



Strand

LEKO LED OUTDOOR, COLD WHITE

USER MANUAL

INTRODUCTION

OUR GOAL

We are committed to providing you the highest quality in customer service. Our comprehensive resources are available to help your business succeed and ensure you get the full benefit of being a Strand customer.

TECHNICAL SUPPORT

Our Service and Support team is tasked with online and field support, repair, demo, commissioning, maintenance contracts, and technical training for fixtures and systems. In addition, this team plays a large role in a Systems sales, responsible for administering final commissioning, record-keeping, and organizing services. Refer to the back cover of this User Manual for contacts in your region or visit www.strandlighting.com/support

CUSTOMER SERVICE

Customer Service is responsible for boxed goods and spare parts quotations, order entry and fulfilment, project delivery, lead times, and general account management. They also manage all after sales warranty fulfilment, RGA, and repairs invoicing in tandem with our After Sales Service & Support team. Visit our website to find a customer service agent in your region.

ADDITIONAL DOCUMENTATION

Additional product documentation, including DMX maps, software, and photometric reports, are available for download on our website.

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:

USITT

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Syracuse, New York 13210-1844 USA

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Website: www.usitt.org

ABOUT THIS DOCUMENT

Read all instructions before installing or using this product. Retain this User Manual for future reference.

Additional product information and descriptions may be found on the product data sheet(s) which can be downloaded from the Strand website at www.strandlighting.com.

This User Manual provides necessary information regarding safety, installation, operation and routine maintenance for Strand Leko LED Outdoor. Familiarizing yourself with this information will help you to get the most out of your product.

WARNING: It is important to read ALL accompanying safety and installation instructions to avoid damage to the product and potential injury to yourself or others.

SAFETY WARNINGS AND NOTICES

Read this user manual in full before attempting to install, operate or maintain the fixture to which it relates. This user manual is intended to provide general guidance to such suitably qualified personnel. Installation and operation of the fixture are to be performed by qualified personnel only.

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

READ AND FOLLOW ALL SAFETY INSTRUCTIONS.

- For indoor, dry location use only. Do not use outdoors unless fixture is suitably IP rated.
- Use safety tether when mounting.
- Equipment should be mounted in locations and at heights where it will not be readily subjected to tampering by unauthorized personnel.
- Not for residential use. Do not use this equipment for other than intended use.
- Note distance requirement(s) from combustible materials or illuminated objects. Do not mount near gas or electric heaters.
- Install only in locations with adequate ventilation. Ensure sure that ventilation slots are not blocked.
- Ensure that the voltage and frequency of the power supply match the power requirements of the fixture.
- The fixture must be earthed/grounded to the appropriate conductor.
- Do not operate fixture outside the specified ambient temperature range.
- Do not connect the fixture to any dimmer pack.
- The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition and void warranty.
- Refer service to qualified personnel. This fixture contains no user serviceable parts.
- Prior to first use, carefully inspect fixture to ensure no damage has occurred during shipping.
- Materials used in the manufacturing process can cause strong odors when the product is new. These odors dissipate over time.
- Prior to each use, carefully inspect power cables and replace any damaged cables.
- Exterior surfaces of the luminaire will be hot during operation. Take appropriate precautions.
- Continuous use of the fixture may shorten the lifespan. Power down the fixture when not in use.
- Do not cycle power on and off repeatedly. Disconnect mains power if the fixture is not used for an extended period.
- Clean fixtures regularly, particularly when working in a dusty environment.
- Never touch power cables or wires while the fixture is powered on.
- Avoid entangling power wires with other cables.
- In the event of a serious operating problem, immediately discontinue using the fixture.
- It is hazardous to operate luminaires without lens or shield. Shields, lenses, or ultraviolet screens shall be changed if they have become visibly damaged to such an extent that their effectiveness is impaired, for example, by cracks or deep scratches.
- Original packing materials can be reused for transporting the fixture.
- Do not look directly at the LED light beam while the fixture is on.
- This is a Class A product. In a domestic environment this product may cause radio interference, in which case, the user may be required to take adequate measures.
- The light source contained in this luminaire shall only be replaced by the manufacturer or service agent or similarly qualified person.

SAVE THESE INSTRUCTIONS.

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. Caution Against Direct Sunlight Through Front Lens Assembly

CAUTION AGAINST DIRECT SUNLIGHT THROUGH FRONT LENS ASSEMBLY

The design and nature of the front lens assembly in Vari-Lite LLC luminaires is to efficiently focus the light energy from the luminaire's lamp for maximum light output.

- When the front lens assembly is exposed to direct sunlight or intense light from neighboring fixtures, the lens will collect and intensify this light and focus it back into the fixture. Intense sunlight or beams from other fixtures can cause damage to internal assemblies contained within the fixture.
- When fixture is not in use and direct sunlight or other intense light is present, position luminaires so their front lens assembly is not directly exposed to the light source.

CAUTION AGAINST POWERING LUMINAIRES FROM DIMMER CIRCUITS

It is not recommended to power any Vari-Lite LLC luminaire from a dimmer - even in 'NONDIM' mode. Dimmer and non-dim modules are not suitable sources of power because their output modifies the AC wave form. This may work for a short time, but eventually results in power problems, luminaire mis-operation and/or failure.

- When using a power distribution rack, do not use dimmer or non-dim modules to power any Vari-Lite LLC luminaire. Damage to the luminaire can occur.
- Using a dimmer or non-dim module to power your Vari-Lite LLC luminaire will void your luminaire's warranty.

CAUTION AGAINST THE USE OF THIRD PARTY PARTS OR ACCESSORIES

- Heat and heat distribution are important factors when operating Vari-Lite LLC luminaires. Vari-Lite LLC luminaires are designed to dissipate heat efficiently and safely. Any blockages or obstructions, such as aftermarket baffles, covers, enclosures, etc. can interrupt the luminaire's ability to dissipate heat properly and can damage the luminaire.
- Vari-Lite LLC cannot be responsible for issues arising from non-approved parts and accessories installed on or used with any Vari-Lite LLC product. Customers of such products should contact the manufacturer directly for assistance and support.

TRANSPORTING LUMINAIRES

When shipping or transporting luminaires, Vari-Lite LLC recommends that the luminaire(s) be sufficiently protected against any (including, but not limited to) shock, vibration, drops, jarring, exposure to the environment, etc.

Failure to sufficiently protect any Vari-Lite LLC luminaire during shipping or transportation will result in damage and void the luminaire's warranty. Vari-Lite LLC will not be responsible for any shipping damage or breakage of any product under any circumstances. Vari-Lite LLC will not be responsible for any third party case manufacturer's cases.

NOTE: As with all automated luminaires, proper handling and suitable protective shipping cases should be used when transporting fixtures to reduce the risk of damage.

TRANSPORTATION AND SHIPPING CASE REQUIREMENTS

Cases to transport Vari-Lite LLC luminaires should meet the following loading requirements:

- Luminaire head, yoke, and enclosure sub-assemblies shall be equally supported and constrained where no one sub-assembly (head, yoke, or enclosure) fully supports the entire mass of the luminaire.
- The interior of the case shall be of high quality and uniform density foam. The foam shall be of the same type and density throughout as to equally and uniformly support loading at every contact surface.
- The case shall, when laid on any of its six (6) surfaces, maintain the loading requirements outlined above.
- All cases not meeting the aforementioned loading requirements, with wheels, shall have markings on the exterior of the case that the unit is to be transported on its wheels only (e.g. "Case must be transported and remain [at all times] on its wheels").

COMPLIANCE NOTICE



FCC DECLARATION OF CONFORMITY

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with Vari-Lite Strand system, service, and safety guidelines, may cause harmful interference to radio communications.

As tested under this standard:

FCC 47CFR 15B cIA*CEI

Issued:2009/10/01 Title 47 CFR Part 15 Subpart B Unintentional Radiators Class A

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.



EU DECLARATION OF CONFORMITY

We, Vari-Lite LLC., 10911 Petal Street, Dallas, Texas 75238, declare under our responsibility for the products contained herein are in conformity with the essential requirements of the following European Directives and harmonized standards:

Low Voltage Director (LVD), 2006/95/EC

EN 60589-2-17:1984+A1:1987+A2:1990 used in conjunction with 60598-1:2008/A11:2009

Electromagnetic Compatibility Directive (EMC), 2004//108/EC

EN 55022:2010, EN55024:2010

HOW TO OBTAIN WARRANTY SERVICE

A copy of the Limited Warranty card was included in the shipping package for this 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:

Vari-Lite 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 Vari-Lite Strand for repairs (warranty or out-of-warranty) from a country other than the USA, "Vari-Lite 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.

1 DESCRIPTION

FEATURES

- High output IP65 rated LED Profile - modern theatrical profile built for the outdoors.
- High CRI RGBALC Color System with SmartColor Control - wide range of vivid color options that can be programmed using CYM.
- Independent color mixing and temperature controls - match color pallet to color temperature without manual adjustment for simpler programming.
- Independent color mixing and temperature controls - match color palette to color temperature without manual adjustment for simpler programming.
- Cold white (5600 K) version optimized for maximum output - perfect for long distance projection running higher CRI output engine. Cold White version (64506-001) is not available for sale or delivery to any country or state within the European Union.
- Wide range zoom (18° to 30°) and adjustable focus can be controlled manually and/or by DMX - adjust the fixture where and how you need.
- Wire free DMX - integrated Wireless solution WDMX receiver.

For detailed product information, please refer to www.strandlighting.com/global/products/leko-led-outdoor-profile-cw

COMPONENTS

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

- Strand Leko LED Outdoor, 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 Leko LED Outdoor, luminaire includes the following items:

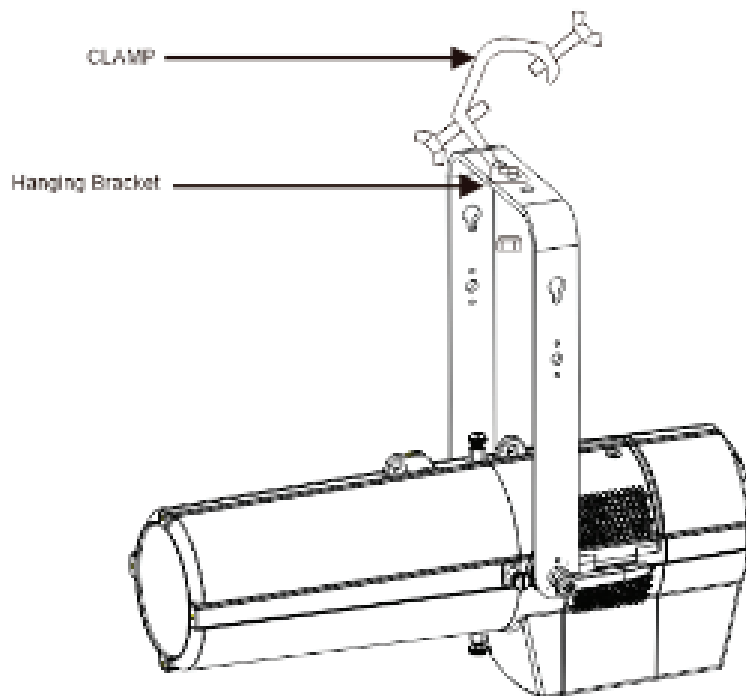
- Strand Leko LED Outdoor, Cold White
- Quick Start Guide

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. When installing the fixture, always use a safety cable that is certified to hold up to 12 times the fixture's own weight.

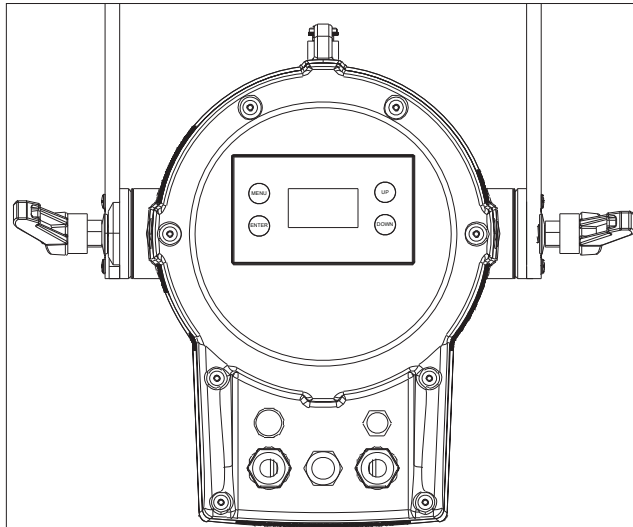
The luminaire must be installed by qualified professionals.



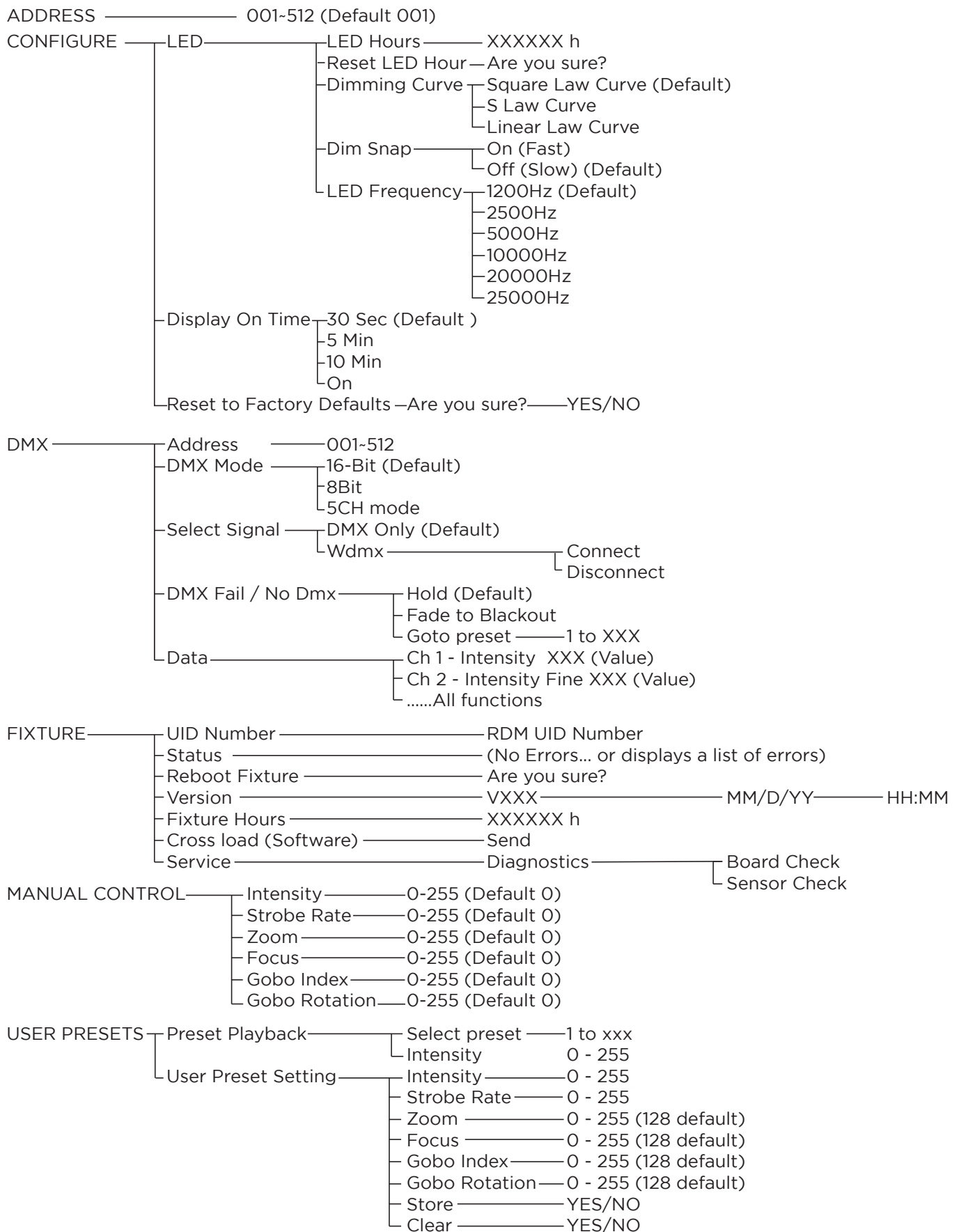
3 MENU OPERATION

CONTROL PANEL

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. Press MENU to return to the previous menu or let the unit idle for one minute to exit menu mode automatically.



- ① **LCD display** - shows the menu and selected functions
- ② **Control buttons**
 - MENU - use to select programming functions
 - ENTER - use to confirm selected functions
 - UP - toggle forward through functions
 - DOWN - toggle backward through functions
- ③ **DMX in** - 5-pin XLR cable to link DMX console
DMX out - 5-pin XLR cable to link to next fixture
- ④ **Metal swivel head**
- ⑤ **Power in** - connects to power supply
- ⑥ **Voir valve**



4 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 1. 16-BIT

DMX CHANNEL	PARAMETER	DEFAULTS	RANGE DMX	DESCRIPTION
1	Intensity (High)	0	0 - 65535	16-bit Intensity (Dimmer) Control 0 - 100% Output
2	Intensity (Low)			
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	User Preset	0	0 - 255	User presets 1 to 20
			0 - 10	Channel OFF Channels 1,2,6,7&9 take preference
			11 - 14	User Preset 1
			15 - 18	User Preset 2
			19 - 22	User Preset 3
			23 - 26	User Preset 4
			27 - 30	User Preset 5
			31 - 34	User Preset 6
			35 - 38	User Preset 7
			39 - 42	User Preset 8
			43 - 46	User Preset 9
			47 - 50	User Preset 10
			51 - 54	User Preset 11
			55 - 58	User Preset 12
			59 - 62	User Preset 13
			63 - 66	User Preset 14
			67 - 70	User Preset 15
			71 - 74	User Preset 16
			75 - 78	User Preset 17
			79 - 82	User Preset 18
83 - 86	User Preset 19			
87 - 90	User Preset 20			
91 - 255	Channel OFF Color Mixing take priority			
5	Zoom	128	0 - 255	8 Bit Motorized Zoom control, 0 - 100% 0 = 15° 100% = 30°
6	Focus (High)	32767	0 - 65535	16 Bit Motorized Focus control
7	Focus (Low)			
8	Gobo Index (High)	32767	0-65535	Gobo Index / Rotation Switched mode via channel 10

TABLE 1. 16-BIT

DMX CHANNEL	PARAMETER	DEFAULTS	RANGE DMX	DESCRIPTION
9	Gobo Index (Low)		33025-65535 32257-33024 0-32256	Clockwise Index / Rotation S>>>>>>F Stop Counter Clockwise Index / Rotation S>>>>>>F
10	Gobo Mode	0	0 - 255 0 - 50 51 - 100 101 - 255	Gobo Index/ Rotation Mode Control Gobo Index Mode Gobo Rotation Mode Reserved Values
11	Control Channel	0	0 - 255 0 - 5 6 - 10 11 - 15 16 - 20 21 - 25 26 - 30 31 - 35 36 - 40 41 - 45 46 - 50 51 - 55 56 - 60 61 - 65 66 - 70 71 - 75 76 - 80 81 - 85 86 - 90 91 - 95 96 - 100 101 - 105 106 - 110 111 - 115 116 - 120 121 - 125 126 - 130 131 - 135 136 - 140 141 - 154 146 - 150 151 - 155 156 - 160 161 - 165 166 - 170 171 - 175 176 - 255	Control Channel used for full fixture settings, lamp controls, 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 Idle (Default) Full Luminaire ReCal - Used to Wake fixture up from shutdown Fixture Shutdown Reserved Values Display - Menu ON Display - Menu OFF Reserved Values Reserved Values Dimming Curve Linear** Dimming Curve S-Curve** Dimming Curve Square Law (Default)** Reserved Dimmer Snap On** Dimmer Snap Off (Default)** Reserved Values Reset fixture to default Reserved Values

TABLE 2. 8-BIT

DMX CHANNEL	PARAMETER	DEFAULTS	RANGE DMX	DESCRIPTION
1	Intensity	0	0 - 255	8 bit Intensity (Dimmer) Control
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
3	User Preset	0	190 - 255	Random Strobe S>>>>>F
			0 - 255	User presets 1 to 20 User definable color preset XX to XX
			0 - 10	Channel OFF Channels 1,2,6,7&9 take preference
			11 - 14	User Preset 1
			15 - 18	User Preset 2
			19 - 22	User Preset 3
			23 - 26	User Preset 4
			27 - 30	User Preset 5
			31 - 34	User Preset 6
			35 - 38	User Preset 7
			39 - 42	User Preset 8
			43 - 46	User Preset 9
			47 - 50	User Preset 10
			51 - 54	User Preset 11
			55 - 58	User Preset 12
			59 - 62	User Preset 13
			63 - 66	User Preset 14
			67 - 70	User Preset 15
			71 - 74	User Preset 16
			75 - 78	User Preset 17
79 - 82	User Preset 18			
83 - 86	User Preset 19			
87 - 90	User Preset 20			
91 - 255	Channel OFF Color Mixing take priority			
4	Zoom	128	0 - 255	8 Bit Motorized Zoom control 0 - 100% 0 = 15° 100% = 30°
5	Focus	128	0 = 255	8 Bit Motorized Focus control
6	Gobo Index	128	0 - 255	Gobo Index / Rotation Switched mode via channel 9
			130 - 255	Clockwise Index / Rotation S>>>>>>>F
			127 - 129	Stop
0 - 126	Counter Clockwise Index / Rotation S>>>>>>>F			
7	Gobo Mode	0	0 - 255	Gobo Index/ Rotation Mode Control
			0 - 50	Gobo Index Mode
			51 - 100	Gobo Rotation Mode
			101 - 255	Reserved Values

TABLE 2. 8-BIT

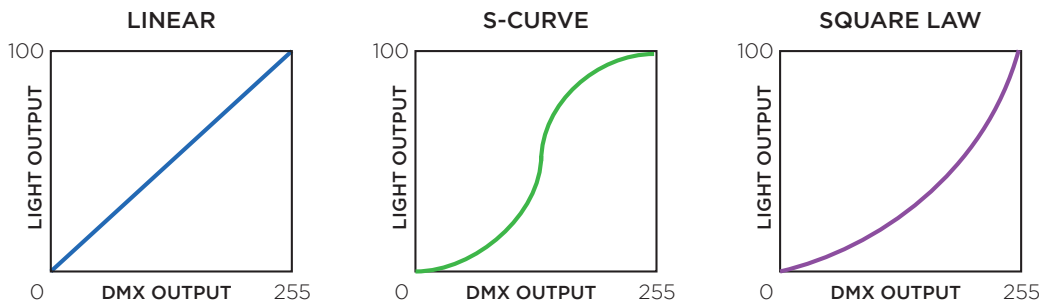
DMX CHANNEL	PARAMETER	DEFAULTS	RANGE DMX	DESCRIPTION
8	Control Channel	0	0 - 255	Control Channel used for full fixture settings, lamp controls, and miscellaneous modes. Set discrete value of desired effect, wait >3 seconds, then set value to 0 (Idle). **Function does not require 3 Second rule to active, 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	Reserved Values
			116 - 120	Reserved Values
			121 - 125	Reserved Values
			126 - 130	Reserved Values
			131 - 135	Reserved Values
			136 - 140	Reserved Values
			141 - 154	Reserved Values
			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	Revered Values			

TABLE 3. 5-CHANNEL

DMX CHANNEL	PARAMETER	DEFAULTS	RANGE DMX	DESCRIPTION
1	Intensity	0	0 - 255	8 bit Intensity (Dimmer) Control
2	User Preset	0	0 - 255	User presets 1 to 20
			0 - 10	Channel OFF Channels 1,2,6,7&9 take preference
			11 - 14	User Preset 1
			15 - 18	User Preset 2
			19 - 22	User Preset 3
			23 - 26	User Preset 4
			27 - 30	User Preset 5
			31 - 34	User Preset 6
			35 - 38	User Preset 7
			39 - 42	User Preset 8
			43 - 46	User Preset 9
			47 - 50	User Preset 10
			51 - 54	User Preset 11
			55 - 58	User Preset 12
			59 - 62	User Preset 13
			63 - 66	User Preset 14
			67 - 70	User Preset 15
			71 - 74	User Preset 16
			75 - 78	User Preset 17
			79 - 82	User Preset 18
83 - 86	User Preset 19			
87 - 90	User Preset 20			
91 - 255	Channel OFF Color Mixing take priority			
3	Zoom	128	0 - 255	8 Bit Motorized Zoom control 0 - 100% 0 = 15° 100% = 30°
4	Focus	128	0 - 255	8 Bit Motorized Focus control
5	Gobo Index	128	0 - 255	Gobo Index (no Rotation)
			130 - 255	Clockwise Index /
			127 - 129	Stop
			0 - 126	Counter Clockwise Index /

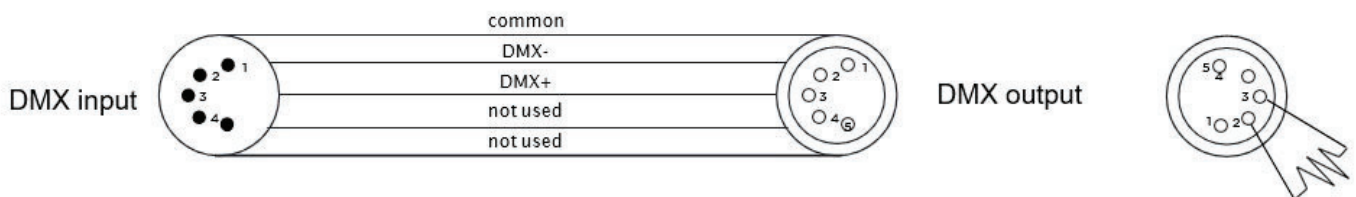
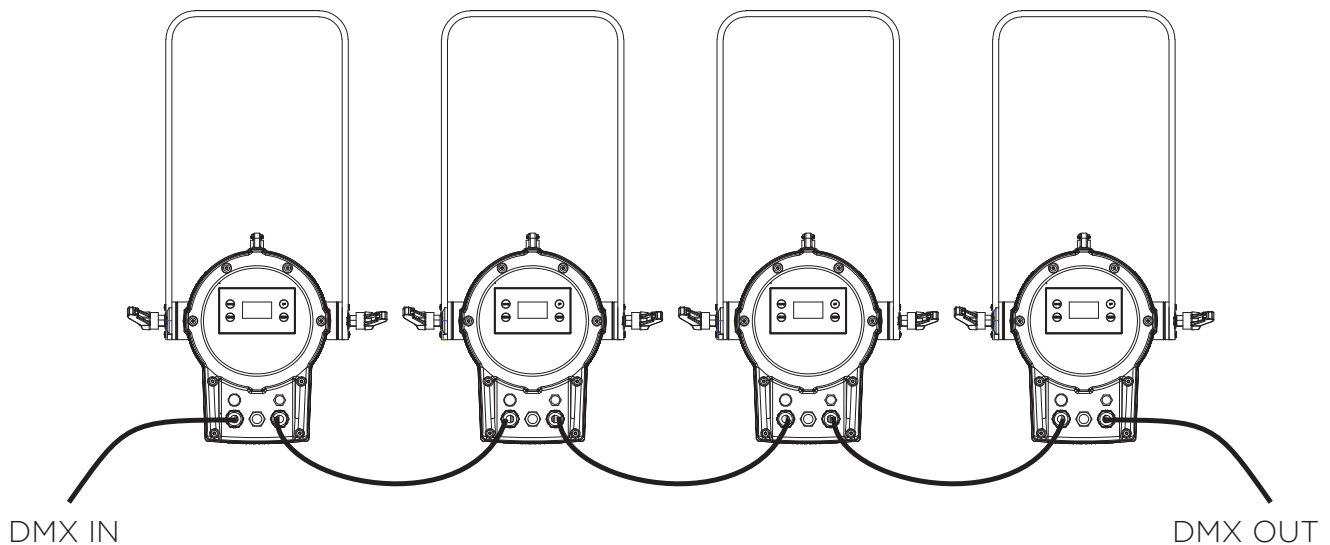
RANGE DMX	ITEMS	DESCRIPTION	POWER CYCLE RULES	FUNCTION SELECTION VIA UI
0 - 255	Control Channel	Used for full fixture settings, lamp controls, and miscellaneous modes. Set discrete value of desired effect, wait >3 seconds, then set value to 0 (Idle). **Function does not require 3 Second rule to active, setting output to value will automatically activate function.	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 - Also Used to Wake fixture up from shutdown	Recalibrates all mechanical functions and sensor with in the fixture	N/A	
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 Curve (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
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		N/A	N/A
96 - 100	Reserved Values		N/A	N/A
101 - 105	Reserved Values		N/A	N/A
106 - 110	Reserved Values		N/A	N/A
111 - 115	Reserved Values		N/A	N/A
116 - 120	Reserved Values		N/A	N/A

RANGE DMX	ITEMS	DESCRIPTION	POWER CYCLE RULES	FUNCTION SELECTION VIA UI
121 - 125	Reserved Values		N/A	N/A
126 - 130	Reserved Values		N/A	N/A
131 - 135	Reserved Values		N/A	N/A
136 - 140	Reserved Values		N/A	N/A
141 - 145	Reserved Values		N/A	N/A
146 - 150	Reserved Values		N/A	N/A
151 - 155	Reserved Values		N/A	N/A
156 - 160	Reserved Values		N/A	N/A
161 - 166	Reserved Values		N/A	N/A
166 - 170	Reserved Values		N/A	N/A
	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
171 - 175	Reserved Values		N/A	N/A
176 - 255	Reserved Values		N/A	N/A



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 be 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

The following are a few common problems that may occur during operation.

Luminaire does not work; light and fan do not turn on.

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

Not responding to DMX controller.

- If DMX LED is not illuminated, verify that the DMX cables are properly connected.
- If the DMX LED is illuminated and there is no response, verify DMX address settings and the DMX polarity.
- If you experience intermittent DMX signal problems, check the pins on the connectors or on the PCB.
- Test with a different DMX controller.
- Check if the DMX cables run near or alongside high voltage cables that may cause interference to the DMX interface circuit.

CLEANING

Cleaning the inside of the luminaire must be carried out periodically in order to optimize the light output. Cleaning frequency depends on the environment in which the fixture operates. Damp, smoky or particularly dusty surroundings can cause greater accumulation of dirt on the fixture's optics.

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

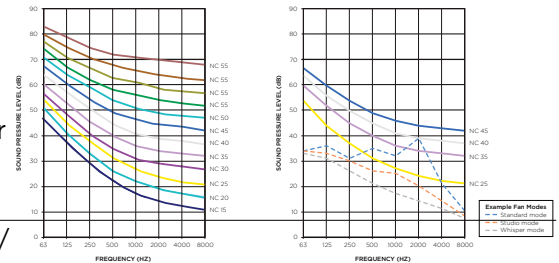
APPENDIX B

FAN SPEED AND CONTROL

All Vari-lite and Strand lighting luminaires are governed by the same fan speed versus noise levels and maximum power output rules as detailed below. The noise related to these levels conforms to noise criteria levels detailed within the document.

There are three control parameters that can be selected separately or in conjunction when permitted to manage fan speed versus noise levels and maximum power output.

NOTE: Not all fixture have all modes or functions. Refer to DMX map and/or user interface menu tree to verify the modes and functions in your fixture.



FAN VERSUS OUTPUT PRESET MODES

These modes are selectable at either / or the fixtures DMX control channel or via the fixture user interface screen.

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
NC-70	83	79	75	72	71	70	69	68

TECHNICAL SUPPORT

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