

# LITE**DIMMER**<sup>TM</sup>

# SPECTRUM<sup>TM</sup>

# DC200

## USER GUIDE



**LITEGEAR<sup>TM</sup>**

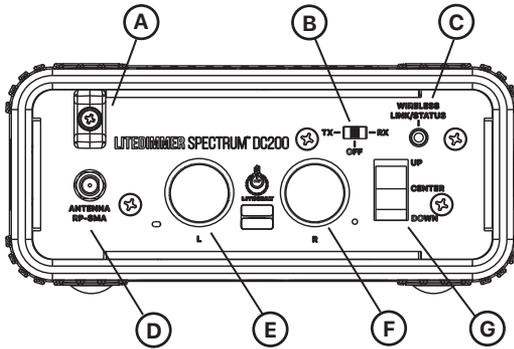
# INDEX

Section	Page
About .....	1
Controls and Connections .....	2-4
Dimmer Defaults .....	5
Pixel Control .....	6
Color Space .....	7
Accent/Hue vs Saturation vs Intensity .....	8
Standard vs Low Mode .....	9
Manual Operation .....	10
Spectrum Mode .....	11
Spectrum Profiles: Standard & Low Mode .....	12
Spectrum Presets: Standard & Low Mode .....	13-14
Spectrum Profile: TrueHybrid .....	15-16
Tint Settings .....	17
Hybrid+ Mode (Profile & Presets) .....	18
DMX Operation .....	19-20
Pixel in DMX .....	21
Factory Reset.....	22
Specifications .....	23
Additional Assistance.....	24

## **ABOUT**

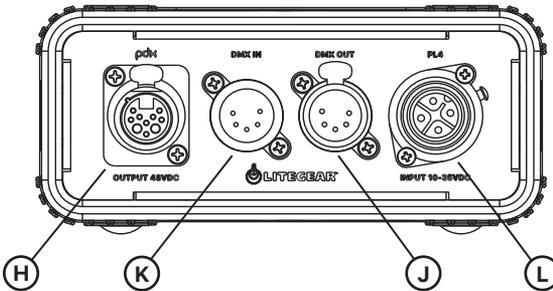
LiteDimmer Spectrum is a multi-mode dimmer designed to output the best white light for camera and post production. It includes Standard, Low Mode, TrueHybrid, and Hybrid+ White Light profiles, as well as DUV adjustment, and Spectrum Color Mixing. The dimmer can be operated both manually and with DMX. Pixel Control optional when connected to DMX.

## Controls & Connections



### Control Panel

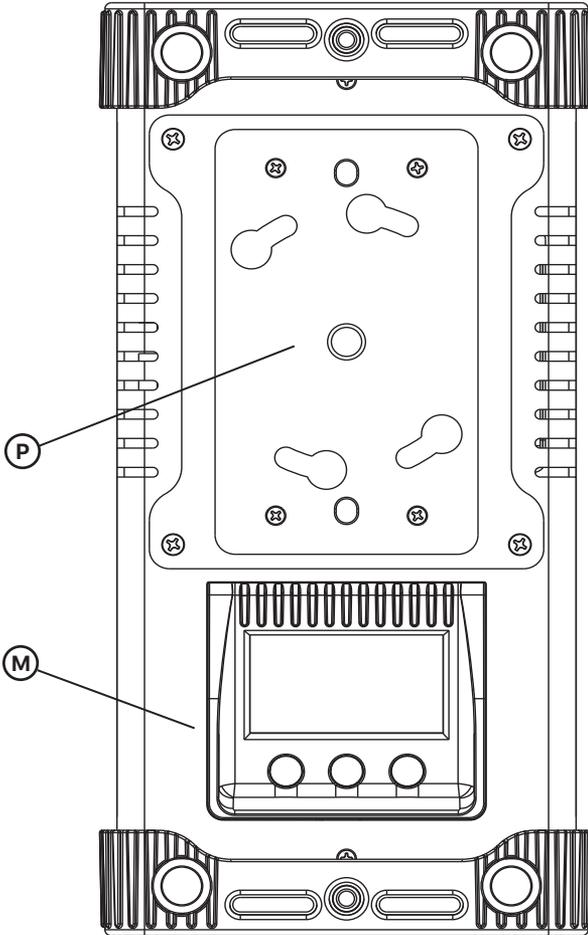
- A** Antenna Clip
- B** Wireless DMX Switch (Transmit 'TX' / OFF / Receive 'RX')
- C** Wireless DMX Link / Status Switch
- D** Antenna Port
- E** Left Encoder
- F** Right Encoder
- G** Main 3-Position Switch



### Connections Panel

- H** Output Connector, PDX (10-Pin XLR, Female)
- J** DMX In Connector (5-Pin XLR, Female)
- K** DMX Out Connector (5-Pin XLR, Male)
- L** Input Connector, PL4

## Controls & Connections



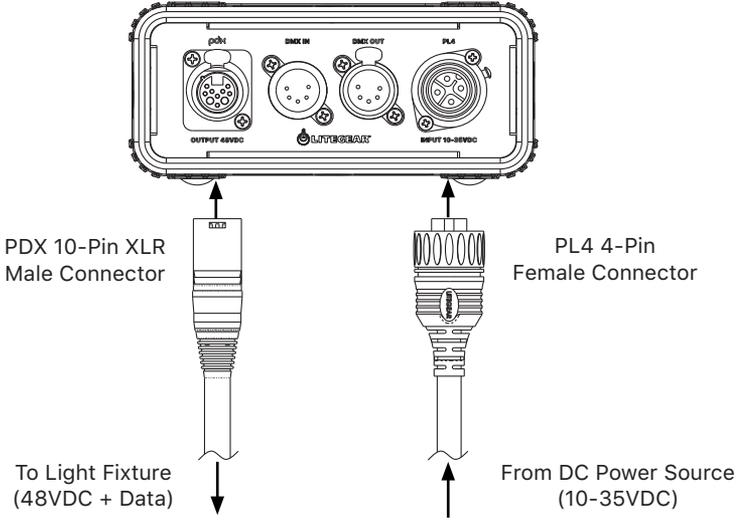
### Top Panel

M OLED Display with function switches

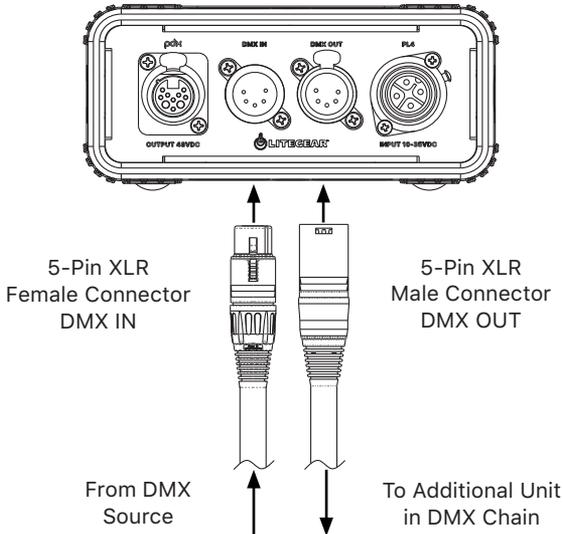
P K-Mount Plate

# Controls & Connections

## Input & Output Connections



## Wired DMX Connections



## Dimmer Defaults

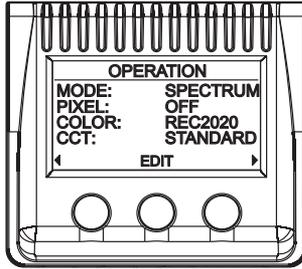
### OPERATION

Mode: SPECTRUM

Pixel: OFF

Color: REC 2020

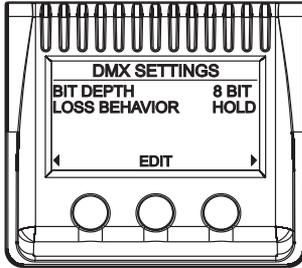
CCT: STANDARD



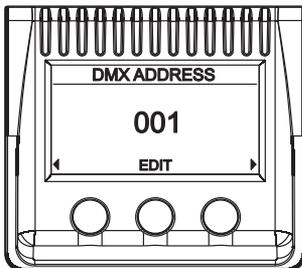
### DMX SETTINGS

Bit Depth: 8 BIT

Loss Behavior: HOLD

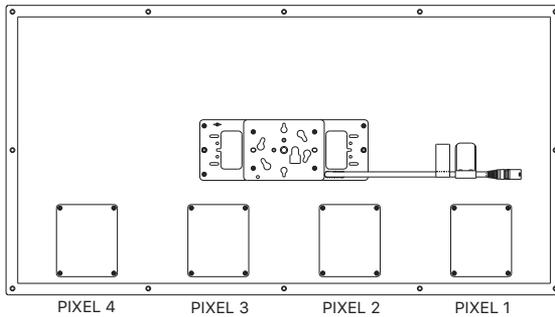
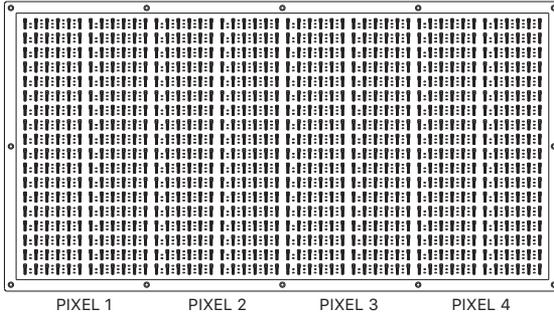


DMX Address: 001



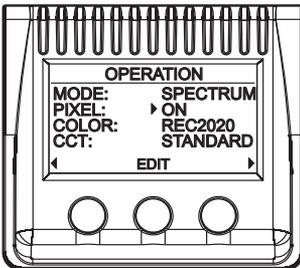
## Pixel Control

Accessible only through DMX, Pixel Control expands the possibilities of color output for each LiteMat Spectrum. LiteMat Spectrum 1 has 1 Pixel, LiteMat Spectrum 2 and 2L have 2 Pixels, LiteMat Spectrum 3 has 3 Pixels, LiteMat Spectrum 4 has 4 Pixels. See "Pixel in DMX" for more information.



Default: OFF

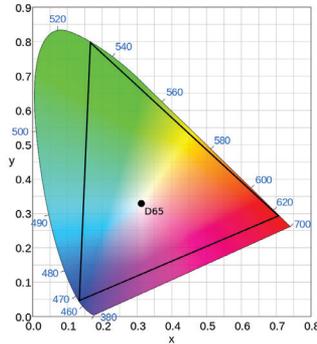
To change: Operation Screen -> Pixel -> ON/OFF



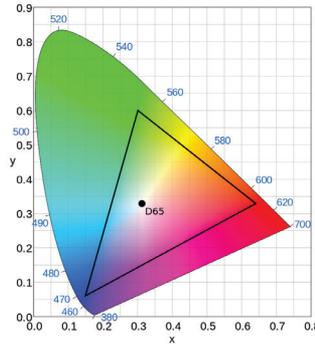
## Color Space

There are 2 color spaces available for the user to choose from: Rec2020 and Rec709. Rec2020 and Rec709 are the most common color spaces used by cameras in the industry right now.

Rec2020:



Rec709:

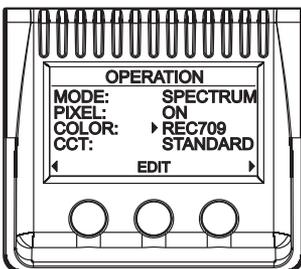


Images by Sakuramboderivative work: GrandDrake (talk) - CIEy1931.svg, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=21864661>

When the dimmer is set to either Color Space, the output is limited to the Hues that fall within each color space. While this may seem to limit the color options initially, it frees the user to fully utilize color and white light for the camera they're working with. Working within a designated color space can also have a positive impact on the post-production color-correction process.

Default: Rec2020

To Change: Operation Screen -> Color -> Rec709/2020



## **Accent/Hue vs Saturation vs Intensity**

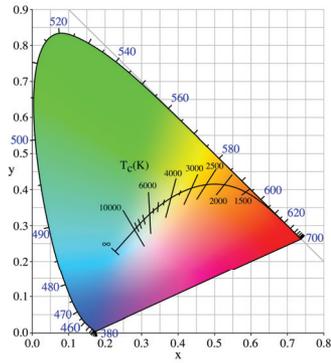
The accent/hues available run from 0 – 359\* degrees, or the full color spectrum. Accent/Hue is the color the user wants, while Saturation is how much of the color the user wants. Intensity, which is a separate variable from both Accent/Hue and Saturation, controls the brightness of the chosen combination of accent/hue and saturation.

In Pixel Control, each pixel has its own set of Accent/Hue, Saturation, and Intensity levels that the user can set. This allows the user to create gradients across the fixture, among other things.

\*In DMX, the screen readout is 360

## Standard vs Low Mode

Standard Profile is a full-spectrum white light range from 2000K – 11,000K.



Images by en:User:PAR - en:User:PAR, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=107655>

Low Mode Profile has the same full-spectrum white light range from 2000K-11000K, but the output is 2 stops below standard. It enables fine adjustments for low level requirements.

## Manual Operation

Manual Operation allows the user to control the fixture through the 2 encoders, main switch, and set of 3 switches under the OLED display. Pixel is not accessible when using the dimmer manually. To learn about Pixel see section "Pixel", and "Pixel in DMX" respectively.

Changing Modes/Profiles/Settings:

- 1 Set main switch to CENTER position
- 2 Tap LEFT or RIGHT switch under OLED display "<" or ">"
- 3 Find the screen with the setting you want to change, and tap the CENTER switch under the OLED display "EDIT"
- 4 Use CENTER switch under OLED display "NEXT" to move through setting options, and stop at the option you want to edit
- 5 Use the LEFT or RIGHT switch to change the setting
- 6 Once you've found the change you want, tap CENTER switch under the OLED display "NEXT" until it reads "DONE"
- 7 Tap the CENTER switch under the OLED display "DONE" once

## Spectrum Mode

Spectrum Mode has 3 profiles: Standard, Low Mode, and TrueHybrid. For each profile, the purpose is to create a full-spectrum white light, with the option to operate solely within either the Rec2020 or Rec709 color spaces. In both the Standard and Low Mode Profiles, the user has full spectrum access.

Standard and Low Mode Profiles are chosen in the OPERATION screen, and accessible once the main switch is set to DOWN. TrueHybrid is a facet of both Standard and Low Mode profiles and is accessible by setting the main switch to UP. The TrueHybrid profile is white light that utilizes all diodes.

Tint (DUV) adjustments are possible in all 3 profiles.

Presets are available in all 3 profiles.

When connected to DMX, this Mode can be pixelized, utilizing 5 DMX channels per pixel.

To match Hybrid+ units, set dimmer to Hybrid+ Mode, see section "Hybrid+ Mode".

Profile: Standard (default, Switch DOWN)

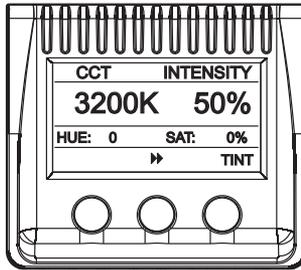
- 2000K - 11,000K
- Accent/Hue 0 – 359 degrees
- Saturation 0 – 100%
- Rec2020/Rec709
- +/- Green
- Intensity 0 - 100%

Profile: Low Mode (Switch DOWN)

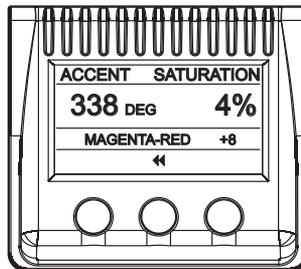
- 2000K - 11,000K
- Accent/Hue 0 – 359 degrees
- Saturation 0 – 100%
- Rec2020/Rec709
- +/- Green
- Intensity 0 - 100%
- 2 stops below standard

## Spectrum Profiles: Standard & Low Mode

- 1 Connect power and LED load to the rear of the dimmer
- 2 Set main 3-Position Switch to the 'DOWN' Position
- 3 This screen appears:



- 4 Right Encoder Controls Light Intensity (From 0% to 100%)
- 5 Left Encoder Controls CCT (From 2000K to 11000K)
- 6 Presets for CCT and Light Intensity are available on this screen
- 7 Pressing the TINT button allows for  $\pm$  Green/Magenta Color Correction
- 8 Pressing the middle button "▶▶" will access the ACCENT/HUE & SATURATION screen



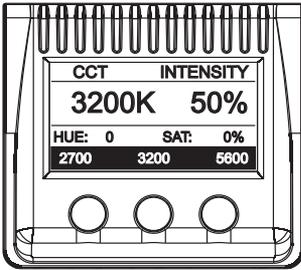
- Right Encoder now Controls ACCENT COLOR (From 0 DEG to 359 DEG)
- Left Encoder now Controls SATURATION (From 0% to 100%)
- Presets for ACCENT/HUE and SATURATION are available in this mode

## Spectrum Presets: Standard & Low Mode

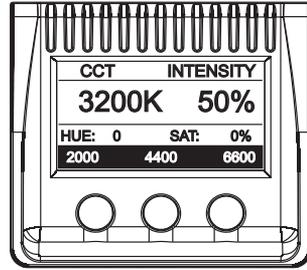
Pressing the encoders for 1 second invokes presets that can be selected through the 3 switches on the OLED display panel. The presets will display for 3 seconds only. These presets are available in manual mode only and include CCT, Intensity, Accent/Hue, and Saturation.

### Presets for Standard and Low Mode Profiles:

CCT 1:

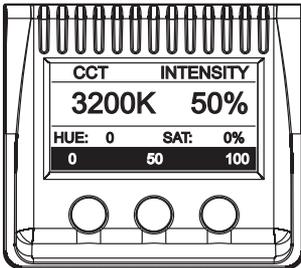


CCT 2:

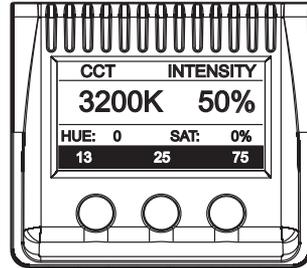


Press and hold left encoder for 1 second, invoking first set of presets. Immediately press and hold left encoder again to invoke second set of presets.

INTENSITY 1:



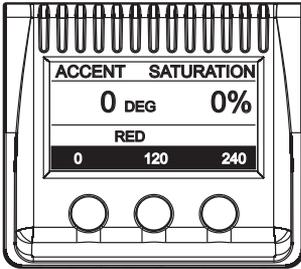
INTENSITY 2:



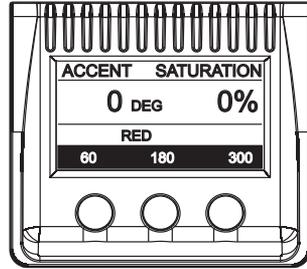
Press and hold right encoder for 1 second, invoking first set of presets. Immediately press and hold right encoder again to invoke second set of presets.

# Spectrum Presets: Standard & Low Mode

ACCENT/HUE 1:

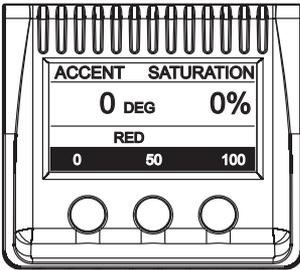


ACCENT/HUE 2:

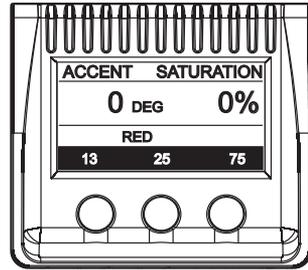


Press and hold left encoder for 1 second, invoking first set of presets. Immediately press and hold left encoder again to invoke second set of presets.

SATURATION 1:



SATURATION 2:



Press and hold right encoder for 1 second, invoking first set of presets. Immediately press and hold right encoder again to invoke second set of presets.

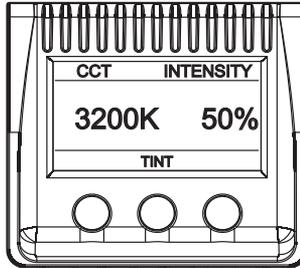
## Spectrum Mode: TrueHybrid

Profile: TrueHybrid (default, Switch UP)

- 2000K - 11,000K, full-spectrum white light only
- Rec2020/Rec709
- +/- Green
- Intensity 0 - 100%

### Using TrueHybrid Profile in Manual:

- Connect power and LED load to the rear of the dimmer
- Set main 3-Position Switch to the 'UP' Position
- This screen appears:



- Right Encoder Controls Light Intensity (From 0% to 100%)
- Left Encoder Controls CCT (From 2000K to 11000K)
- Turning the encoder allows for fine tuning of the desired setting

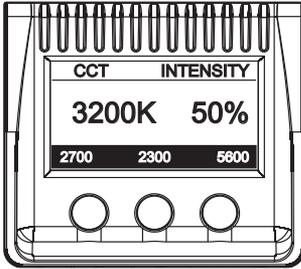
### Using Presets in TrueHybrid Profile:

Pressing the encoders for 1 second invokes presets that can be selected through the 3 switches on the OLED display panel. The presets will display for 3 seconds only. These presets are available in manual mode only and include CCT and Intensity.

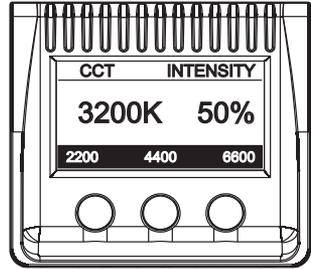
# Spectrum Mode: TrueHybrid

## Presets for TrueHybrid Profile:

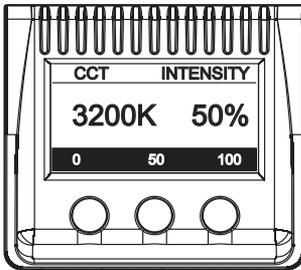
CCT 1:



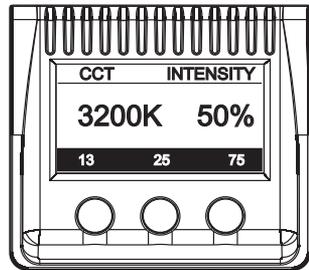
CCT 2:



INTENSITY 1:



INTENSITY 2:

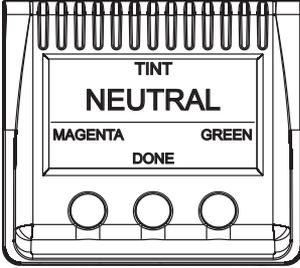


## Tint Settings

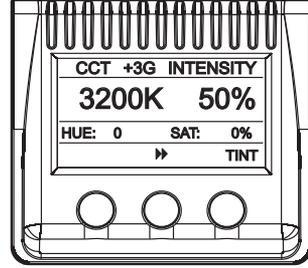
### Setting Tint in Any Profile:

Pressing the TINT button allows for  $\pm$  Green/Magenta Color Correction. There are 8 steps of Green & 8 steps of Magenta correction from neutral. When the desired tint is selected press DONE to return to the previous screen. Once tint has been set, the value appears at the top of the screen, see "Tint Screen 2" image.

TINT SCREEN 1:



TINT SCREEN 2:



## Hybrid+ Mode

Hybrid+ Mode is intended to allow the user to match the output of the LiteMat + fixtures with a Spectrum LiteMat, so it has only one profile: Hybrid+. The LUT (CCT range and color) matches the one found in the DUO DC200 and AC400 units. Output comes only from warm white and cool white diodes. The dimmer behaves exactly like the DUO DC200 and AC400 units, allowing the user to adjust both CCT and Intensity. Once the Mode has been changed in Operation Screen, the main switch can be set up or down.

When connected to DMX, this Mode can be pixelized, utilizing 2 DMX channels per pixel.

Profile: Hybrid+ (Switch can be UP or DOWN)

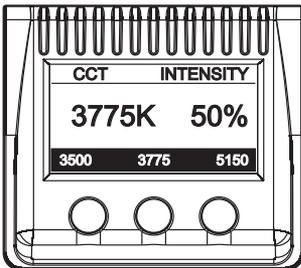
- 2600K - 6000K
- Intensity 0 - 100%

### Using Presets in Hybrid+ Profile:

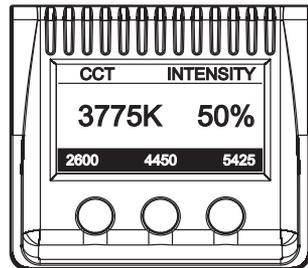
Pressing the encoders for 1 second invokes presets that can be selected through the 3 switches on the OLED display panel. The presets will display for 3 seconds only. These presets are available in manual mode only and include CCT and Intensity.

### Presets for Hybrid+ Profile:

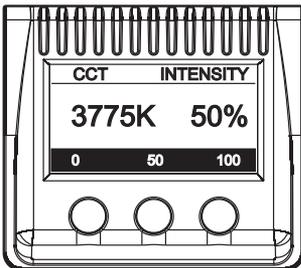
CCT 1:



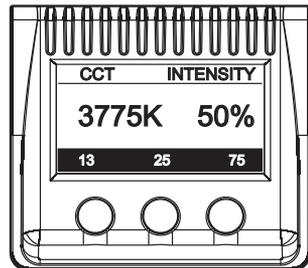
CCT 2:



INTENSITY 1:



INTENSITY 2:



## DMX Operation

NOTE: When PIXEL is ON and DMX signal is present, all manual controls will be disabled. When PIXEL is OFF and DMX signal is present, the user can change the DMX address.

*The Spectrum DC200 Dimmer responds to DMX from any device. The user can connect through wired or wireless DMX. When using wired DMX it is possible to daisy-chain between units.*

### Wireless DMX Connection:

- 1 Set wireless switch of dimmer to RX (receive) position
- 2 Be sure antenna is installed
- 3 Send signal from transmitting device
- 4 If the dimmer is within range, the indicator light will begin to flash blue
- 5 Once blue indicator light has turned solid, connection between Dimmer and DMX transmitter has been established
- 6 You can now control the unit(s) via DMX

### Turn Off Wireless Connection:

- 1 Move wireless switch from RX to OFF
- 2 To reconnect to same transmitter, simply move switch back to RX

### Clear Wireless Connection:

- 1 Press and hold indicator light until blue light shuts off
- 2 Connection to wireless transmitter has been cleared
- 3 To connect to a transmitter, follow steps under "Wireless DMX Connection"

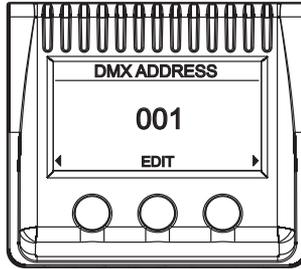
### Wired DMX Connection

- 1 Connect 5-Pin XLR male to DMX IN port in the back of the dimmer
- 2 If controlling more than one unit, connect 5-Pin XLR extension to DMX OUT port in back of dimmer to daisy chain the units

## DMX Control

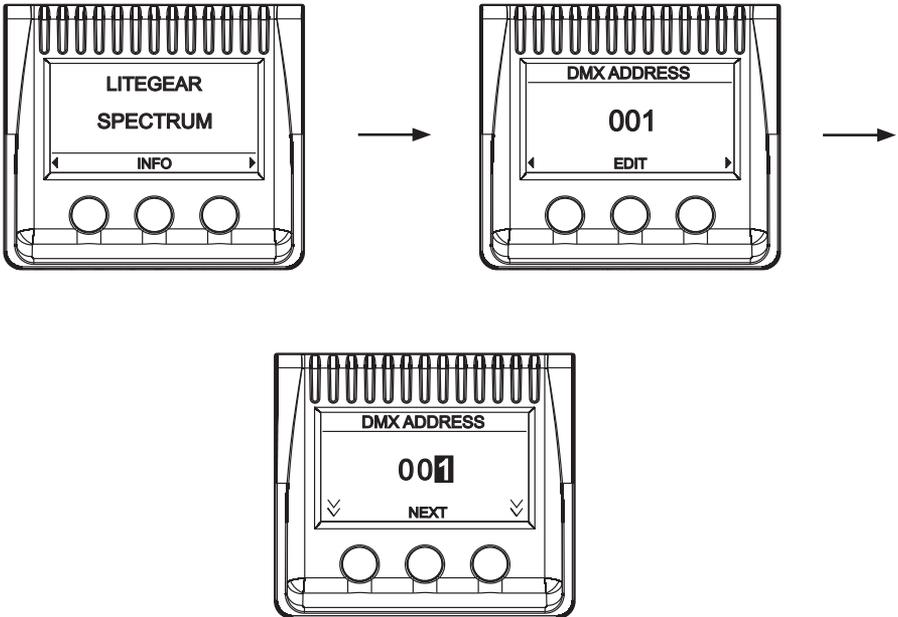
### Setting DMX Address

- 1 Set 3-Position switch to 'CENTER' position and press the left arrow
- 2 This screen appears:



- 3 Press the 'EDIT' button and use the down arrow buttons to set desired DMX address.
- 4 Press the 'NEXT' button to move the cursor to the next digit. Once the address has been set, press 'DONE.'

Screen Flow:



### IN DMX, Pixel Off

- 1 Push center button
- 2 Use the Edit button & arrows to set desired DMX address.

## Pixel in DMX

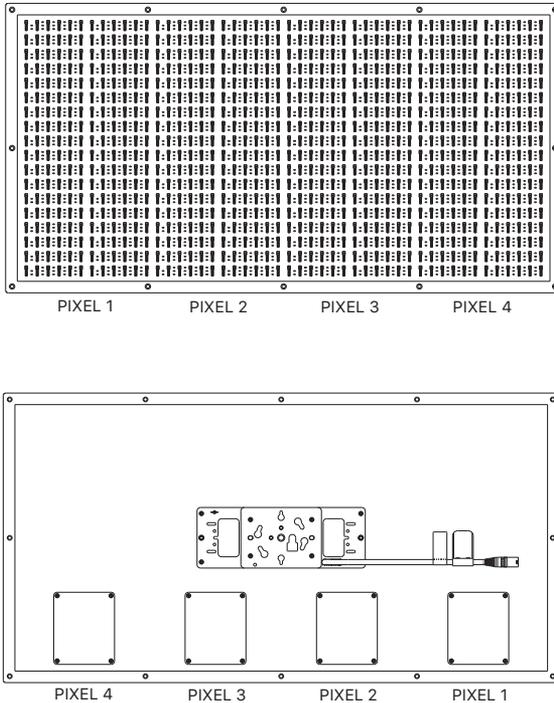
When the dimmer is in Spectrum Mode and operating in PIXEL OFF, the highest possible DMX address is 507. When operating in PIXEL ON, the highest DMX address is 492.

When dimmer is in Hybrid+ Mode and operating in PIXEL OFF, the highest possible DMX address is 510. When operating in PIXEL ON, the highest DMX address is 504.

When dimmer is set to PIXEL ON, each pixel uses 5 channels of DMX.

- Ch. 1 = Intensity
- Ch. 2 = CCT
- Ch. 3 = Saturation
- Ch. 4 = Accent/Hue
- Ch. 5 = Tint/DUV

*A LiteMat Spectrum 1 uses 5 channels of DMX, LiteMat Spectrum 2 and 2L use 10 channels of DMX, the LiteMat Spectrum 3 uses 15 channels of DMX, and the LiteMat Spectrum 4 uses 20 channels of DMX.*



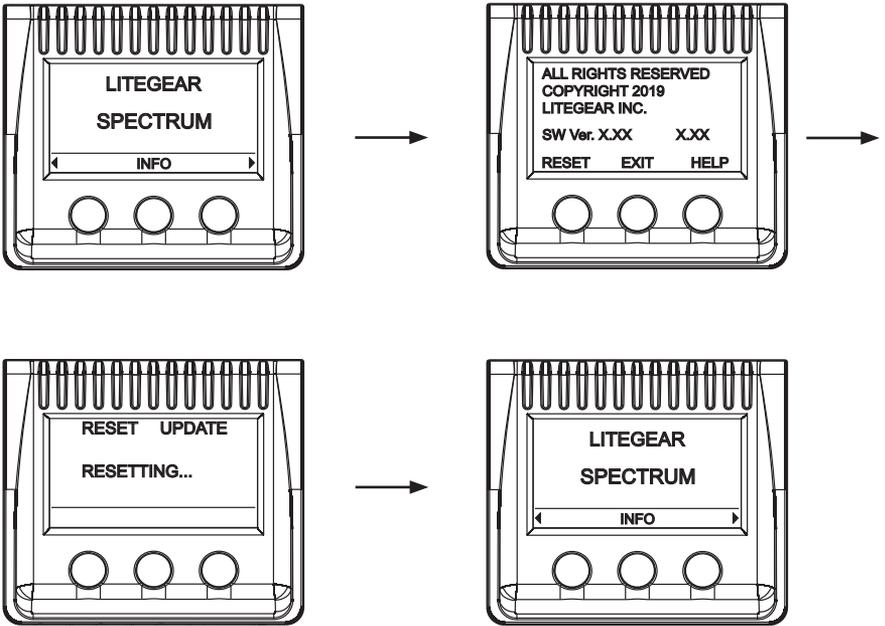
# Factory Reset

Factory Reset will reset all Modes, Profiles, and DMX selections to the dimmer defaults.

RESET:

- 1 Set main switch to the CENTER position
- 2 Select switch under the OLED display 'INFO'
- 3 Select switch under the OLED display 'RESET'
- 4 Dimmer will reset, and return to 'INFO' screen
- 5 Dimmer is now reset

Reset Screen Flow:



## Specifications

**Power Rating:** .....200W Nominal

**Input Voltage:** .....10~35VDC (PL4 Connector)

14.4VDC Nominal (One Battery) LED Loads up to 100W

14.4VDC Nominal (Two Batteries) LED Loads up to 200W

10-35VDC, From External Power Supply

(Pins 1 & 4 - Negative, Pins 2 & 3 + Positive)

**Output Voltage:** .....48VDC Constant Voltage, 5VDC Signal (PDX Connector)

**Dimming Range:**.....0% to 100% Continuous, Flicker-Free

**Controls:**.....Main 3-Position Switch, Manual CCT Control Knob,  
Manual Intensity Knob, OLED Display w/ function switches

**Software Interface:** .....User upgradeable software, with proprietary connector

**Mounting:** .....1/4 - 20 Threaded Inserts

Drywall Screw Holes

Velcro™/ Cable Tie Slots

K-Mount accepts rigging accessories

**Operating Temperature:** -10°C to +50°C (14°F to 122°F)

**IP Rating:**..... IP20

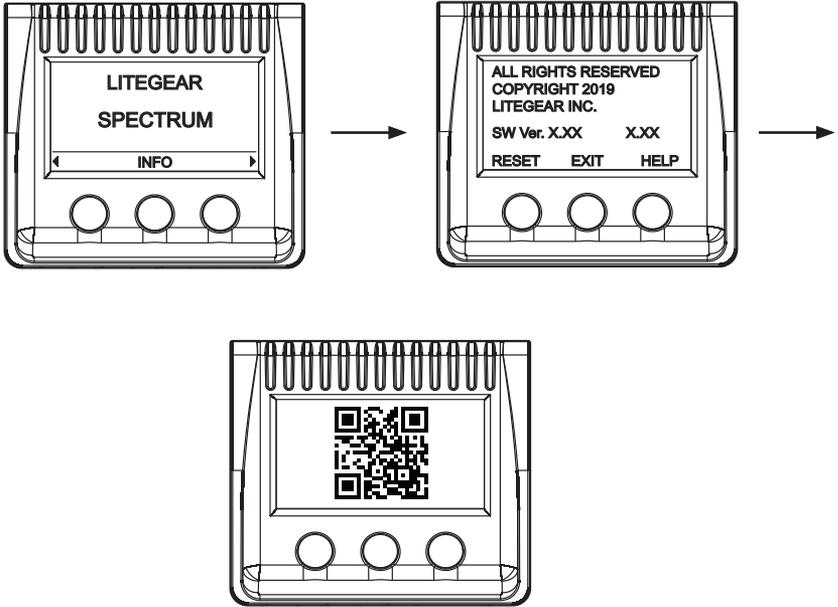
### Power:

Do not connect or disconnect fixture under load. It is not recommended for the LiteDimmer Spectrum. The stress of continued hot swapping will lead to the burn out of the dimmer boards located in the fixture.

## Additional Assistance

### Need Assistance?

Pressing the 'INFO' button on the Welcome Screen provides access to software version; factory reset 'RESET', and a QR code for additional assistance 'HELP'. Main 3-Position switch must be in the 'CENTER' position



If you need further assistance, call LiteGear at 818.358.8542

**Designed and Made in California**

© 2019 LITEGEAR, INC. All rights reserved. LiteRibbon® is a registered trademark of LiteGear, Inc.

© 2019 LITEGEAR, INC. All rights reserved. LiteGear™, LiteMat™, LiteStix™, LitePower™, LiteDimmer™, LiteEFX™, and E-Control™ are trademarks of LiteGear, Inc.



**LITEGEAR™**

Tel: +1 (818) 358-8542  
Email: [info@litegear.com](mailto:info@litegear.com)  
Web: [www.litegear.com](http://www.litegear.com)