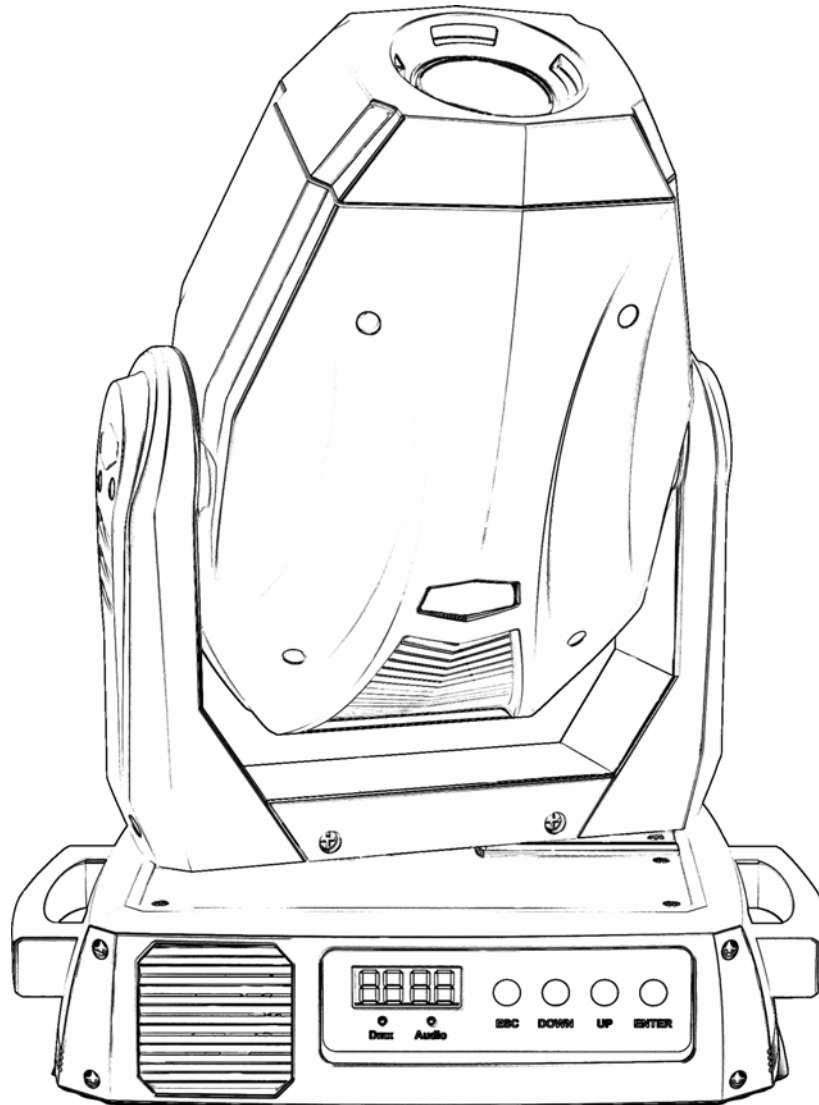


# VectorLED 160 Spot



Information specifically for:  
DM-VectorLED160S

This manual contains important information.  
Please read before operating fixture.

V1.0  
CE

© 2010 Techni-Lux Inc.

# **IMPORTANT INFORMATION**

**Save original packing and documentation for warranty, service and return issues.**

Limited Warranty: This warranty covers defects or malfunctions in this equipment. This warranty lasts for a period of one year from date of purchase. It is the owner's responsibility to provide invoices for proof of purchase, purchase date and dealer or distributor. If purchase date can not be provided, warranty period will start at manufacture date. It is the sole discretion of Techni-Lux to repair or replace parts or equipment. All shipping will be paid by purchaser. This warranty does not cover lamps, fuses, belts, power semiconductors, relays, cleaning, standard maintenance adjustments or normal wear items or any problem resulting from the following: improper wiring, incorrect voltage (including low or over voltage conditions and lightning), abuse, misuse, improper maintenance or an act of God or damage resulting from shipping. Warranty will be null and void if the product is altered, modified, misused, damaged, or subjected to unauthorized repairs. Lamps are covered by relevant manufacturer warranty. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Any liability for consequential and incidental damages is expressly disclaimed. No other warranty, expressed or implied is made. Techni-Lux liability in all events is limited to, and shall not exceed, the purchase price paid.

Returning equipment and Repairs: All returns must be accompanied by a Return Merchandise Authorization (RMA) number and sent pre-paid. Contact the dealer or Techni-Lux directly to obtain an RMA. The RMA number must be clearly listed on the shipping label. Due care must be exercised in packing all merchandise to be returned. All repairs must be accompanied by a written explanation of the claimed problem or error encountered. Techni-Lux is solely responsible for determining a product's eligibility for coverage under warranty. If returning for consideration of credit, all accessories and documentation, original protective material and cartons must be included and the equipment, packing and carton must be in new resalable condition. Credit for returned merchandise will be issued at the lowest current price and is subject to a restocking fee. No returns accepted on discontinued items. Techni-Lux is not responsible for merchandise damaged in transit and reserves the right to refuse any return that is damaged by the carrier, not accompanied by a Return Authorization Number (RMA#) or sent by freight collect.

Claims: All claims must be made within seven (7) days of receipt of merchandise. Any physical damage must be reported to carrier upon receipt of merchandise.

**Please record the following information for future reference:**

**Model Number: DM-VectorLED160S**

Serial Number: \_\_\_\_\_

Dealer: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

www.Techni-Lux.com  
10900 Palmbay Drive  
Orlando, FL 32824  
U.S.A.

# Table of Contents

<b>Specifications</b> .....	<b>5</b>
<i>Fixture Overview</i> .....	5
<i>Physical</i> .....	5
<i>Lamp Source</i> .....	5
<i>Environmental</i> .....	6
<i>Electrical</i> .....	6
<i>Control</i> .....	6
<i>Optics</i> .....	6
<i>Gobo Size</i> .....	6
<i>Rigging</i> .....	6
<b>Unit Parts</b> .....	<b>7</b>
<b>Unpacking</b> .....	<b>8</b>
<b>Power</b> .....	<b>9</b>
<b>Voltage Selection</b> .....	<b>9</b>
<b>LED Engine</b> .....	<b>9</b>
<b>Mounting</b> .....	<b>10</b>
<b>Control Panel Menu</b> .....	<b>11</b>
<b>DMX-512 Start Address</b> .....	<b>12</b>
<b>DMX-512 Channel Assignment</b> .....	<b>12</b>
<i>CH 1 : Shutter / Strobe / Reset</i> .....	13
<i>CH 2 : Dimmer</i> .....	13
<i>CH 3 : Color Wheel</i> .....	13
<i>CH 4 : Rotating Gobo Wheel</i> .....	14
<i>CH 5 : Gobo Rotation and Index</i> .....	14
<i>CH 6 : Focus</i> .....	15
<i>CH 7 : Prism / Prism Rotation</i> .....	15
<i>CH 8-11 : Pan / Tilt Position</i> .....	15
<i>CH 12 : Pan / Tilt Speed, Auto, Sound</i> .....	15
<b>DMX-512 Background</b> .....	<b>16</b>
<i>Data Link DMX-512</i> .....	17
<i>Adapter 5-to-3 pin</i> .....	17
<i>Data Terminator</i> .....	17
<b>Maintenance</b> .....	<b>18</b>
<b>Troubleshooting</b> .....	<b>19</b>
<b>Accessory Items</b> .....	<b>20</b>

# Specifications

## *Fixture Overview*

- Long Life 60W LED Engine
- Pan range of movement: 540°
- Tilt range of movement: 270°
- High resolution 16 Bit Pan/Tilt movement for accurate positioning
- Pan/Tilt motor speed
- Consistent & auto correcting Pan/Tilt positioning
- Color wheel with 6+open dichroic colors
- Bi-directional Color wheel continuous rotation for rainbow effect
- Gobo wheel with 7+open rotating
- Continuous Gobo wheel rotation
- 3-facet rotating prism, variable speed in both directions
- Beam angle 11°
- Motorized focus
- Digital shutter for 0 – 20 FPS strobing effects and quick blackouts
- Digital dimming 0-100% for smooth fades and even fields
- DMX512 Control thru 12 Channels and 3 pin In/Out XLRs
- Remote reset
- Digital display for DMX addressing and fixture settings
- Forced Air Ventilation
- Precision Anti-Reflective Coated Optics
- Luminous output: 720 lumen
- Light weight 18.7 pounds

## *Physical*

Color	Black
Width	12.8 in (32.5cm)
Depth	9.8 in (25.0 cm)
Height	15.8 in (40.1 cm)
Weight	18.7 lbs (8.5 kg)
Gross Weight	24 lbs (10.9 kg)

## *Lamp Source*

Lamp Type	Long Life 60W LED Engine
Lamp Specs	720 lumens

## *Environmental*

Environmental Protection Rating	IP20
Maximum ambient temperature	105°F (40°C)
Maximum exterior surface temperature	176°F (80°C)
Minimum distance to flammable surface	3.3ft (1m)
Minimum distance to illuminated surface	3.3ft (1m)

## *Electrical*

Selectable Voltages	Auto Switching 90-240v @ 50 or 60Hz
Connection	IEC (C13) Power Inlet with Fuse
Rated Power	170W, 1.5A @ 115v
Fuses	5A Fast Blow Size: 5x20mm

## *Control*

Protocol	USITT DMX512 (1990)
Channels	12
Pan/Tilt Resolution	16 bit
Data I/O	3 Pin XLR (Cannon)
Modes	Master / Slave / DMX

## *Optics*

Lenses	Precision Anti-Reflective Coated Optics
Beam Angle	11°

## *Gobo Size*

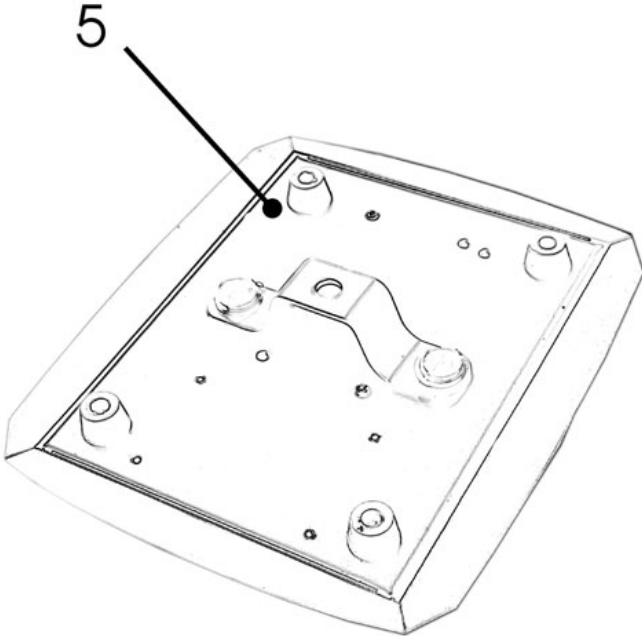
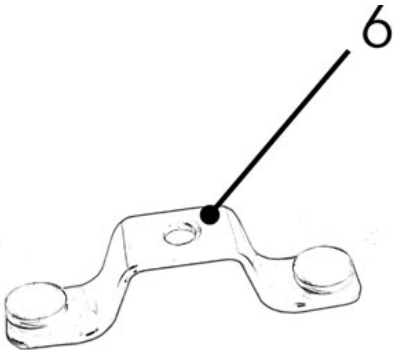
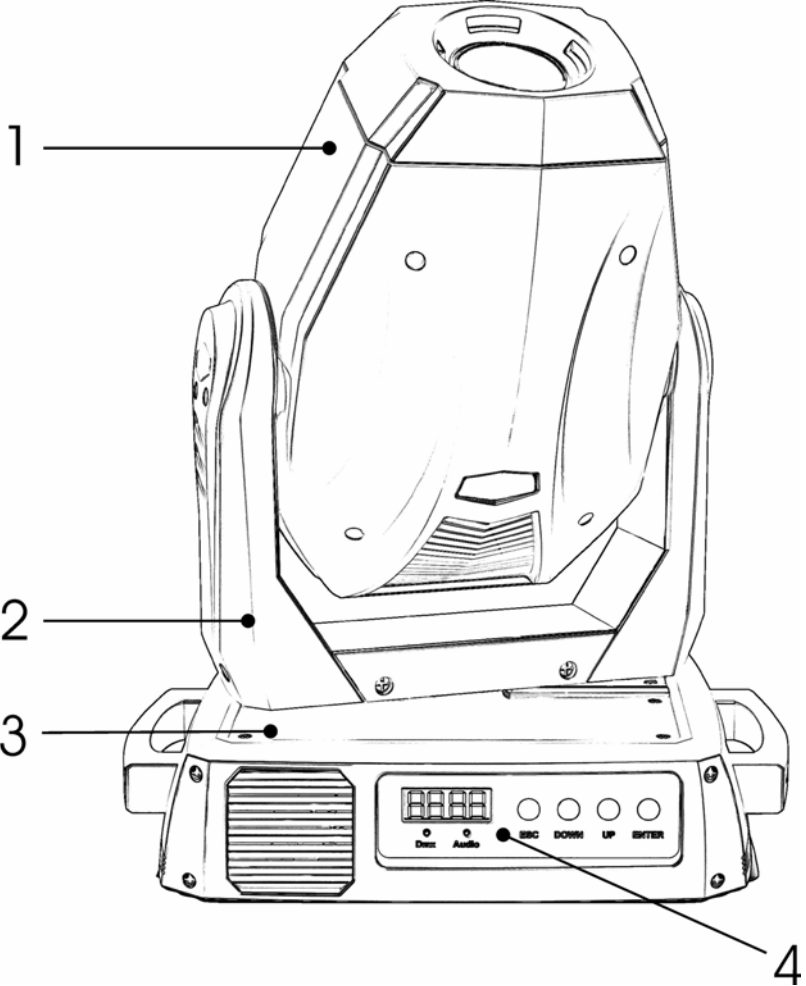
Gobo Rotating	Outside Diameter	0.984" (25mm)
	Image Diameter	0.787" (20mm)

## *Rigging*

Position	Floor or Truss mount
Orientation	Any
Mounting	Omega clamp adapter with 0.5" hole

# Unit Parts

- 1 Head
- 2 Yoke
- 3 Base
- 4 Control Panel
- 5 Base Bottom
- 6 Omega Clamp Adapter



# Unpacking

Immediately upon receipt, carefully unpack and inspect the fixture to verify that all parts are present and have been received in good condition. If any parts appear damaged from shipping or the shipping carton shows signs of mishandling, retain all packing material for inspection and notify the shipper immediately. Save original carton and packing. In the event that the merchandise is to be returned, the original carton and packing must be used. The customer will be billed for a new carton and packing if merchandise is received without the original carton and packing. The plastic bag shipped with the fixture can be used to keep the fixture clean if stored or installed in a temporarily dusty environment. Do not operate fixture with plastic bag in place.

## *Save Shipping Materials*

The packing and carton are designed to provide the fixture with protection during shipping. Save original packing and documentation for warranty, service and return issues. Additional charges will be applied to return items not received in original or incomplete packing.

## *Claims*

Physical damage must be reported to the Freight Carrier or Shipping Company upon receipt of merchandise. Damage incurred in shipping is the responsibility of the Freight Carrier or Shipping Company. It is the customer's obligation in the event that merchandise is received damaged caused by shipping to notify the Freight Carrier or Shipping Company immediately. All other claims not related to damage incurred during shipping must be made to the Dealer or Distributor within 7 (seven) days of receiving merchandise.

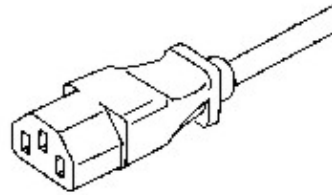
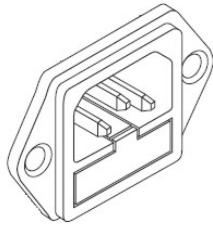
## *Returns*

Returned merchandise must be sent prepaid, in the original packing with a Return Merchandise Authorization number (RMA) clearly listed on the shipping label. Items sent by Freight Collect or without a RMA number will be refused. Call your sales person and request a RMA prior to shipping. Be prepared to provide the model number, serial number and a brief description of the nature of the return. Shipping damage resulting from inadequate packaging is the customer's responsibility. Customer will be charged additional shipping charges to return products received in non original packing and or cartons.



## Power

Power is connected to the fixture with an IEC power inlet and cord.



Before applying power to fixture, set the power switch to “OFF” and verify input voltage matches the power source voltage. Check all power cords to verify they are of proper type and sufficient rating for the equipment attached. For protection against electric shock, fixture must be connected to suitable earth ground. The listed current rating is its average draw under normal conditions. All fixtures must be powered directly from a switched circuit. This fixture cannot be run on rheostat or dimmer circuits - even if used solely for a 0% to 100% switching. Consult a qualified electrician if there are any concerns about proper connection to power.

## Voltage Selection

This Fixture is equipped with an Auto Switching Power Supply. It will automatically adjust to any line voltage within the specified range.

## LED Engine

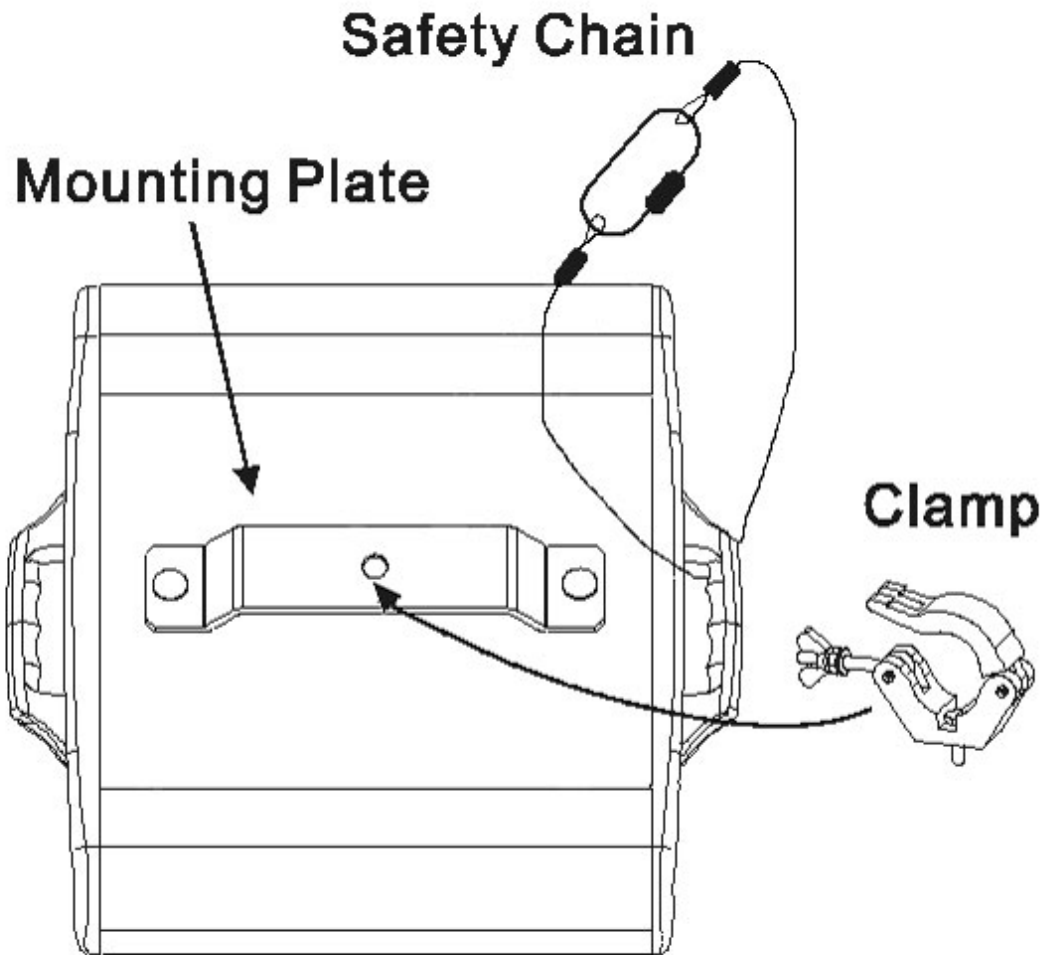
This unit is equipped with a Long Life LED Engine that is aligned at the factory. There is no need for the user to change lamps or perform any alignment.



**Do not stare directly into the light source.**

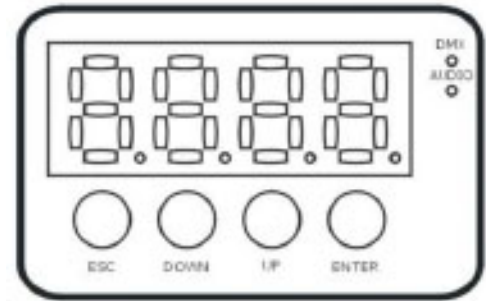
# Mounting

Always consult a qualified professional when rigging. This fixture may be placed on any flat surface or truss that is capable of safely supporting the weight. When selecting a mounting position, take into consideration access for routine maintenance. This fixture may be mounted in any position provided there is adequate room for movement and ventilation. Mount the fixture securely using an appropriate clamp and a safety cable. Safety cables must always be attached to the fixture. Do not use handles as secondary mounting points. Do not mount in a place where the fixture will be exposed to rain, high humidity, extreme temperature changes or restricted ventilation. Do not obstruct the vents or fans. Keep fixture a minimum of 3.3ft (1m) from flammable materials.



# Control Panel Menu

Use the fixture's Control Panel to access the Control Menu. The MODE Key moves between options, UP/DOWN selects the Action of the option and ENTER confirms the selection. Settings are stored and recalled on subsequent power cycles. ESC moves back in the menu.



Menu	Function / Option	Description	
<i>Addr</i>	<i>001 - 512</i>	DMX Start Address	
<i>PSEt</i>	<i>16bt</i>	16 Bit	
<i>PATl</i>	<i>SUAP</i>	<i>On</i>	Swap Pan/Tilt Assignment
		<i>OFF</i>	Normal Pan/Tilt Assignment
	<i>PI nU</i>	<i>On</i>	Inverted Pan (100% to 0%)
		<i>OFF</i>	Normal Pan (0% to 100%)
	<i>t.l nU</i>	<i>On</i>	Inverted Tilt (100% to 0%)
		<i>OFF</i>	Normal Tilt (0% to 100%)
<i>PtSP</i>	<i>norm</i>	Default Pan/Tilt Speed	
	<i>FAST</i>	Maximum Pan/Tilt Speed	
	<i>SLo!!</i>	Slow Pan/Tilt Speed	
<i>PER5</i>	<i>di SP</i>	<i>On</i>	Display Remains On
		<i>tUr n</i>	Display Inverted
		<i>!05</i>	Display Turns Off
	<i>drES</i>	<i>On</i>	Enable Reset by DMX
		<i>OFF</i>	Disable Reset by DMX
	<i>ScUt</i>	<i>On</i>	Effect Takes Shortest Path
	<i>OFF</i>	Effect Does Not Pass Thru Open	
<i>dFSE</i>	<i>FACt</i>	<i>LORd</i>	Load Factory Default Settings
<i>InfO</i>	<i>tHr5</i>	<i>tOEtL</i>	Fixture Hour Counter
		<i>rSEt</i>	Reset Fixture Hours
	<i>tLHr</i>	<i>tOEtL</i>	LED Engine Hour Counter
		<i>rESEt</i>	Reset LED Engine Hours
	<i>tLSt</i>	<i>tOEtL</i>	LED Engine Strike Counter
		<i>rSEt</i>	Reset LED Engine Strikes
	<i>UEr.</i>	<i>x.xx</i>	Firmware Version
<i>iiAn</i>	<i>rSt</i>	Reset	
	<i>CHnD</i>	Channel Adjust 0-255	
<i>tSE9</i>	<i>rUn</i>	Run Test Sequence	

## DMX-512 Start Address

The Start Address of a fixture is set using the “Addr” mode in the Control Panel Menu. Consult the manual of the system’s DMX512 controller to select a desirable addressing scheme before addressing fixtures. Each fixture connected to the DMX-512 data link requires a Start Address to indicate the first DMX channel containing data designated for that fixture, see DMX-512 Background. Valid Start Addresses range from 1 to 512. Fixtures requiring more than one channel for control will read subsequent channels up to the total number of channels required. A fixture requiring five (5) channels of DMX, set to a Start Address of eleven (11), would read data from channels: 11 and 12, 13, 14, 15. The next logical Start Address would be channel 16. Because all fixtures see the same data, fixtures may be set to any address without concern to order in the DMX-512 chain or physical location. Choose a Start Address so the channels used do not overlap with other fixtures. In some cases, it may be desirable to set two or more same type fixtures to the same Start Address. In this case, the fixtures will be slaved together and respond to the same data.

*Example Select Start Addresses for 4 fixtures each requiring 12 channels of DMX.*

Since these are the first fixtures added to the system, the first unit will be set to Start Address=1. This fixture occupies DMX channels 1 thru 12. The next DMX channel available for a Start Address is found by adding the previous fixture’s Start Address to its channel requirement:  $1+12=13$ . DMX channel 13 is the next available Start Address. In this example, to maximize channel usage no empty channels are left between fixtures so the second Start Address is set to DMX channel 13. The second fixture occupies DMX channels 13 thru 24. Repeat the process for the remaining two fixtures:  $13+12=25$  and  $25+12=37$ . Therefore, the four 12 channel fixtures have Start Addresses of 1, 13, 25 and 37. Repeat the technique once more for the next free channel in the system,  $37+12=49$ . Channels 49 thru 512 are available for expansion of the system.

## DMX-512 Channel Assignment

The Vector LED Spot requires 12 channels of DMX.

<b>Channel</b>	<b>Function</b>
1	Shutter /Strobe / Reset
2	Dimmer
3	Color Wheel
4	Rotating Gobo Wheel
5	Gobo Rotation
6	Focus
7	Prism / Prism Rotation
8	Pan Coarse Position
9	Pan Fine Position
10	Tilt Coarse Position
11	Tilt Fine Position
12	Pan / Tilt Speed, Auto, Sound

## *CH 1 : Shutter / Strobe / Reset*

The Shutter channel works directly on the LED Light Engine. It is an electronic shutter that enables instantaneous shutter Open and Closed “movements.” Because no mechanical elements are involved it is completely silent with no wipe effect allowing for incredibly fast strobing effects. In addition to the Shutter and Strobe control this channel also controls the Reset Function when the value is held between 246-250 for 8sec.

<b>CH 1 – Shutter / Strobe / Reset</b>	
<b>DMX Value</b>	<b>Function</b>
0-10	Closed (Black Out)
11-39	Open
40-240	Strobe Effect – Long to Short Interval
241-245	Open
246-250	Reset (Hold for 8 Seconds)
251-255	Open

## *CH 2 : Dimmer*

The Dimmer channel is used to vary the intensity of the beam from full open to dark. This channel also works directly on the LED Light Engine. Electronic control makes for smooth dimming while maintaining an absolutely flat field. Even at very low levels, there is no distortion of the beam.

<b>CH 2 – Dimmer</b>	
<b>DMX Value</b>	<b>Function</b>
0-255	Intensity - Dark to Full Open

## *CH 3 : Color Wheel*

The Color Wheel holds 6 colors plus open. These color filters can be used in conjunction with the dichroic color Rotating Gobos to create exciting color combinations. A Rainbow Color Scroll effect can also be created.

<b>CH 3 – Color Wheel</b>	
<b>DMX Value</b>	<b>Function</b>
0	Color 0 (Open/White)
1-153	Continuous Indexed Positions
154-163	Color 6
164-169	Color 5
170-175	Color 4
176-181	Color 3
182-187	Color 2
188-193	Color 1
194-199	Color 0 (Open/White)
198-227	Rainbow Color Scroll – Fast to Slow - CCW
228-255	Rainbow Color Scroll – Slow to Fast - CW

## CH 4 : Rotating Gobo Wheel

The Rotating Gobo Wheel contains 7 gobos, 2 are dichroic glass. Adding colors and varying the Focus can create many interesting effects.

CH 4 – Rotating Gobo Wheel	
DMX Value	Function
0-15	Open
16-31	Rotating Gobo 1 (Glass)
32-47	Rotating Gobo 2 (Metal)
48-63	Rotating Gobo 3 (Metal)
64-79	Rotating Gobo 4 (Metal)
80-95	Rotating Gobo 5 (Metal)
96-111	Rotating Gobo 6 (Glass)
112-127	Rotating Gobo 7 (Metal)
128-191	Rotating Gobo Scroll – Fast to Slow - CCW
192-255	Rotating Gobo Scroll – Slow to Fast - CW



## CH 5 : Gobo Rotation and Index

Rotating gobos can be rotated in either direction or set to fixed positions. The fixed position is not absolute and will change during use.

CH 5 – Gobo Rotation and Index	
DMX Value	Function
0-127	Fixed Positions – 0 to 450° – Non-absolute
128-191	Rotation – Fast to Slow CCW
192-255	Rotation – Slow to Fast CW

## *CH 6 : Focus*

The Focus is used to vary the focal point of the projection.

<b>CH 6 – Focus</b>	
<b><i>DMX Value</i></b>	<b><i>Function</i></b>
0-255	Focus – Far to Near

## *CH 7 : Prism / Prism Rotation*

The Prism effect uses a 3 facet prism to split the beam. The effect can be rotated in either direction at variable speeds or set to fixed positions. The fixed position is not absolute and will change during use.

<b>CH 7 – Prism / Prism Rotation</b>	
<b><i>DMX Value</i></b>	<b><i>Function</i></b>
0-4	Open
5-139	Fixed Positions – 0 to 450° – Non-absolute
140-197	Rotation – Fast to Slow – CCW
198-255	Rotation – Slow to Fast – CW

## *CH 8-11 : Pan / Tilt Position*

Pan range is 540°. Tilt range is 270°. A position feedback system is used to enable auto correction of Pan and Tilt. Speed and Movement options are controlled by the Pan/Tilt Speed, Auto, Sound Channel 12.

<b>CH 8 – Pan Coarse Position (540°)</b>	
<b>CH 9 – Pan Fine Position (3.6°)</b>	
<b>CH 10 – Tilt Coarse Position (270°)</b>	
<b>CH 11 – Tilt Fine Position (3.6°)</b>	
<b><i>DMX Value</i></b>	<b><i>Function</i></b>
0 – 255	Position - Minimum to Maximum

## *CH 12 : Pan / Tilt Speed, Auto, Sound*

When set to zero (0), movement speed is determined by the controller. Other values under Tracking Speed allow user selectable movement speeds. Theatrical Mode engages the shutter during movement or effect change. The internal programs can be remotely activated. They can be run in Auto Trigger mode or in Sound Trigger mode using the internal microphone.

<b>CH 12 – Pan / Tilt Speed, Auto, Sound</b>	
<b><i>DMX Value</i></b>	<b><i>Function</i></b>
0-120	Tracking Speed Fast to Slow
121-140	Theatrical Mode (shutter on change)
141-240	Internal Programs – Auto Trigger
241-255	Internal Programs – Sound Trigger

## DMX-512 Background

DMX-512 is a digital data transmission standard developed by the United States Institute for Theater Technology (USITT). It is designed to enable control of lighting equipment, originally dimmers. DMX deals solely with the formatting of data for transmission and does not dictate how the data is created or used.

Under DMX, signals are transmitted in much the same way a computer modem transmits data. The Data, divided in to channels, is "Framed" using a start bit, high (1), eight data bits and finally, two stop bits, both high (1). DMX uses no parity to check the integrity of the signal. Instead, DMX relies on the ultra low probability of an error occurring in the same place when the data is resent. The rate at which data is sent is fixed at 250k bps, almost four and a half times faster than a 56k modem. This speed allows all data on a DMX chain to be updated more than 44 times every second.

The transmitted data follows a specific format. DMX allows for 512 channels each with eight data bits, giving each channel the possibility of 256 values. When a data "Packet" is sent, all channels are transmitted one after another. Even if the data on a specific channel has not been changed, it must be sent. In a packet, a "start code" of all zeros is sent before the data to identify the signal as a Standard DMX transmission. This start code is transparent to the user and is handled by the controller.

The physical signals are transmitted using a twisted pair of wires and a common shield, a configuration called Balanced. The controller and all receiving equipment are connected using a "Daisy Chain" connection. The signal is jumped from the controller to a piece of DMX equipment. From there, the signal is jumped to the next piece of equipment and so on until the last piece of equipment is connected. No branches are allowed and the signal does not come back to the controller. The final piece of equipment will have only one cable connection. As a result, all equipment connected to the chain will see exactly the same signal whether it is first or last. When connecting equipment, no particular attention needs to be paid to the order in which the equipment is connected. Depending on the conditions and equipment, a line terminator may be required. If there is any question, in most circumstances the addition of a terminator will not degrade the signal. To make a terminator, add a 120-ohm resistor between the Signal Data Negative and Signal Data Positive pins of a connector in the last piece of equipment in the chain.

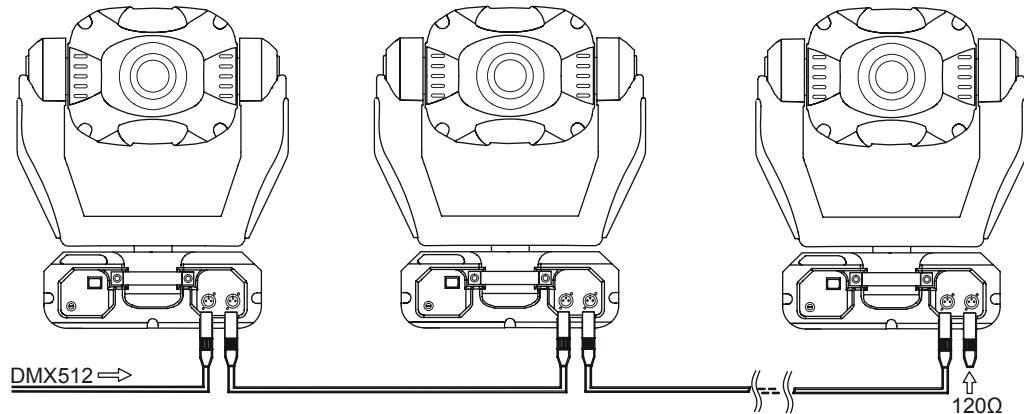
The DMX Standard calls for connections between DMX compatible equipment to be made using 5 pin XLR connectors. However, it is common to see fixtures with 3 pin XLR connectors as these types of balanced or "Lo-Z" cables are common in the audio industry. In either case, pin numbers are the same and carry the same signals.

Pin 1	-	Signal Common (Shield)
Pin 2	-	Signal Data Negative
Pin 3	-	Signal Data Positive
Pin 4	-	<i>(not used)</i>
Pin 5	-	<i>(not used)</i>

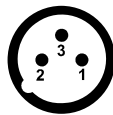


## Data Link DMX-512

For data, this fixture uses XLR (Cannon) type connectors and shielded twisted pair cable approved for EIA-422/EIA485 use. Fixtures are connected in Daisy Chain topography with only one data source and no branching. Systems using 3 or 5 pin DMX interfaces can be accommodated by purchasing 3-to-5 pin adapters or building adapter cables.

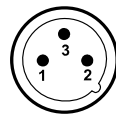


**DMX-OUT**  
XLR Connector - Socket:



- 1 - Ground
- 2 - Signal (-)
- 3 - Signal (+)

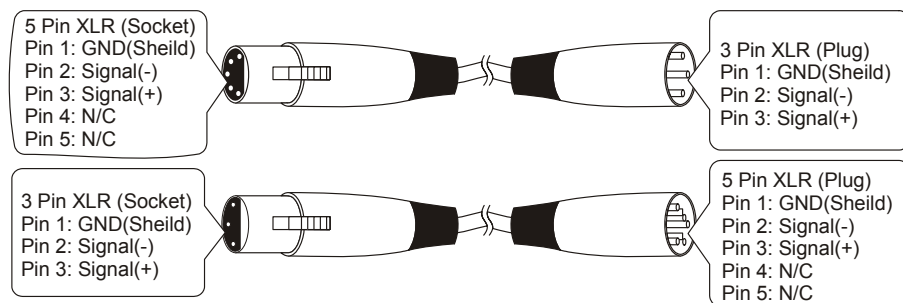
**DMX-IN**  
XLR Connector - Plug:



- 1 - Ground
- 2 - Signal (-)
- 3 - Signal (+)

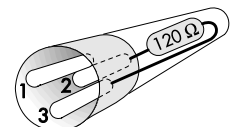
## Adapter 5-to-3 pin

Numbers designating each pin can be found on connectors. Converting between the two XLR types is done in a pin-to-pin fashion. Connect the shields to pin 1, then connect pin 2 to pin 2 and pin 3 to pin 3. This is true for converting either 5 to 3 pin or 3 to 5 pin regardless of either connector's gender. Pins 4 and 5 are not used on the 5 pin XLR connectors.



## Data Terminator

A Data Terminator can be connected to the DATA OUT connection of the last fixture to reduce the effects of noise in the signal; it is not required for all installations. To make a Data Terminator, connect a 120-ohm  $\frac{1}{4}$  watt resistor across pin 2, Data Negative (S-) and pin 3, Data positive (S+). A qualified technician can determine if a Data Terminator is needed.



# Maintenance



Make sure fixture is cool and disconnected from power mains before any service.

Weekly operating hours and environmental conditions will establish how often the fixtures need cleaning. Fixtures should be cleaned and inspected at least once a month to maintain optimum performance. Accumulation of dust and fog residue increases heat build up, can lead to malfunctions, overheating and reduction in maximum light output. This condition may cause undue stress on electronics, mechanical elements, reduce LED Engine life, fixture life and overall performance. Before conducting any maintenance, disconnect fixture from power mains.

- 1) Disconnect fixture from power mains.
- 2) Use a vacuum with a soft brush to remove dust collected on external vents and internal components. If using an air compressor, use low pressures and extreme care to prevent damaging any internal parts or effects.
- 3) Vacuum dust buildup from fan intakes and check that all fans function correctly.
- 4) Clean all optical elements when the fixture is cold. Use a soft lint free cotton cloth or tissue and either Isopropyl or Denatured Alcohol. Any cleaner approved for coated eyeglass lenses will also work.
- 5) Inspect clamps and safety cables to ensure fixture is secure and safe.

# Troubleshooting

Symptom	Possible Cause / Solution
No Power	Check power switch
	Check for power on mains
	Check main fuse and fuse holder
No response to DMX	Check data cables
	Check Start Address
	Check that fixture isn't in the Demo mode
Incorrectly responds to DMX  (Diagnostic technique for DMX issues: Set suspect fixture's Start Address the same as a correctly functioning fixture. If both units then function correctly, issue is programming)	Check Start Address
	Check for overlapping addresses
	Check fixture set up (Pan/Tilt Invert...)
	Check Data cables (faults and proper wiring)
No Light Output / Low Output	Check that both Shutter and Dimmer values are set properly
	Inspect fixture light path and verify no effects are blocking beam
	Remove from DMX, Control Panel to test in demo/manual mode
	Over temperature – Turn fixture off and allow to cool then attempt again. If condition improves, check all fans.
Erratic operation	Check Pan/Tilt are not blocked or coming in contact with anything during movement
	See "Incorrectly responds to DMX"
	Check for properly wired DMX cables
	Check for broken wires inside unit
	Check for damaged Data transceiver IC
	Mains Voltage too low or noisy
An effect wheel doesn't go to correct position	Check sensor and magnet
	Check belts (if applicable)
	Check motor with no power, should be able to move easily.

## Accessory Items

Order Code	Description
CLAMP-MEGA/B	Clamp-Mega Black - Heavy Duty
CLAMP-CBHALF	Coupler Half Cheeseborough
SAFETYCABLE30S	Safety Cable Silver 30"
SAFETYCABLE30B	Safety Cable Black 30"
SAFETYCABLE18B	Safety Cable Black 18"
SAFETYCABLE18S	Safety Cable Silver 18"
CA-XLR3/1	Pre-made 1' 3-pin XLR Cable
CA-XLR3/5	Pre-made 5' 3-pin XLR Cable
CA-XLR3/10	Pre-made 10' 3-pin XLR Cable
CA-XLR3/25	Pre-made 25' 3-pin XLR Cable
CA-XLR3/50	Pre-made 50' 3-pin XLR Cable
CA-XLR3/100	Pre-made 100' 3-pin XLR Cable
CA-XLR5/1	Pre-made 1' 5-pin XLR Cable
CA-XLR5/5	Pre-made 5' 5-pin XLR Cable
CA-XLR5/10	Pre-made 10' 5-pin XLR Cable
CA-XLR5/25	Pre-made 25' 5-pin XLR Cable
CA-XLR5/50	Pre-made 50' 5-pin XLR Cable
CA-XLR5/100	Pre-made 100' 5-pin XLR Cable
CO-XLR3M	XLR Connector 3-pin Male
CO-XLR3F	XLR Connector 3-pin Female
CO-XLR5M	XLR Connector 5-pin Male
CO-XLR5F	XLR Connector 5-pin Female
CO-XLRTERM3	XLR 3 Pin Data Terminator
CO-XLR3MTO5F	XLR 3 Pin Male to 5 Pin Female Adapter
CO-XLR5MTO3F	XLR 5 Pin Male to 3 Pin Female Adapter