



Strand

CANTATA LED FRESNEL

TUNABLE COLD WHITE

USER MANUAL

1 DESCRIPTION

FEATURES

- High output midsize LED Fresnel
- Tunable Cold White Version with Consistent High CRI
- High CRI RGBALC Color System with SmartColor Control
- Tunable white with >94 CRI
- Independent color mixing and temperature controls
- Standard-size accessory rails to support optional 8 leaf barn door or third-party accessories
- Quiet operation with variable fan control (Standard, Studio, and Whisper)
- Adjustable frequency to exceed camera frame rates

Download the product datasheet from the website at www.vari-lite.com for the full technical specifications.

COMPONENTS

The document provides installation and operation instructions for the following products:

- Strand Cantata LED Fresnel Tunable Cold White

Read all instructions before installing or using this product. Retain this manual for future reference. Additional product information and descriptions may be found on the product specification sheet.

INCLUDED ITEMS

Each Strand Cantata LED Fresnel luminaire includes the following items:

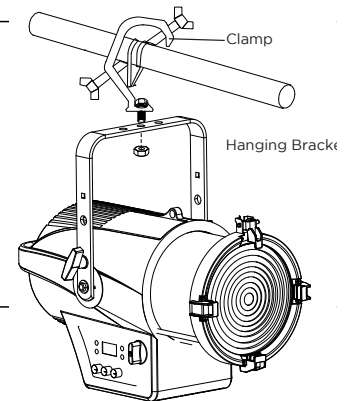
- Strand Cantata LED Fresnel Tunable Cold White
- Quick Start Guide

2 INSTALLATION

MOUNTING

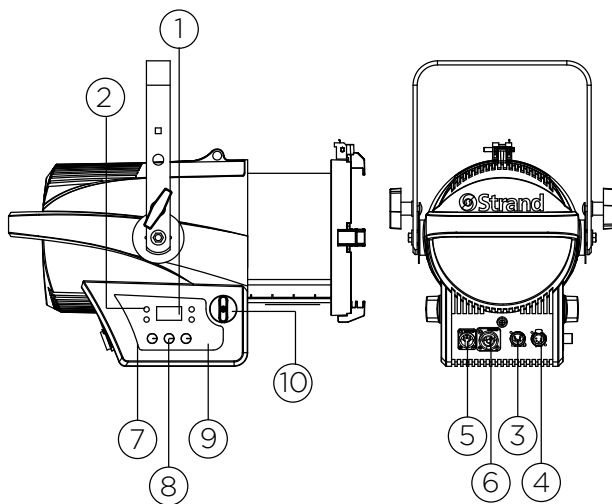
The unit should be mounted via its screw holes on the bracket. Always ensure that the unit is firmly fixed to avoid vibration and slipping while operating. Always ensure that the structure to which you are attaching the unit is secure and is able to support a weight of 10 times of the unit's weight. Always use a safety cable that can hold up to 12 times the weight of the unit when installing the fixture.

The luminaire must be mounted by professionals.



SET UP

CONTROL PANEL



- ① **LCD DISPLAY.** Shows the menu and selected function buttons.
- ② **BUTTONS.**
Menu. To select programming functions.
Down. To go backward in the selected functions.
Up. To go forward in the selected functions.
Enter. To confirm the selected functions.
- ③ **DMX IN.** 5-pin XLR cable to link DMX console.
- ④ **DMX OUT.** 5-pin XLR cable to the next unit.
- ⑤ **POWER IN.** Connects to power supply.
- ⑥ **POWER OUT.** Connects to next fixture.
- ⑦ **DIM.** 0-100%
- ⑧ **CCT.** 4000K to 6500K.
- ⑨ **GREEN SHIFT.** -99% to 99%.
- ⑩ **ZOOM.** Manual zoom knob.

MENU FUNCTIONS

Press the MENU button to select any functions, until the required function is shown in the display. Select the desired function by pressing ENTER, which will cause the display to blink. Use the UP and DOWN button to change the mode. Once the required mode has been selected, press the ENTER button to accept the selection, otherwise after a period of one minute wait, the the menu will return automatically to the main functions, without any changes having been made. Return to the main functions without making any changes by pressing the MENU button. The menu functions are shown in [TABLE 1](#).

TABLE 1. MENU FUNCTIONS

| LEVEL 1 | LEVEL 2 | LEVEL 3 | LEVEL 4 | LEVEL 5 | LEVEL 6 | DEFAULT | | |
|---------------------|---------------|--------------------|---------------|---------|-----------|---------------|-----------|-------------|
| Address | 001-512 | (Default 001) | | | | | | |
| Configure | LED | LED Hours | XXXXXX h | | | | | |
| | | Reset LED Hour | Are you sure? | | | | | |
| | | Dimming Curve | Square Curve | | | | (Default) | |
| | | | S Curve | | | | | |
| | | | Linear Curve | | | | | |
| | | Tungsten Fade | On | | | | | |
| | | | Off | | | | (Default) | |
| | | Dim Snap | On (Fast) | | | | | |
| | | | Off (Slow) | | | | (Default) | |
| | | LED Frequency | 1200Hz | | | | (Default) | |
| | | | 2500Hz | | | | | |
| | | | 5000Hz | | | | | |
| | | | 10000Hz | | | | | |
| | | | 20000Hz | | | | | |
| | | | 25000Hz | | | | | |
| | | White Balance | Red | | 125 - 255 | | | Default 255 |
| | | | Green | | 125 - 255 | | | Default 255 |
| | | | Blue | | 125 - 255 | | | Default 255 |
| | | | Amber | | 125 - 255 | | | Default 255 |
| | | | Lime | | 125 - 255 | | | Default 255 |
| | | | Cyan | | 125 - 255 | | | Default 255 |
| | | | Reset | | YES/NO | | | |
| | | Color Cal | On | | | | | |
| | | | Off | | | | | (Default) |
| | | Disp Timeout | 30 Sec | | | | | (Default) |
| | | | 5 Min | | | | | |
| | | | 10 Min | | | | | |
| On | | | | | | | | |
| Select Signal | DMX Only | | | | | | | |
| | Art-Net | | | | | | | |
| | SACN | | | | | | | |
| Set Artnet/ SACN | Set Universe | 000-255 | | | | (Default 000) | | |
| | Ethernet IP | XXX. XXX. XXX. XXX | | | | | | |
| | Ether Mask IP | XXX. XXX. XXX. XXX | | | | | | |

TABLE 1. MENU FUNCTIONS

| LEVEL 1 | LEVEL 2 | LEVEL 3 | LEVEL 4 | LEVEL 5 | LEVEL 6 | DEFAULT | |
|--------------------------------------|-------------------------|---|-------------|---------|-------------|-----------|--|
| DMX | Address | 001-512 | | | | | |
| | DMX Mode | SSCC | | | | (Default) | |
| | | SQCC | | | | | |
| | | SOCC | | | | | |
| | Pixel Group | Group 1 | | | | (Default) | |
| | | Group 3 | | | | | |
| | | Group 12 | | | | | |
| | Cell Direction | Normal | | | | (Default) | |
| | | Flipped | | | | | |
| | Data | Ch 1 - Intensity XXX (Value) | | | | | |
| Ch 2 - Intensity Fine XXX (Value) | | | | | | | |
|All functions | | | | | | | |
| Fixture | Serial Number | Serial Number electronic format | | | | | |
| | Status | (No Errors... or displays a list of errors) | | | | | |
| | Reboot Fixture | Are you sure? | | | | | |
| | Version | VXXX | | MM/D/YY | HH:MM | | |
| | Fixture Hours | XXXXXX h | | | | | |
| | Crossload (Software) | Send | | | | | |
| | Service | Diagnostics | Board Check | | | | |
| Sensor Check | | | | | | | |
| Manual Control | Red | 0 - 255 | | | (Default 0) | | |
| | Green | 0 - 255 | | | (Default 0) | | |
| | Blue | 0 - 255 | | | (Default 0) | | |
| | Amber | 0 - 255 | | | (Default 0) | | |
| | Lime | 0 - 255 | | | (Default 0) | | |
| | Cyan | 0 - 255 | | | (Default 0) | | |
| Color Preset | Preset Run | Select preset | | 1 to 20 | | | |
| | | Intensity | | 0 - 255 | | | |
| | Edit Programs | | | | Intensity* | 0 - 255 | |
| | | | | | Red | 0 - 255 | |
| | | | | | Green | 0 - 255 | |
| | | | | | Blue | 0 - 255 | |
| | | | | | Amber | 0 - 255 | |
| | | | | | Lime | 0 - 255 | |
| | | | | | Cyan | 0 - 255 | |
| | | | | | Store | YES/NO | |
| | | | Clear | YES/NO | | | |

ADDRESS MENU

Address — DMX address setting. To select DMX Address, press the ENTER button to confirm. Use the UP/DOWN button to adjust the address from 001 to 512, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

CONFIGURE MENU

To select Configure, press the ENTER button to confirm, use the UP/DOWN button to select LED, Color Cal, Disp Timeout, Select Signal and Set Artnet / SACN.

LED

To select LED, press the ENTER button to confirm. Use the UP/DOWN button to select LED Hours, Reset LED Hour, Dimming Curve, Tungsten Fade, Dim Snap, LED Frequency and White Balance. Press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

LED Hours — Select LED Hours, press the ENTER button to confirm, LED Hours will show on the display, press the MENU button back to exit.

Reset LED Hours — Select Reset LED Hours, press the ENTER button to confirm, “Are you sure” will show on the display, press the MENU button back to exit.

Dimming Curve — To select Dimming Curve, press the ENTER button to confirm. Use the UP/DOWN button to select Square Law Curve, S Law Curve or Linear Law Curve, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

Tungsten Fade — Select Tungsten Fade, press the ENTER button to confirm, Use the UP/DOWN button to select ON or OFF, press the MENU button back to exit.

Dim Snap — Select Dim Snap, press the ENTER button to confirm, Use the UP/DOWN button to select ON or OFF, press the MENU button back to exit.

LED Frequency — To select LED Frequency, press the ENTER button to confirm. Use the UP/DOWN button to select 1200Hz, 2500Hz, 5000Hz, 10000Hz, 20000Hz, 25000Hz, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

White Balance — To select White Balance, press the ENTER button to confirm. Use the UP/DOWN button to select Red, Green, Blue, Amber, Lime, Cyan and RESET, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

Color Cal

To select Color Cal, press the ENTER button to confirm. Use the UP/DOWN button to select ON or OFF, press the MENU button back to exit.

Disp Timeout

To select Disp Timeout, press the ENTER button to confirm. Use the UP/DOWN button to select 30 Sec, 5min, 10 min or ON, press the MENU button back to exit.

Select Signal

To select Select Signal, press the ENTER button to confirm. Use the UP/DOWN button to select DMX Only, Artnet or SACN, press the MENU button back to exit.

DMX MENU

To select DMX, press the ENTER button to confirm, use the UP/DOWN button to select Address, DMX Mode, Pixel Group, Cell Direction or Data.

Address — To select Address, press the ENTER button to confirm. Use the UP/DOWN button to select from 001 to 512. press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

DMX Mode — To select DMX Mode, press the ENTER button to confirm. Use the UP/DOWN button to select SSCC, SQCC or SOCC, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

Pixel Group — To select Pixel Group, press the ENTER button to confirm. Use the UP/DOWN button to select Group 1 or Group 4, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

Cell Direction — To select Cell Direction, press the ENTER button to confirm. Use the UP/DOWN button to select

Normal or Flipped, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

Data — To select Data, press the ENTER button to confirm. Use the UP/DOWN button to select Ch1 - Intensity xxx(value), Ch2 - Intensity Fine xxx(Value), All functions, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

FIXTURE MENU

To select Fixture, press the ENTER button to confirm, use the UP/DOWN button to select Status, Reboot fixture, Version, Fixture Hours, Crossload (Software) , Service.

Status

Select Status, press the ENTER button to confirm, Status will show on the display, press the MENU button back to exit.

Reboot Fixture

Select Reboot Fixture, press the ENTER button to confirm, Are you sure? will show on the display, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

Version

Select Version, press the ENTER button to confirm, Version will show on the display, press the MENU button back to exit.

Fixture Hours

Select Fixture Hours, press the ENTER button to confirm, Fixture Hours will show on the display, press the MENU button back to exit.

Crossload (Software)

Select Crossload (Software), press the ENTER button to confirm, Send will show on the display, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

NOTE: Incoming DMX must be removed from the fixture or software crossload will not be activated.

Service

To select Service, press the ENTER button to confirm. Diagnostics will show, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

Diagnostics — To select Diagnostics, press the ENTER button to confirm. Use the UP/DOWN button to select Fan Check, Board Check ,Sensor Check, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

MANUAL CONTROL MENU

Enter menu mode, select Manual Control, press the ENTER button to confirm, use the UP/DOWN button to select Red, Green, Blue, Amber, Lime and Cyan. Use the UP/DOWN button to adjust the value from 0 to 255, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit menu mode.

COLOR PRESET MENU

Preset Run

Enter Color Preset mode, select Preset Run, press the ENTER button to confirm, use the UP/DOWN button to select "Select Preset" or Intensity.

Edit Programs

Enter menu mode, select Edit Programs, press the ENTER button to confirm, MODE will show up, use the UP/DOWN button to select Intensity, Red, Green, Blue, Amber, Lime, Cyan, Store or Clear. Use the UP/DOWN button to adjust the value from 0 to 100%, press the ENTER button to store. Press the MENU button back to the last menu or let the unit idle one minute to exit.

3 DMX MAPPING

The fixture can be operated by DMX controller. The following tables assumes a DMX start address of 1. When a different starting address is used, this address becomes channel 1 function and other functions follow in sequence.

TABLE 2. 16-BIT MODE

| DMX CHANNEL | PARAMETER | DEFAULTS | RANGE DMX | DESCRIPTION |
|-------------|------------------|----------|-----------|---|
| 1 | Intensity (High) | 0 | 0 - 65535 | 16bit Intensity (Dimmer) Control |
| 2 | Intensity (Low) | | | 0 - 100% Output |
| 3 | Strobe | 0 | 0 - 255 | Strobe S>>>>F |
| | | | 0 - 9 | No Strobe Function - Shutter open |
| | | | 10 - 99 | Strobe S>>>>F |
| | | | 100 - 109 | No Strobe Function - Shutter open |
| | | | 110 - 179 | Lighting Strobe S>>>>F |
| | | | 180 - 189 | No Strobe Function - Shutter open |
| | | | 190 - 255 | Random Strobe S>>>>F |
| 4 | Fan Control | 0 | 0 - 255 | Dynamically control fan speed vs LED Output operation. Control values as follows . . . |
| | | | 0-4 | Automatic fan/output adjustment (Default) |
| | | | 05 - 255 | Linear control of fan speed and LED max output* |
| | | | | DMX 5 =Highest Constant Fan Speed |
| | | | | DMX 255 = Lowest Constant Fan Speed |
| | | | | * Standard mode only |
| 5 | Control Channel | 0 | 0 - 255 | Control Channel used for full fixture settings, lamp controls, and miscellaneous modes. |
| | | | | Set discrete value of desired effect, wait >3 seconds, then set value to 0 (Idle). |
| | | | | **Function does not require 3 Second rule to active, setting output |
| | | | | to value will automatically activate function |
| | | | 0 - 5 | Idle (Default) |
| | | | 6 - 10 | Full Luminaire ReCal - |
| | | | | Also Used to Wake fixture up from shutdown |
| | | | 11 - 15 | Fixture Shutdown |
| | | | 16 - 20 | Reserved Values |
| | | | 21 - 25 | Display - Menu ON |
| | | | 26 - 30 | Display - Menu OFF |
| | | | 31 - 35 | Reserved Values |
| | | | 36 - 40 | Reserved Values |
| | | | 41 - 45 | Dimming Curve Linear** |
| | | | 46 - 50 | Dimming Curve S-Curve** |
| | | | 51 - 55 | Dimming Curve Square Law (Default)** |
| | | | 56 - 60 | Reserved |
| | | | 61 - 65 | Dimmer Snap On** |
| | | | 66 - 70 | Dimmer Snap Off (Default)** |

TABLE 2. 16-BIT MODE

| DMX CHANNEL | PARAMETER | DEFAULTS | RANGE DMX | DESCRIPTION |
|-------------|-------------|----------|-----------|---|
| | | | 71 - 75 | Reserved Values |
| | | | 76 - 80 | Reserved Values |
| | | | 81 - 85 | Reserved Values |
| | | | 86 - 90 | Reserved Values |
| | | | 91 - 95 | Reserved Values |
| | | | 96 - 100 | Reserved Values |
| | | | 101 - 105 | Reserved Values |
| | | | 106 - 110 | Reserved Values |
| | | | 111 - 115 | Standard Mode - (Default) |
| | | | 116 - 120 | Studio Mode - Reduced output with lower fan settings |
| | | | 121 - 125 | Whisper Mode - Reduced output with lower fan settings |
| | | | 126 - 130 | Reserved Values |
| | | | 131 - 135 | Reserved Values |
| | | | 136 - 140 | Fan On (Default) |
| | | | 141 - 145 | Fan Auto |
| | | | 146 - 150 | Reserved Values |
| | | | 151 - 155 | Reserved Values |
| | | | 156 - 160 | Reserved Values |
| | | | 161 - 165 | Reserved Values |
| | | | 166 - 170 | Reserved Values |
| | | | 171 - 175 | Reset fixture to default |
| | | | 176 - 255 | Reserved Values |
| 6 | TW LED High | 0 | 0 - 65535 | Tunable LED array 0 - 100% |
| 7 | TW LED Low | | | 0 = 4000K |
| | | | | 100% = 6500K |

TABLE 3. 8-BIT MODE

| DMX CHANNEL | PARAMETER | DEFAULTS | RANGE DMX | DESCRIPTION |
|-------------|-------------|----------|-----------|--|
| 1 | Intensity | 0 | 0 - 255 | 8 bit Intensity (Dimmer) Control |
| | | | | 0 - 100% Output |
| 2 | Strobe | 0 | 0 - 255 | Strobe S>>>>F |
| | | | 0 - 9 | No Strobe Function - Shutter open |
| | | | 10 - 99 | Strobe S>>>>F |
| | | | 100 - 109 | No Strobe Function - Shutter open |
| | | | 110 - 179 | Lighting Strobe S>>>>F |
| | | | 180 - 189 | No Strobe Function - Shutter open |
| | | | 190 - 255 | Random Strobe S>>>>F |
| 3 | Fan Control | 0 | 0 - 255 | Dynamically control fan speed vs LED Output operation. Control values as follows . . . |
| | | | 0-4 | Automatic fan/output adjustment (Default) |
| | | | 05 - 255 | Linear control of fan speed and LED max output* |
| | | | | DMX 5 =Highest Constant Fan Speed |
| | | | | DMX 255 = Lowest Constant Fan Speed |
| | | | | * Standard mode only |

TABLE 3. 8-BIT MODE

| DMX CHANNEL | PARAMETER | DEFAULTS | RANGE DMX | DESCRIPTION | |
|-------------|---|----------|-----------|---|--|
| 4 | Control Channel | 0 | 0 - 255 | Control Channel used for full fixture settings, lamp controls, and miscellaneous modes. | |
| | | | | Set discrete value of desired effect, wait >3 seconds, then set value to 0 (Idle). | |
| | | | | **Function does not require 3 Second rule to active, setting output to value will automatically activate function | |
| | | | | 0 - 5 | Idle (Default) |
| | | | | 6 - 10 | Full Luminaire ReCal - Also Used to Wake fixture up from shutdown |
| | | | | 11 - 15 | Fixture Shutdown |
| | | | | 16 - 20 | Reserved Values |
| | | | | 21 - 25 | Display - Menu ON |
| | | | | 26 - 30 | Display - Menu OFF |
| | | | | 31 - 35 | Reserved Values |
| | | | | 36 - 40 | Reserved Values |
| | | | | 41 - 45 | Dimming Curve Linear** |
| | | | | 46 - 50 | Dimming Curve S-Curve** |
| | | | | 51 - 55 | Dimming Curve Square Law (Default)** |
| | | | | 56 - 60 | Reserved |
| | | | | 61 - 65 | Dimmer Snap On** |
| | | | | 66 - 70 | Dimmer Snap Off (Default)** |
| | | | | 71 - 75 | Reserved Values |
| | | | | 76 - 80 | Reserved Values |
| | | | | 81 - 85 | Reserved Values |
| | | | | 86 - 90 | Reserved Values |
| | | | | 91 - 95 | Reserved Values |
| | | | | 96 - 100 | Reserved Values |
| | | | | 101 - 105 | Reserved Values |
| | | | | 106 - 110 | Reserved Values |
| | | | | 111 - 115 | Standard Mode - (Default) |
| | | | | 116 - 120 | Studio Mode - Reduced output with lower fan settings |
| 121 - 125 | Whisper Mode - Reduced output with lower fan settings | | | | |
| 126 - 130 | Reserved Values | | | | |
| 131 - 135 | Reserved Values | | | | |
| 136 - 140 | Fan On (Default) | | | | |
| 141 - 145 | Fan Auto | | | | |
| 146 - 150 | Reserved Values | | | | |
| 151 - 155 | Reserved Values | | | | |
| 156 - 160 | Reserved Values | | | | |
| 161 - 165 | Reserved Values | | | | |
| 166 - 170 | Reserved Values | | | | |
| 171 - 175 | Reset fixture to default | | | | |
| 176 - 255 | Reserved Values | | | | |
| 5 | TW LED | 0 | 0 - 255 | Tunable LED array 0 - 100% | |
| | | | | 0 = 4000K | |

TABLE 3. 8-BIT MODE

| DMX CHANNEL | PARAMETER | DEFAULTS | RANGE DMX | DESCRIPTION |
|-------------|-----------|----------|-----------|--------------|
| | | | | 100% = 6500K |

TABLE 4. 2 CHANNEL MODE

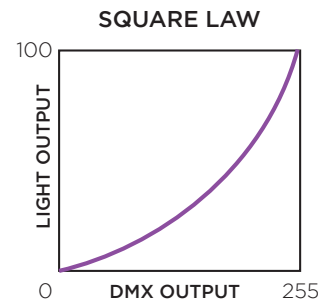
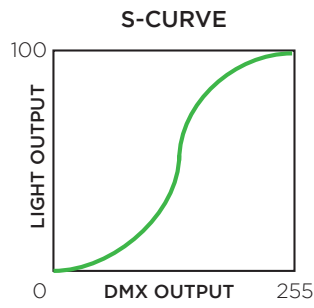
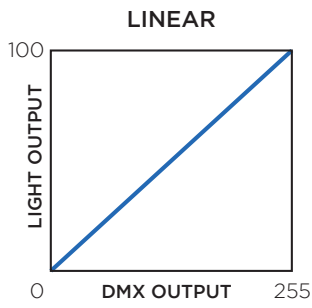
| DMX CHANNEL | PARAMETER | DEFAULTS | RANGE DMX | DESCRIPTION |
|-------------|-----------|----------|-----------|---|
| 1 | Intensity | 0 | 0 - 255 | 8 bit Intensity (Dimmer) Control 0 - 100% Output |
| 2 | TW LED | 0 | 0 - 255 | Tunable LED array 0 - 100% |
| | | | | 0 = 2700K |
| | | | | 100% = 4500K |

TABLE 5. CONTROL CHANNEL

| RANGE DMX | ITEMS | DESCRIPTION | POWER CYCLE RULES | FUNCTION SELECTION VIA UI |
|-----------|--|--|--|---------------------------|
| 0 - 255 | Control Channel | Control Channel used for full fixture settings, lamp controls, and miscellaneous modes. Set discrete value of desired effect, wait >3 seconds, "then set value to 0 (Idle). **Function does not require 3 Second rule to active, setting output to value will automatically activate function " | N/A | N/A |
| 0 - 5 | Idle (Default) | Default value used as return point to activate all control functions | N/A | N/A |
| 6 - 10 | Full Luminaire ReCal - | Recalibrates all mechanical functions and sensor with in the fixture | N/A | |
| | Also Used to Wake fixture up from shutdown | | | |
| 11 - 15 | Fixture Shutdown | Shuts down all fixture output and turns off all fans - fixture is activated by power cycle or ReCal command | If fixture is powered down then up fixture will auto wake and not startup in Shutdown Mode | N/A |
| 16 - 20 | Reserved Values | | N/A | N/A |
| 21 - 25 | Display - Menu ON | Switches UI display backlight on remotely - Display will Time out from on after 5 mins | N/A | N/A |
| 26 - 30 | Display - Menu OFF | | N/A | N/A |
| 31 - 35 | Reserved Values | | N/A | N/A |
| 36 - 40 | Reserved Values | | N/A | N/A |
| 41 - 45 | Dimming Curve Linear** | Selects Linear Dimming Curve Also Used to Wake fixture up from shutdown | Holds setting on power cycle | Yes |
| 46 - 50 | Dimming Curve S-Curve** | Selects S-Law Dimming Curve | Holds setting on power cycle | Yes |
| 51 - 55 | Dimming Curve Square Law (Default)** | Selects Square -Law Dimming Curve | Holds setting on power cycle | Yes |
| 56 - 60 | Reserved Values | | | |
| 61 - 65 | Dimmer Snap On** | Allows for fastest output changes between levels but reduces smoothness dimming LED | Holds setting on power cycle | Yes |

TABLE 5. CONTROL CHANNEL

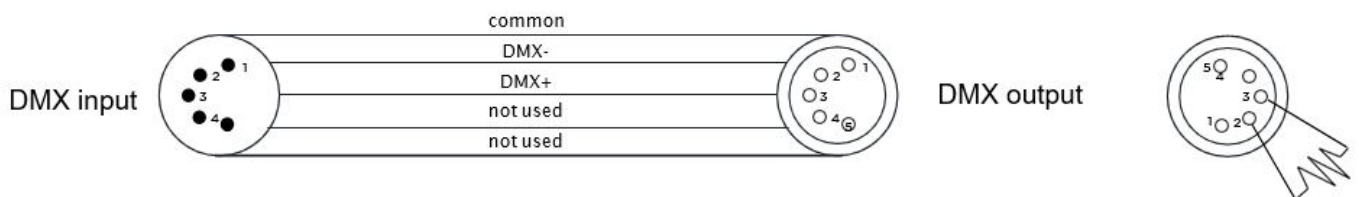
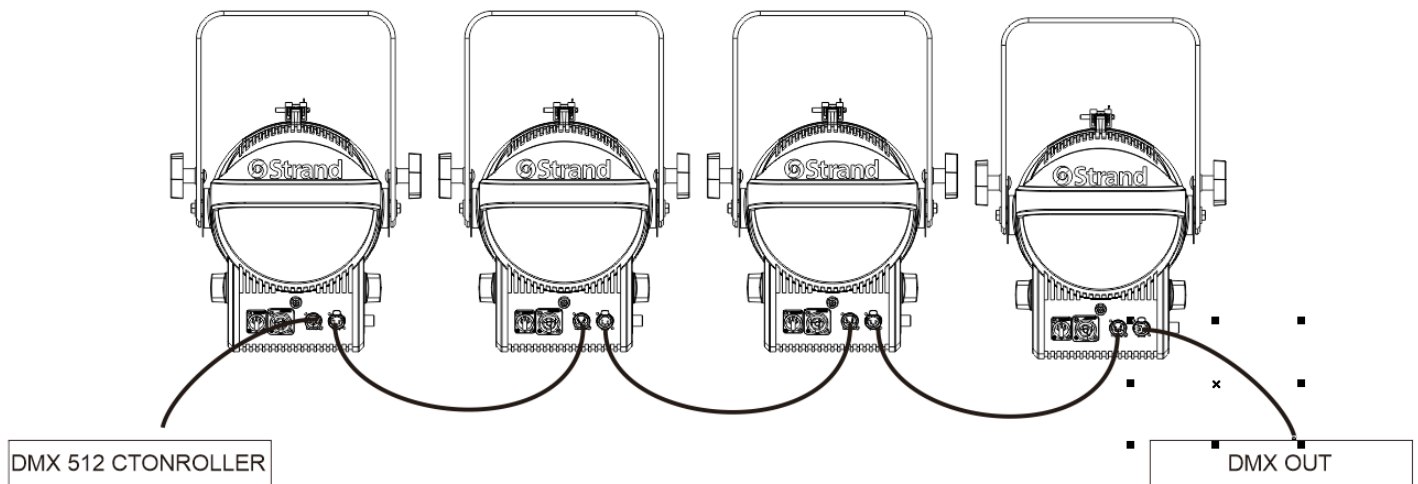
| RANGE DMX | ITEMS | DESCRIPTION | POWER CYCLE RULES | FUNCTION SELECTION VIA UI |
|-----------|--|---|------------------------------|--|
| 66 - 70 | Dimmer Snap Off (Default)** | Ensures all fades between output levels remain smooth and flicker free limits fast instant snaps between levels | Holds setting on power cycle | Yes |
| 71 - 75 | Reserved Values | | N/A | N/A |
| 76 - 80 | Reserved Values | | N/A | N/A |
| 81 - 85 | Reserved Values | | N/A | N/A |
| 86 - 90 | Reserved Values | | N/A | N/A |
| 91 - 95 | Reserved Values | | Holds setting on power cycle | Yes |
| 96 - 100 | Reserved Values | | Holds setting on power cycle | Yes |
| 101 - 105 | Reserved Values | | N/A | N/A |
| 106 - 110 | Reserved Values | Boost mode - LED output boosted to >120% of standard output fan speeds increased manage heat level of LED (may be limited to only run for XXhrs) NC45 - NC55 | N/A | N/A |
| 111 - 115 | Standard Mode - Fixture operates at maximum output (Default) | Standard mode - Full LED Output + Full Continuous Fan Spin at top speed (loudest setting) (Fan remain at a constant speed and do not ramp up and down) NC40 *Fans can be switched between On & Auto levels | Holds setting on power cycle | Yes |
| 116 - 120 | Studio Mode - Reduced output with lower fan settings | Studio Mode - Fan speed reduced to appropriate amount to reduce dB levels >10% of full speed + LED @ max output approximately 80% of Standard output at appropriate level to ensure LED work at optimum temperature and output efficiency (fan speed remains at a constant speed and do not ramp up or down) NC35 | Holds setting on power cycle | Yes |
| 121 - 125 | Whisper Mode - Reduced output with lower fan settings | Silent Mode - ideally Fans do not spin + output capped at appropriate level to ensure LED work at optimum temperature and output efficiency (Fan should never switch on in this mode or change speed if they are on) NC15 target level | Holds setting on power cycle | Yes |
| 126 - 130 | Reserved Values | | N/A | N/A |
| 131 - 135 | Reserved Values | | N/A | N/A |
| 136 - 140 | Fan On (Default) | Fans run at continuous speed for either standard or studio mode in isolation to the LED operating temperature | Holds setting on power cycle | Yes |
| 141 - 145 | Fan Auto | Fans will reduce / increase speed on demand based on LED operating temperature for either standard or studio mode | Holds setting on power cycle | Yes |
| 146 - 150 | Reserved Values | | N/A | N/A |
| 151 - 155 | Reserved | | N/A | N/A |
| 156 - 160 | Reserved | | N/A | N/A |
| 161 - 165 | Reserved | | N/A | N/A |
| 166 - 170 | Reserved | | N/A | N/A |
| 171 - 175 | Reset fixture to default | Will reset all parameters to default with the exception of the Mx address, fixture mode and Pixel / Zone selection | N/A | Yes - Will reset Dmx address, Mode and pixel group |
| 176 - 255 | Reserved | | N/A | N/A |



| | | | KNOB 1 | KNOB 2 | KNOB 3 |
|--|-----------|------|-----------------|----------------------|--------|
| Full Color | KNOB MODE | MODE | 1.DIM 0-100% | 2.CCT 4000K-6500K | |
| Note: Double click Dial 1 to Dial MODE | | | | | |

DMX512 CONNECTION

- At last unit, the DMX cable has to be terminated with a terminator. Solder a 120Ω 1/4W resistor between pin 2(DMX-) and pin 3(DMX+) into a 5-pin XLR-plug and plug it in the DMX-output of the last unit.
- Connect the unit together in a `daisy chain` by XLR plug from the output of the unit to the input of the next unit. The cable cannot branched or split to a `Y` cable. DMX 512 is a very high-speed signal. Inadequate or damaged cables, soldered joints or corroded connectors can easily distort the signal and shut down the system.
- The DMX output and input connectors are pass-through to maintain the DMX circuit, when one of the units' power is disconnected.
- Each lighting unit needs to have an address set to receive the data sent by the controller. The address number is between 0-511 (usually 0 & 1 are equal to 1).
- The end of the DMX 512 system should be terminated to reduce signal errors.
- 5 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+), Pin 4/Pin 5: Not used.



APPENDIX A

CARE AND MAINTENANCE

TROUBLESHOOTING

Following are a few common problems that may occur during operation.

The unit does not work - light and fan do not turn on

- Check the connection of power and main fuse.
- Measure the mains voltage on the main connector.

Not responding to DMX controller

- DMX LED should be on. If not, check DMX connectors, cables to see if link properly.
- If the DMX LED is on and no response to the channel, check the address settings and DMX polarity.
- If you have intermittent DMX signal problems, check the pins on connectors or on PCB of the unit or the previous one.
- Try to use another DMX controller.
- Check if the DMX cables run near or run alongside to high voltage cables that may cause damage or interference to DMX interface circuit.

CLEANING

The cleaning of internal must be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates damp, smoky or particularly dirty surrounding can cause greater accumulation of dirt on the fixture's optics.

- Clean with soft cloth using normal glass cleaning fluid.
- Always dry the parts carefully.
- Clean the external optics at least every 30 days.

Fan Speed and Control

All Vari-lite and Strand lighting luminaires will be governed by the same Fan speed v Noise levels v Maximum power output rules as details below. These noises related to these levels will conform to Noise Criteria levels details of which are contained within the document.

There are 3 control parameters that can be selected separately or in conjunction when permitted to manage Fan speed v Noise levels v Maximum power output.

NOTE: Not all fixture have all modes or functions refer to DMX map and User interface menu tree to see if you product has one of more of these functions.

Item 1 - Fan 'v' Output Preset Modes

These modes are selectable at either / or the fixtures DMX control channel or via the fixture user interface screen. The section of the modes works in conjunction with Items 3 and will also active or deactivate the Item 2.

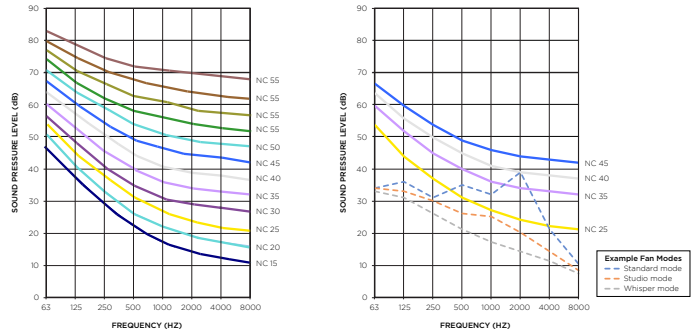
Boost mode - LED output boosted to >120% of standard output fan speeds increased manage heat level of LED (may be limited to only run for XXhrs). Fixture will not exceed NC45 - NC55 sound levels in this mode

Standard mode - Full LED Output + Fan Spin at top speed (loudest setting). Fixture will not exceed NC40 sound levels in this mode

Studio Mode - Fan speed reduced to appropriate amount to reduce dB levels >10% of full speed + LED @ max output approximately 80% of Standard output at appropriate level to ensure LED work at optimum temperature and output efficiency (fan speed remains at a constant speed and do not ramp up or down) NC35

Whisper mode - Fan speed reduced to appropriate amount to reduce dB levels to >30% of the full speed + LED Max output approximately 60% of Standard output at appropriate level to ensure LED work at optimum temperature and output efficiency (Fan speed remains at a constant speed and do not ramp up or down) NC25

Silent Mode - ideally Fans do not spin + output capped at appropriate level to ensure LED work at optimum temperature and output efficiency (Fan should never switch on in this mode or change speed if they on) NC15 target level.



| MODE | LED OUTPUT | FAN SPEED | NOISE CRITERION | EQUIVALENT SOUND LEVEL DBA (@3M) |
|---------------|------------|--|-----------------|----------------------------------|
| Boost Mode | >100% | Boosted fan speed constant | NC45 | 50 |
| Standard Mode | Full 100% | Full 100% constant | NC40 | 45 |
| Studio Mode | 80% | Appropriate speed to reduce dB levels >10% of full speed | NC35 | 40 |
| Whisper Mode | 60% | Appropriate speed to reduce dB levels >30% of full speed | NC25 | 35 |
| Silent Mode | TBC | Fan off | NC15 | 25 |

| NOISE CRITERION | OCTAVE BAND CENTER FREQUENCY (HZ) | | | | | | | |
|-----------------|-----------------------------------|-----|-----|-----|------|------|------|------|
| | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| | SOUND PRESSURE LEVELS (DB) | | | | | | | |
| NC-15 | 47 | 36 | 29 | 22 | 17 | 14 | 12 | 11 |
| NC-20 | 51 | 40 | 33 | 26 | 22 | 19 | 17 | 16 |
| NC-25 | 54 | 44 | 37 | 31 | 27 | 24 | 22 | 21 |
| NC-30 | 57 | 48 | 41 | 35 | 31 | 29 | 28 | 27 |
| NC-35 | 60 | 52 | 45 | 40 | 36 | 34 | 33 | 32 |
| NC-40 | 64 | 56 | 50 | 45 | 41 | 39 | 38 | 37 |
| NC-45 | 67 | 60 | 54 | 49 | 46 | 44 | 43 | 42 |
| NC-50 | 71 | 64 | 58 | 54 | 51 | 49 | 48 | 47 |
| NC-55 | 74 | 67 | 62 | 58 | 56 | 54 | 53 | 52 |
| NC-60 | 77 | 71 | 67 | 63 | 61 | 59 | 58 | 57 |
| NC-65 | 80 | 75 | 71 | 68 | 66 | 64 | 63 | 62 |

HOW TO OBTAIN WARRANTY SERVICE

A copy of the Strand Limited Warranty was included in the shipping package for this Strand product.

To obtain warranty service, please contact customer service at 1-214-647-7880, or entertainment.service@signify.com and request a Return Material Authorization (RMA) for warranty service. You will need to provide the model and serial number of the item being returned, a description of the problem or failure and the name of the registered user or organization. If available, you should have your sales invoice to establish the date of sale as the beginning of the warranty period. Once you obtain the RMA, pack the unit in a secure shipping container or in its original packing box. Be sure to clearly indicate the RMA number on all packing lists, correspondence, and shipping labels. If available, please include a copy of your invoice (as proof of purchase) in the shipping container.

With the RMA number written legibly on or near the shipping address label, return the unit, freight prepaid, to:

Strand
Attention: Warranty Service (RMA# _____)
10911 Petal Street
Dallas, Texas 75238
USA

As stated in the warranty, it is required that the shipment be insured and FOB our service center.

IMPORTANT! When returning products to Strand for repairs (warranty or out-of--warranty) from a country other than the USA, "Strand Lighting LLC", must appear in the address block as the Importer of Record (IOR) on all shipping documentation, Commercial Invoices, etc. This must be done in order to clear customs in a timely manner and prevent returns.

TECHNICAL SUPPORT

GLOBAL 24HR TECHNICAL SUPPORT:

Call: +1 214 647 7880
entertainment.service@signify.com

NORTH AMERICA SUPPORT:

Call: 877-VARI-LITE (877-827-4583)
entertainment.service@signify.com

EUROPEAN CUSTOMER SERVICE CENTER:

Call: +31 (0) 543 542 531
entertainment.europe@signify.com

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CANTATA LED FRESNEL TUNABLE COLD WHITE USER MANUAL

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