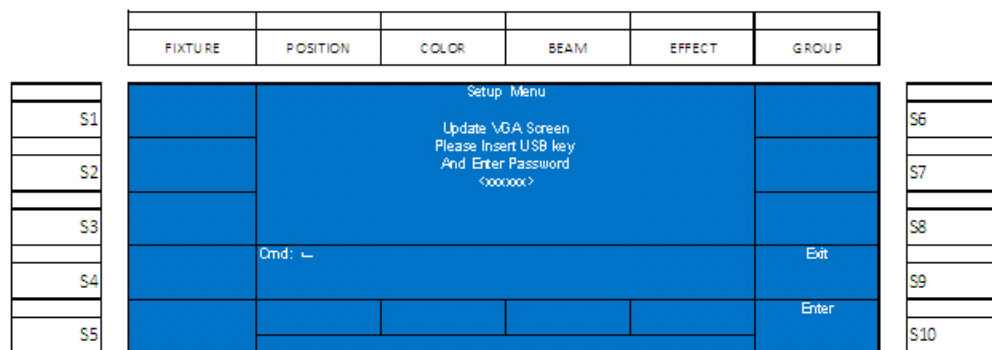

Figure 88: Setup Menu - Update VGA Screen

⚠️ **WARNING!** This action is password protected for the safety of the show data. This action is not recoverable, nor reversible. Password: 168168.

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4.   Test Mode

This shall allow the user to test the functionality of the hardware. Once the test mode is running, all buttons shall light up and activating all hardware items (buttons and sliders) shall provide on screen feedback to the onboard color screen for confirmation of functionality.

	FIXTURE	POSITION	COLOR	BEAM	EFFECT	GROUP	
S1			Test Menu rev X.XX				S6
S2			Please Press Keys And Move Sliders Key: Slider: Ch: XX Value:				S7
S3			Pres <Shift + S10> to Exit				S8
S4		Cmd: ⌐					S9
S5		Exit	Wheel 000	Wheel 000	Wheel 000	Wheel 000	S10

Once all tests have been completed, press [SHIFT] + [S10] to exit the text routine.

PRODUCT INFORMATION

1. Specification

Model:	Strand Lighting 250ML Control Console
On-Board LCD:	60x128 dot, TFT LCD with contrast adjustment
Inputs/Outputs:	DMX IN: DMX512A (RDM) XLR5M Port
	DMX OUT: 2 Each DMX512A (RDM) XLR5F Ports
Power Input:	Connects to a Universal Power Supply (100-240VAC to VDC, provided with unit)
Power Requirement:	DC 9~12V 2A Max
USB Ports:	2 Ports (Front USB port for library storage, rear USB port is specifically for desk light connection).
Overall Dimensions:	28.9 x 12.8 x 3.2 in / 734 x 324 x 81 mm
Weight:	19.4 lbs (8.8 kgs)
Housing:	Electrolytic Plate with powder finishing

734 mm / 28.9 in

80.1 mm / 3.2 in

324 mm / 12.8 in

29 mm / 1.1 in

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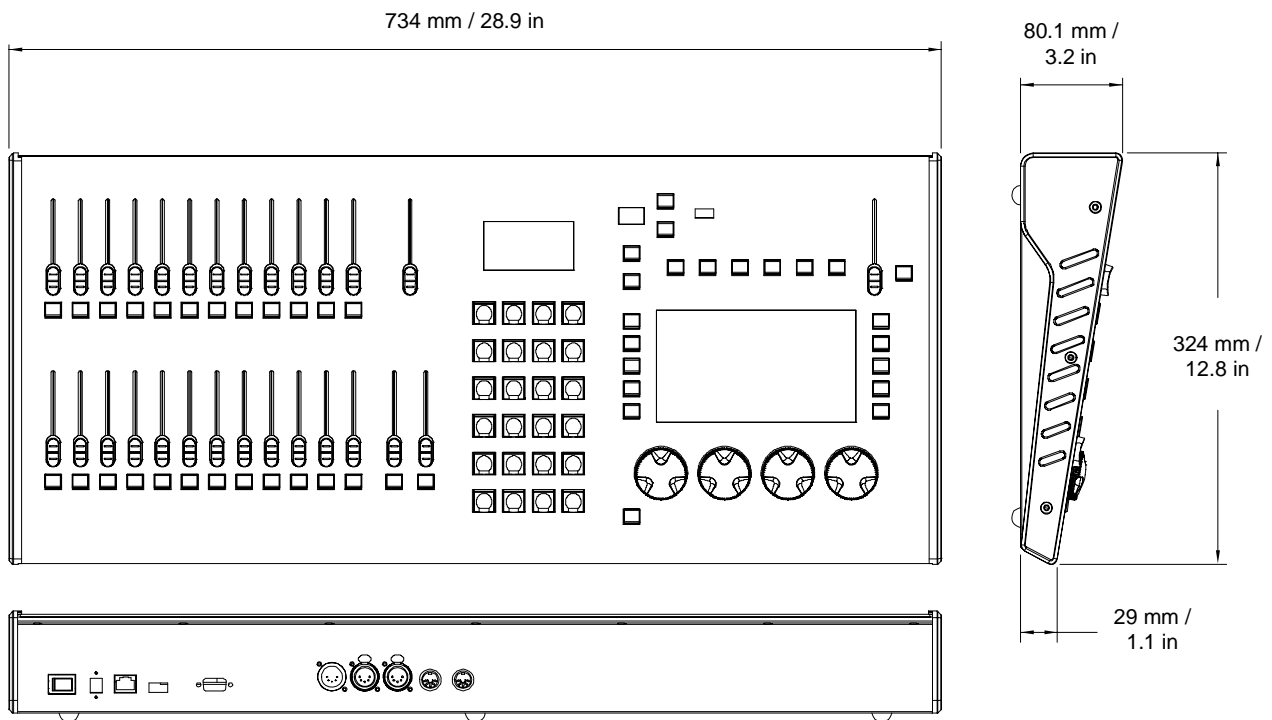
2.   Console Capacities

The following capacities are available on your 250ML control console.

- 250 Conventional Dimmer Channels
- 30 Multiple Parameter Fixtures with a maximum of 40 parameters for each fixture
- 999 Cues
- 24 Faders with 24 pages of faders
- Each fader can be either a submaster, effect or playback
- 99 Effects with up to 99 steps in each effect
- The Fixture Library can accommodate more than 3000 fixtures

3.   Principle Features

- Professional DMX512 console, ideal for conventional lights, simple moving light control and LED fixture control.
- Versatile, powerful, and offering 250 intensity channels and 30 automated luminaire of control via 1024 DMX outputs.
- LCD display for easy operation with contrast adjustment.
- Monitor display to provide enhanced display of information.
- USB port for uploading/downloading data or updating software.
- Ethernet port for faster communication with compatible devices.
- DMX IN allows 5 pin XLR connector to connect external console.
- DMX output 5 pin XLR connector.
- Back lighting bump buttons changes color depending on their operational status.
- Grand Master fader for total output control.
- 24 Submasters with 24 Pages
- Integrated Moving Light Control with LCD screen, 10 softkeys and 4 encoders.
- Faders can be either submasters, playbacks or effects.
- Cue Playback with A/B faders and Load / Go buttons.
- MIDI In/Thru
- Intuitive Effects Engine
- Traditional Command Line Entry
- Blackout button enables the user to snap all fixtures to off.
- Integrated video card (VGA) allows for 800 x 600 monitor output (monitor sold separately).

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