Ultra LED SERIES

Information specifically for:

DL-PANEL1-192U

V1

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 (circle): DL-PANEL1-192U

Serial Number: _____

Dealer: _____

Date of Purchase: _____

www.Techni-Lux.com

Table of Contents

Specifications

Fixture Overview

- Ultraviolet Blacklight output and strobe flash effects
- 192 Ultraviolet 10mm LEDS
- Medium flood UV wash beam angle of 25 degrees
- Operating modes: DMX & Sound Active
- DMX512 using 2 channels
- DMX input/output via 3 pin XLR
- Dip switch for settings
- Rugged steel housing
- Clamp mounting holes: 1/2 inch

Physical

Color	Black
Size	9.85” x 7.7” x 3.62”
Weight	4.5 lbs (2.0 kgs)

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	Auto-Ranging 100v–230vAC @ 50/60Hz
Rated Power	20 watts
Fuses	0.5 amp mini size: 5x20mm

Control

Digital Protocol	USITT DMX512 (1990)
Channels	2
Data I/O	3 Pin XLR (Cannon)
Modes	DMX512 or Stand-Alone

Optics

Light Source	10mm UV Led elements 385-395nm
Lenses / Beam Angle	25°

Rigging

Orientation	Any
Mounting Points	Yoke bracket with three 1/2” (13mm) mounting holes

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.

This fixture automatically adjusts to mains voltage and frequency 100-230vac 50/60Hz. The listed power rating is its average wattage under normal conditions. All fixtures must be powered directly from a switched circuit. <u>This fixture cannot be run on a rheostat or dimmer circuit even if used solely for a 0% to 100% switching</u>. 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

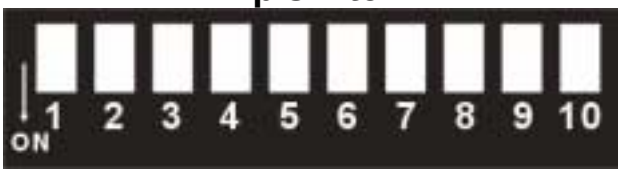
Always consult a qualified professional when rigging. Consider access for routine maintenance when selecting a mounting position. This fixture may be mounted in any position provided there is adequate room for movement and ventilation. Mount the fixture securely using a mounting clamp and a safety cable. 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

Setup and Operation Modes

The following refers to the different modes that are available on this fixture via the Dip Switch Settings. Each mode is selectable by setting the dip switch combination from the information below. The DMX mode requires data interconnect cables and a controller to be used. The stand-alone mode does not require any data cables to be connected.

Dip switch



Stand-Alone Mode

DIP 1, 2, 3, 4: Set intensity levels by combining Dips 1-4 in the On position.

Dip 1 On equals 25% output.
Dips 1 and 2 On equal 50% output.
Dips 1, 2, and 3 On equals 75% output.
Dips 1, 2, 3, and 4 On equals 100% output.

DIP 5, 6, 7, 8: Set strobe flash speed from slow to fast by combining Dips 5-8 in the On position.

Dip 5 On equals slow flash speed.
Dips 5 and 6 On equals fast flash speed.
Dips 5, 6, and 7 On equals faster flash speed.
Dips 5, 6, 7, and 8 On equals fastest flash speed.

DIP 9: **Dip 9** On only sets fixture to sound control. Flashes to music/sound.

DIP 10: **Dip 10** On only sets fixture in blackout.

DMX Controlling Mode

DIP 10 & DIPS 1-9: Turning Dip 10 On and setting a start address using Dips 1-9 puts the fixture in DMX mode. When this unit is set in DMX mode, it uses 2 channels. To set all the dip switches for proper DMX operation, please refer to the DMX Channel Assignment section of this user manual.

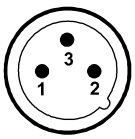
DMX-512 Control

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 2 channels of DMX, if set to a Start Address of 7 it would use data from channels: 7 and 8. 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.

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:



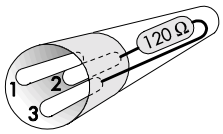
1 - Ground
2 - Signal (-)
3 - Signal (+)

DMX-OUT
XLR Connector - Socket:

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

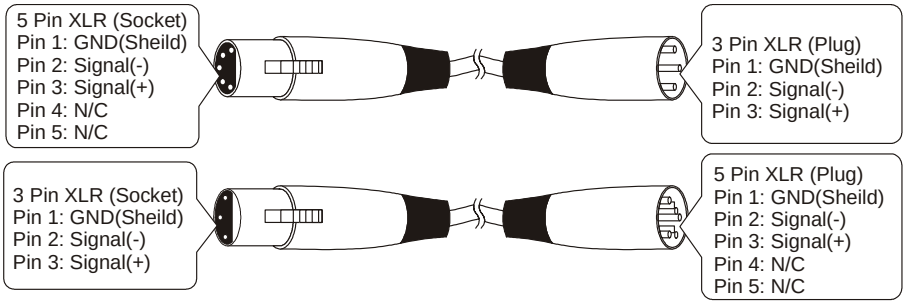
Data Terminator

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.



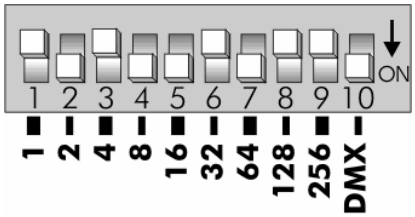
DMX Start Address

To place the fixture in DMX mode, DIP Switch #10 is set ON. Next, set the start address using the other DIP Switches located on the back of the fixture. Each switch has an associated value. Adding the value of each switch in the ON position gives the start address. Determining which switches to toggle ON given a specific start address is accomplished by subtracting the largest switch value possible from the selected start address which does not cause a negative number. Continue this process until zero is reached, always subtracting the largest possible value that does not cause a negative.

DIP Switch Values

Switch	***Value***
1	1
2	2
3	4
4	8
5	16
6	32
7	64
8	128
9	256
10	DMX Function

Example1: DIP Switch settings for the address of 90: *Listed with each switch is its associated binary value. The first switch has a value of 1 and each following switch doubles in value. Do not confuse the switch with its value. Start by subtracting the largest switch value possible that doesn't cause a negative result: 90–**64**=26. Continue by subtracting the next largest switch value possible until zero is reached: 26–**16**=10, 10–**8**=2, 2–**2**=0. Set the switches corresponding to the values 64, 16, 8 and 2 to the ON position: switch # 7, switch # 5, switch # 4 and switch # 2* – plus the DMX switch #10.



Addressing multiple fixtures of the same type is accomplished by simply adding the number of channels required to the start address of the first fixture to yield the start address of the next fixture. This fixture occupies **2** channels.

Example2 *Select Start Addresses for 4 fixtures each requiring 2 channels of DMX.*

For this example, start with the first unit set to the first possible Start Address = **1**. This fixture occupies DMX channels 1 thru 2. The next DMX channel available for a Start Address is found by adding the previous fixture's Start Address to its channel requirement: 1+2=**3**. To maximize channel usage, we will leave no empty channels between fixtures so the second Start Address is set to DMX channel 3 and that fixture occupies channels 3 thru 4. The third fixture will be addressed 3+2=**5** and occupy channels 5 thru 6. The last fixture is addressed 5+2=**7** and will occupy channels 7 thru 8. Thus, 4 fixtures using 2 channels each have Start Addresses of **1, 3, 5** and **7** and the next free channel in the system is 7+2=9.

DMX Channel Assignment

Channel	***Function***
1	Dimmer (0-255)
2	Macro (0-255)

CH 1 : Dimmer

The Dimmer channel controls the actual intensity output level of all LEDS.

CH 1 – Master Dimmer	
DMX Value	***Function***
0 – 255	Intensity - Dark to Full Brightness

CH 2 : Macro

The Macro channel selects between normal dimming operation, sound control, and strobing flash effects from slow to fast speeds.

CH 2 – Macro	
DMX Value	***Function***
000-020	Brightness Adjust from Maximum to Minimum output
021-030	Sound Control
031-255	Strobe Speed adjustment from slow to fastest

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-C	Medium Duty C-Clamp
CLAMP-MINI/P	Mini Clamp Polished for 3/4"-2"
CLAMP-MINI/B	Mini Clamp Black for 3/4"-2"
CLAMP-CBHALF/N	Half Cheeseborough Coupler Narrow 300kg Max Load
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
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

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 DIP Switch settings (#10 set to on)
	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 DIP Switch 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)