

Ultra **LED** *SERIES*



Information specifically for:
DL-FLEXILED1C30/B - Black

V1.1

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



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: DL-FLEXILED1C30/B

Serial Number: _____

Dealer: _____

Date of Purchase: _____

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Specifications

Fixture Overview

- RGBW color mixing with intensity and strobe effects
- 30 x 1 watt LED - 8 Red, 8 Green, 8 Blue and 6 White
- Beam Angle – 15°
- Rugged Aluminum Housing
- Operating modes: DMX, Scene Memory, Chases, Sound Active, Master/Slave
- Precise DMX control using 7 channels (reduced channel modes)
- Filter frame holding slot and frame included
- Quick beam shaping using optional LSD filters in the included frame
- Digital LCD display menu for settings
- Optional beam angle lenses: 25, 30, 45
- ½" Clamp mounting hole

Physical

Color	Black
Size	11" x 12.0" x 10"
Weight	8.8 lbs (4 kgs)
Housing Material	Aluminum

Environmental

Location	Indoor
Max. ambient temperature	105°F (40°C)
Min. distance to flammable surface	3.3ft (1m)
Min. distance to illuminated surface	1ft (0.3m)

Electrical

Voltage	Internally selectable 120 or 230vAC, 50-60Hz
Rated Power	48W
Fuses	2 amp mini size: 5x20mm

Control

Digital Protocol	USITT DMX512 (1990)
Channels	4, 5, 6, or 7 maximum
Data I/O	5 Pin XLR (Cannon)
Modes	DMX512 or Stand-Alone

Optics

Light Source	30 RGBW 1 watt LEDs - 8 Red, 8 Green, 8 Blue and 6 White
Beam Angle	15°

Rigging

Orientation	Any
Mounting Points	Adjustable yoke with 1/2" (13mm) mounting hole and kick stand yoke for floor standing

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, notify the shipper immediately. Retain carton and all packing material for inspection. 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.

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, 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 days of receiving merchandise.

Returns

Returned merchandise must be 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 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



Do not apply power to the fixture until power source is verified.

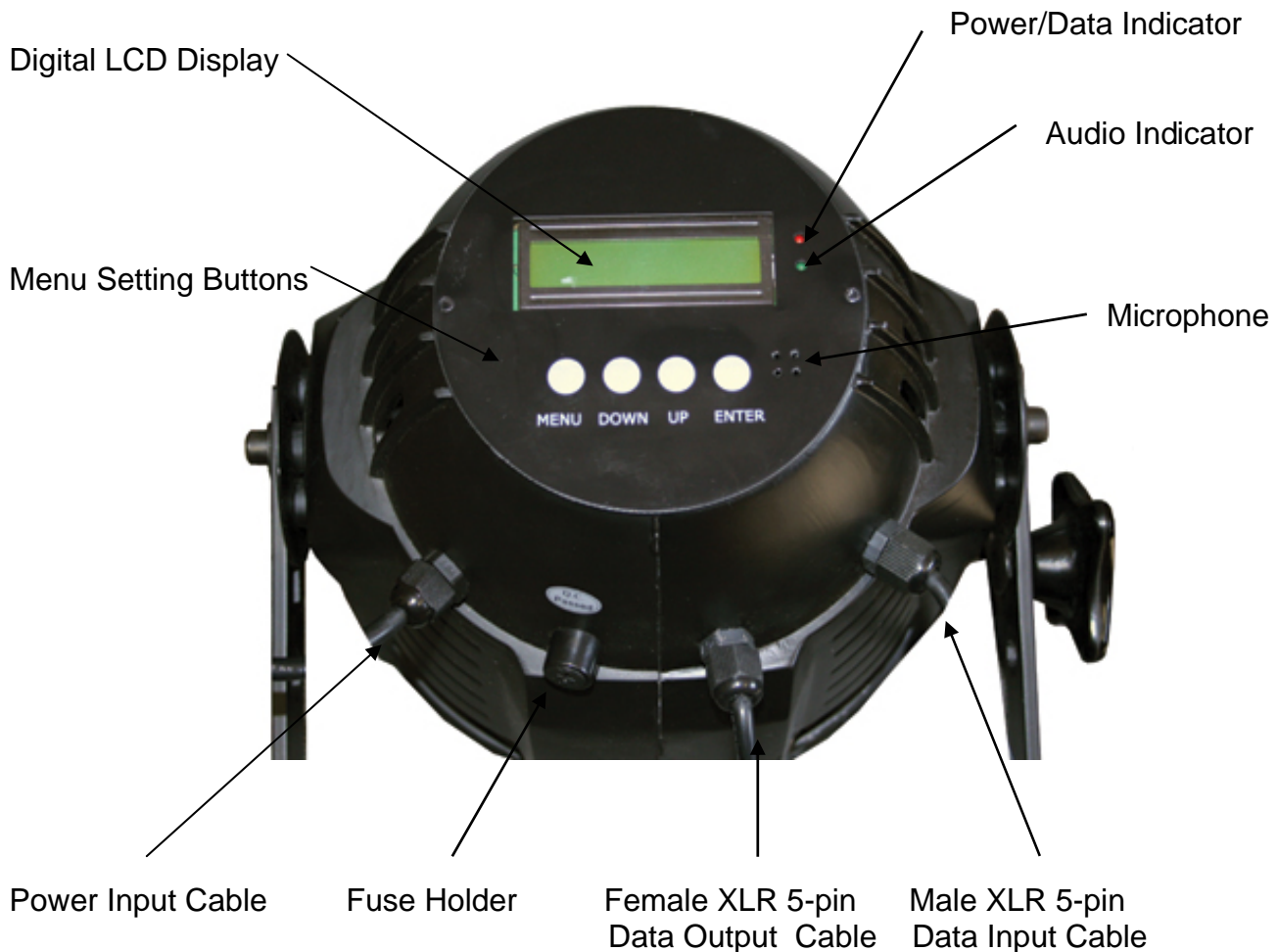
For protection against electric shock, fixture must be connected to suitable earth ground. Make sure fixture is disconnected from power mains before any service.

The mains voltage and frequency of this fixture is internally set. It can either be set to 120v or 230v AC 50/60Hz. The listed power rating is its average wattage under normal conditions. All fixtures must be powered directly from a switched circuit. This fixture cannot be run on a rheostat or dimmer circuit even if used solely for a 0% to 100% switching. Before applying power to a fixture, check that the fixture's input voltage matches the power source voltage. Consult a qualified electrician if there are any concerns about proper connection to power.

Mounting

Always consult a qualified professional when rigging. Consider access for routine maintenance when selecting a mounting position. This fixture may be mounted in any position provided there is adequate room for movement and ventilation. Mount the fixture securely using a mounting clamp and a safety cable. This fixture features dual yokes making it useful for floor standing at different angles. Always keep cords out of the way, thus preventing any trip hazards. Secure all cables properly. Do not mount where the fixture will be exposed to rain, high humidity, extreme temperature changes or restricted ventilation. Do not obstruct any vents.

Basic Reference



This fixture includes a filter frame. This frame can be used to hold a gel or filter to better assist in controlling your light beam. By using certain filters, it is possible to create different desired lighting effects. A desired effect might be a softer or diffused light beam. This can be achieved by using a frosted gel within the provided frame. Many diffraction materials are available to create different beam angles with minimal light output losses.

Setup and Operation Modes (LCD Display)

The following refers to the different modes that are available on this fixture via the LCD Control Panel display. All functions are selectable from the display menu located at the back of the fixture. DMX and Slave modes require data cables to be connected between fixtures. Master Mode can run the fixture independently and only requires data cables when linking to fixtures in Slave Mode. Only one Master can be on a link and no Masters are allowed when using DMX. When this unit powers up, it will display "System On."

Control Panel Menu

The fixture's Control Panel accesses the Control Menu.

- MENU Key: activates the Menu mode, also used as a BACK key between options
- UP/DOWN Keys: move through menu options and change assigned values.
- ENTER Key: select a displayed menu option and store a change.

Press MENU to enter the Control Menu and the UP/DOWN keys to select a menu item. The ENTER Key selects the displayed menu item while the MENU Key moves back to the previous item. To alter the value of a menu option press the ENTER Key, a flashing display indicates the value can be altered. Using the UP/DOWN Keys, select the new value. Press ENTER to store the change.

Control Panel Menu

Address Sets the DMX Start Address	<i>DMX: 0-512</i>	
Color Balance Enables activation and setting of custom color balance settings. For best results set Green=100% then set Red and Blue to achieve the desired white.	<i>Balance</i>	On/Off
	<i>RGBW</i>	Red: 0-255 Green: 0-255 Blue: 0-255 White: 0-255
Display Sets the display to be on only when active	On/Off	
Manual Options to manually test or reset the unit. Also allows setup of custom looks for Scenes and Chases. Individual Scenes and Chases are turned On/Off under the Prog_Play menu option for inclusion or exclusion in the Standalone modes.	<i>Reset</i>	Reset System Sure?
	<i>Test</i>	Red: 0-255 Green: 0-255 Blue: 0-255 White: 0-255
	<i>Prog/Scene</i>	Scene01/.../08 Red: 0-255 Green: 0-255 Blue: 0-255 White: 0-255 Strobe: 0-255
	<i>Prog/Chase</i>	Chase01/.../16 Speed: 0-255
Standalone Master mode is used for standalone operation without data cables or with data cables to synchronize units set to Slave mode. Sound mode advances Scenes and Chases using an internal microphone with user selectable sensitivity level. Prog-Play allows the selection of which Scenes and Chases are active.	<i>Master</i>	On/Off
	<i>Slave</i>	On/Off
	<i>Prog_Play</i>	Scene01/.../08 : On/Off Chase1/.../16 : On/Off
	<i>Sound</i>	Off/1...99
<p>Note: DMX Mode requires Master=OFF, Slave=OFF</p> <p>Note: Master Mode runs Scenes AND Chases enabled under Prog_Play.</p> <p>Note: Sound Mode requires Master=ON, runs Scenes AND Chases enabled under Prog_Play.</p> <p>Note: Reset reloads DMX Address 001 and resets default Scenes AND Chases.</p>		

DMX Channel Assignments

Fixture Mode (DMX512)

Fixture Mode has several channel configuration options DMX512 control. Fixture Mode does not display in the standard Control Menu. To access the Fixture Mode options, before applying power, press and hold the MENU key. Continue holding the MENU key for approximately 6 seconds after applying power to the fixture. The unit will display MODE. The factory default MODE is set to "04", the 7 channel DMX. After selecting the desired mode, press and hold the ENTER key until "Successfully" is displayed. Fixture will resume operation after short delay or power can be cycled..

Mode Function

Display	DMX Mode
01	4 Channel Mode – Standard RGBW
02	5 Channel Mode – Adds Master Dimmer
03	6 Channel Mode – Adds Master Dimmer and Strobe
04	7 Channel Mode – Adds Master Dimmer and Macro

Using the 7 channel mode provides the most features, however it takes up the most channels of DMX. The different channel assignments are shown below. **The factory default is the 7 channel mode.** We will provide a full description of the values and functions of the 7 channel mode only. All other modes of less channels, do the same functions described within the 7 channel mode. *Note that the channel order maybe different for each of the mode.*

4 Channel Mode

Channel	Function
1	Red (0-255)
2	Green (0-255)
3	Blue (0-255)
4	White (0-255)

5 Channel Mode

Channel	Function
1	Red (0-255)
2	Green (0-255)
3	Blue (0-255)
4	White (0-255)
5	Master Dimmer (0-255)

6 Channel Mode

Channel	Function
1	Red (0-255)
2	Green (0-255)
3	Blue (0-255)
4	White (0-255)
5	Master Dimmer (0-255)
6	Strobe (0-255)

7 Channel Mode

Channel	Function
1	Master Dimmer (0-255)
2	Red (0-255)
3	Green (0-255)
4	Blue (0-255)
5	White (0-255)
6	Color Macro/Scroll (0-255)
7	Strobe (0-255)

Channel Values and Functions – 7 Channel Mode

CH 1 : Master Dimmer

The Master Dimmer controls the actual output level while the relative level of each color is set by the R, G or B channels or the Color Macro/Scroll Channel.

CH 1 – Master Dimmer	
DMX Value	Function
0 – 4	Black Out
5-255	Intensity - Dark to Full Brightness

CH 2 : Red

Sets relative intensity of Red. Actual value is subject to Master Dimmer channels. The Color Macro/Scroll Channel will override this channel.

CH 2 – Red	
DMX Value	Function
0-4	No Output
5-255	Intensity - Off to Full On

CH 3 : Green

Sets relative intensity of Green. Actual value is subject to Master Dimmer channels. The Color Macro/Scroll Channel will override this channel.

CH 3 – Green	
DMX Value	Function
0-4	No Output
5-255	Intensity - Off to Full On

CH 4 : Blue

Sets relative intensity of Blue. Actual value is subject to Master Dimmer channels. The Color Macro/Scroll Channel will override this channel.

CH 4 – Blue	
DMX Value	Function
0-4	No Output
5-255	Intensity - Off to Full On

CH 5 : White

Sets relative intensity of White. Actual value is subject to Master Dimmer channels. The Color Macro/Scroll Channel will override this channel.

CH 5 – White	
DMX Value	Function
0-4	No Output
5-255	Intensity - Off to Full On

CH 6 : Color Macro/Scroll

The Color Macro/Scroll selects between 16 colors and two Color Scroll Modes. The first Color Scroll Mode snaps between colors, the second Color Scroll Mode fades between colors. This will override the relative values set by the individual RGBW channels 2, 3, 4 & 5.

CH 6 – Color Macro/Scroll	
DMX Value	Function
0-4	No Macro or Scroll
5-7	Cool White
8-11	Lt. Blue
12-15	Blue
16-19	Purple
20-23	Blue Magenta
24-27	Magenta
28-31	Hot Pink
32-35	Pink
36-39	Red
40-43	Orange
44-47	Yellow
48-51	Lime
52-55	Lt. Green
56-59	Green
60-63	Teal
64-67	Cyan
68-71	Cool White + White
72-75	Lt. Blue + White
76-79	Blue + White
80-83	Purple + White
84-87	Blue Magenta + White
88-91	Magenta + White
92-95	Hot Pink + White
96-99	Pink + White
100-103	Red + White
104-107	Orange + White
108-111	Yellow + White
112-115	Lime + White
116-119	Lt. Green + White
120-123	Green + White
124-127	Teal + White
128-131	Cyan + White
132	Cool White + White
133-195	Color Scroll Snap (Fast to Slow)
196-255	Color Scroll Fade (Fast to Slow)

CH 7 : Strobe

The Strobe functions in all modes. The strobe effect will toggle the Master Level between Off and its present value.

CH 7 – Strobe	
DMX Value	Function
0-4	No Strobe
5-255	Strobe Effect - Slow to Fast

DMX-512 Control

Fixtures require a "Start Address" from 1 to 512, setting the first DMX channel containing data for the fixture (see DMX Background). Before addressing fixtures, consult the manual of the system's DMX controller to select a desirable addressing scheme. 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. Since this fixture requires 7 channels of DMX, if set to a Start Address of 7 it would use data from channels: 7, 8, 9, 10, 11, 12, and 13. 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. Because all fixtures see the same data, fixtures may be set to any address without concern for the order they are connected by the DMX cables.

Note: For DMX to operate on this unit, all STANDALONE options must be set to Off.

DMX Data Connection

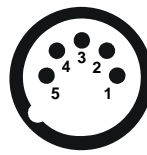
This fixture uses 5 pin XLR type connectors and shielded twisted pair cable approved for EIA-422/EIA485 use. Fixtures are connected in Daisy Chain topography: Connection is made from the controller to the DMX-IN of the first light, then from the DMX-OUT to the DMX-IN of the next light and so on. Only one data source can be on a chain and no branching is allowed. The physical order in which the fixtures are connected is not important, use the most convenient.

DMX-IN
XLR Connector - Plug:



- 1 - Ground
- 2 - Signal (-)
- 3 - Signal (+)
- 4 - (Unused)
- 5 - (Unused)

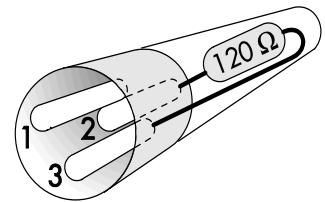
DMX-OUT
XLR Connector - Socket:



- 1 - Ground
- 2 - Signal (-)
- 3 - Signal (+)
- 4 - (Unused)
- 5 - (Unused)

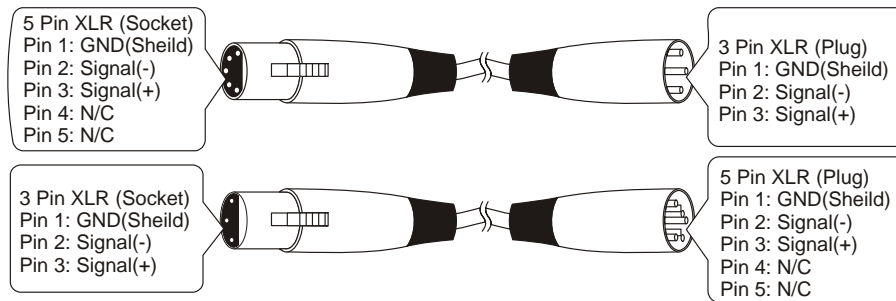
Data Terminator

A Data Terminator can be connected to the DMX-OUT of the last fixture to reduce the effects of signal noise; it is not required for all installations. To make a Terminator, connect a 120-ohm $\frac{1}{4}$ watt resistor across pin 2, Data Negative (S-) and pin 3, Data positive (S+). Whether it is a 5 pin XLR or 3 pin XLR connector (shown on right) does not matter, the pin numbers remain the same. A qualified technician can determine if a Data Terminator is needed.



Adapter 5-to-3 pin

Systems using 5 pin DMX interfaces can be accommodated by purchasing 3-to-5 pin adapters or building adapter cables. 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, regardless of either connector's gender or pin count. No connection is made to Pins 4 & 5.



DMX Start Address

To place the fixture in DMX mode, press the MENU key, then using the UP/DOWN keys get to the Address Menu Option. Press ENTER and using the UP/DOWN buttons, set the start address number for this particular unit in the DMX chain. Once selected, press ENTER again to save your selection. More than one fixture may have the same start address, but they will behave the same. Giving a unique start address that does not overlap with any other units allows you to individually control that fixture's features fully. Never allow channels to overlap. You will need to select the number of channels you wish the fixture to use first. Your choices are 4, 5, 6, or 7 channel modes. This will determine the spacing of channels you will need to avoid overlapping of channels when selecting your start addresses.

Example Select Start Addresses for 4 fixtures each requiring 7 channels of DMX (7 channel mode).

For this example, start with the first unit set to the first possible Start Address = **1**. This fixture occupies DMX channels 1 thru 7. The next DMX channel available for a Start Address is found by adding the previous fixture's Start Address to its channel requirement: $1+7=8$. To maximize channel usage, we will leave no empty channels between fixtures so the second Start Address is set to DMX channel 8 and that fixture occupies channels 8 thru 14. The third fixture will be addressed $8+7=15$ and occupy channels 15 thru 21. The last fixture is addressed $15+7=22$ and will occupy channels 22 thru 28. Thus, 4 fixtures using 7 channels each have Start Addresses of **1, 8, 15** and **22** and the next free channel in the system is $22+7=29$.

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, reduced fixture life and over all 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.
- 4) Clean all optical elements when the fixture is cold. Use a soft lint free cotton cloth or tissue and cleaner safe for plastics.
- 5) Inspect clamps and safety cables to ensure fixture is secure and safe.

Accessory Items (sold separately)

Order Code	Description
CLAMP-MEGA/B	Mega Heavy Duty Aluminum Clamp – Black
CLAMP-CBHALF	Half Cheeseborough Coupler 300kg Max Load
SAFETYCABLE18B	Safety Cable Black 18”
SAFETYCABLE18S	Safety Cable Silver 18”
PA-FLEXIBARN/B	4-Leaf Barndoors
ZOLE1000 - 1004	Optional Lenses 10, 15, 25, 30, 45 degrees
UG-LSD1010 – 6060	Various LSD filter options - 10x10, 10x30, 20x20, 30x30, 40x40, 60x01, 60x60
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-XLR5M	XLR Connector 5-pin Male
CO-XLR5F	XLR Connector 5-pin Female
CO-XLRTERM5	XLR 5 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

Troubleshooting

Symptom	Possible Cause / Solution
No Power	Check for power on mains
	Check main fuse and fuse holder
Erratic / No response to DMX	Check data cables: connection and proper wiring
	Check Display settings
	Check Start Address
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 Menu settings
	Check Data cables (faults and proper wiring)

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. 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 into 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, attach 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 uses 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	Connection
1	Common (Shield)
2	Data Negative (S- or Cold)
3	Data Positive (S+ or Hot)
4	n/c (not used)
5	n/c (not used)



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