LEDifice
series

Information specifically for:

DL-LEDIF98QO

V1.0

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

CE

⚠ 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-LEDIF98QO

Serial Number: _____

Dealer: _____

Date of Purchase: _____

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Table of Contents

Specifications

Fixture Overview

- RGBW color mixing with intensity and strobe effects
- 9 x Quad LEDS (rated 8W max. each) with Red, Green, Blue and White
- Beam Angle – 25°
- Rugged Housing
- Operating modes: DMX, Static scene, Color Scroll, IR remote, Master/Slave
- Precise DMX control using 4, 6, or 7 channels
- 3 Pin DMX connectors
- LCD display menu for settings
- ½" Clamp mounting hole

Physical

Color	Dark Metallic Gray
Size	10.25" x 6.3" x 10.25"
Weight	8.8 lbs (4.0 kgs)
Housing Material	Aluminum casting and Stainless steel hardware

Environmental

Location	Indoor / Outdoor IP65
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	Auto Ranging 100 - 250vAC, 50-60Hz
Rated Power	80W
Fuses	Internal 2 amp mini size: 5x20mm

Control

Digital Protocol	USITT DMX512 (1990)
Channels	4, 6, or 7 maximum
Data I/O	3 Pin XLR (Cannon)
Modes	DMX512 or Stand-Alone

Optics

Light Source	9 x high powered 8 watt 4-in-1 RGBW LEDS Red, Green, Blue and White
Beam Angle	25°

Rigging

Orientation	Any
Mounting Points	Adjustable yokes with 1/2" (13mm) mounting hole

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 automatically set. It may operate on an input AC voltage ranging from 100 to 250volts, 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. 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 extreme temperature changes or restricted ventilation. Do not obstruct any vents.

Basic Reference

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.

Note: The actual fixture may vary from the illustrations shown in this manual.

Control Panel Menu

Use the fixture's Control Panel to access the Control Menu. The MODE Key puts the fixture in the settings menu itself and also acts as a BACK key between options, UP/DOWN moves through the menu options and allows the assignment of a value. The ENTER key is used to enter that option and confirms the selection once the UP/DOWN is used to adjust the value. When in edit, the display will Flash. Settings are stored and recalled on subsequent power cycles. R, G, B, W refers to Red, Green, Blue and White respectively. DMX and master/slave modes require data cables to be connected between fixtures. Manual and some stand-alone modes do not require data cables for independent use of the fixture. The display will shut off after 30 seconds, press any button to relight it.

Menu Options	***Function***	***Options***
DMX MODE		
ADDR	Select DMX Start Address	001-512
CHANNEL	Select Number of DMX Operating Channels	**CH:** 04 = 4 ch, 06 = 6 ch or 07 = 7 channels
STATIC	Allows a static scene to be set	**R00G00B00W00 F00** set R 0-255, G 0-255, B 0-255, W 0-255 F Flash speed from 00 to 99
CHANGE-15	15 Color change scroll	**SP01-99 F00-99** Sets color change speed from 01-99 Set flash speed from 00-99
CHANGE-4	4 Color change scroll	**SP01-99 F00-99** Sets color change speed from 01-99 Set flash speed from 00-99
DREAM	15 Color fading	**SP01-99 F00-99** Sets color change speed from 01-99 Set flash speed from 00-99
MASTER/ SLAVE MODE	Selects master or slave mode	**MASTER**: master fixture **SLAVE**: slave fixture

Note: The factory default CHANNEL MODE is set to "07" the 7 channel DMX mode.

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 a maximum of 7 channels of DMX, if set to a Start Address of 8 it would use data from channels: 8, 9, 10, 11, 12, 13 and 14. 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 must be set to SLAVE mode.

DMX Data Connection

This fixture uses 3 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:

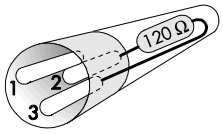
1 - Ground
2 - Signal (-)
3 - Signal (+)

DMX-OUT
XLR Connector - Socket:

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

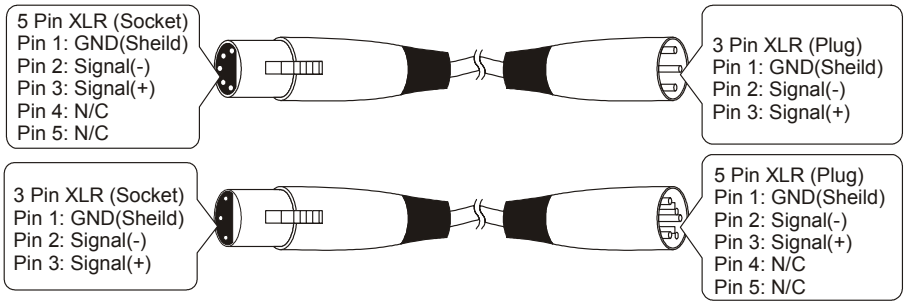
Data Terminator

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 ¼ 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.



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, 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.

DMX Channel Assignments

This fixture features 3 different DMX Channel modes. A 4, 6, and 7 channel mode. 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 "07".** 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 modes.*

4 Channel Mode

Channel	*Function*
1	Red (0-255)
2	Green (0-255)
3	Blue (0-255)
4	White (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	000-000 On – No Function 001-005 Off – No output 006-010 On 011-255 Strobe (slow to fast)

7 Channel Mode

Channel	Function
1	Master Dimmer (0-255)
2	Strobe slow to fast (0-255)
3	Red (0-255)
4	Green (0-255)
5	Blue (0-255)
6	White (0-255)
7	000-004 No Function 005-125 15 Color change 126-255 15 Color Dream Fade

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, B or W channels.

CH 1 – Master Dimmer	
DMX Value	*Function*
0–255	Intensity from off to full brightness

CH 2 : Strobe

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

CH 2 – Strobe	
DMX Value	*Function*
0-255	Strobe Effect - Slow to Fast

CH 3 : Red

Sets relative intensity of Red. Actual value is subject to Master Dimmer channels.

CH 3 – Red	
DMX Value	***Function***
0-255	Intensity - Off to Full On

CH 4 : Green

Sets relative intensity of Green. Actual value is subject to Master Dimmer channels.

CH 4 – Green	
DMX Value	***Function***
0-255	Intensity - Off to Full On

CH 5 : Blue

Sets relative intensity of Blue. Actual value is subject to Master Dimmer channels.

CH 5 – Blue	
DMX Value	***Function***
0-255	Intensity - Off to Full On

CH 6 : White

Sets relative intensity of White. Actual value is subject to Master Dimmer channels.

CH 6 – White	
DMX Value	***Function***
0-255	Intensity - Off to Full On

CH 7 : Color Macro/Scroll

The Color Macro/Scroll scrolls between 15 colors either by snapping from one color to the next or by fading. This will override the relative values set by the individual RGBW channels 3, 4, 5, & 6.

CH 7 – Color Macro/Scroll	
DMX Value	***Function***
0-4	No Macro or Scroll
005-125	15 color change snap
126-255	15 color change fading

Remote Control Functions

This fixture includes an IR remote control that can be used to make settings and operate the unit manually. It can be used without the need for a DMX controller and in standalone applications. The remote uses IR technology to communicate with the fixture, so it is important that the remote be aimed at the light directly. If more than one unit is nearby, it may require you to get closer to the unit when trying to independently set one unit only. Several may respond to the same IR signal.

Function of buttons

Function of buttons	
Button	***Function***
BLACKOUT	LED off
SPR	Built-in programs, adjust via “-/+” to select the 3 scenes.
FL	Flash on/off, adjust speed via “-/+”
SP	Speed control, via “-/+” to adjust the color change speed and dream fade speed
D	DMX mode
SA	Not in use
SL	Master/slave mode
S	Setting DMX address using the numeric 0, 1, 2, 3 ,4 ,5, 6, 7, 8, 9
R(red), G(green) B(blue), AR(white)	Static color, via “-/+” to adjust the brightness of R/G/B/W

Using the remote to set the DMX address

The following are the steps to follow to set the DMX address using the Remote control. In this example, the fixture is set to DMX start address of 246.

Steps for setting DMX with the remote	
Step	***Function***
1	Press S (unit indicates by RED On)
2	Then press 2, (unit indicates by Green On)
3	Then press 4, (unit indicates by Blue On)
4	Then press 6, (unit indicates by White On)

Note: When entering lower DMX addresses, use zeros in the front, ie; 001 or 034.

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/BSS	Mega Heavy Duty Aluminum Clamp w/Stainless – Black
CLAMP-CBHALF	Half Cheeseborough Coupler 300kg Max Load
SAFETYCABLE18B	Safety Cable Black 18”
SAFETYCABLE18S	Safety Cable Silver 18”
ZEPO0005	Extension IP Link Jumper Power Cable - 6' with male to female connectors – Black
ZEPO0006	Extension IP Link Jumper Data Cable - 6' with male to female connectors – Black
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
CO-XLR3M	XLR Connector 3-pin Male
CO-XLR3F	XLR Connector 3-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

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 that 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)