mzSCULPT 100 LED Zoom Profile

LED Ellipsoidal

Information specifically for:
TH-SCLPMZ100WW/B
TH-SCLPMZ100QA/B

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

CE   **V1.0**

⚠ **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 two years 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: TH-SCLPMZ100WW/B or TH-SCLPMZ100QA/B

Serial Number: _____

Dealer: _____

Date of Purchase: _____

www.Techni-Lux.com

Table of Contents

Specifications

Fixture Overview

- Warm White or Red/Blue/Green/Amber Source
- High Definition Coated Glass Optics
- Framing Shutters, Gobo Holder, Gel Frame
- Flicker-Free Output for Film/TV/Video
- DMX, Manual Stand-Alone / Audio
- 5 Pin XLR and Standard Edison Plug
- Rugged Cast Aluminum Housing
- Dual Position Mounting Bracket
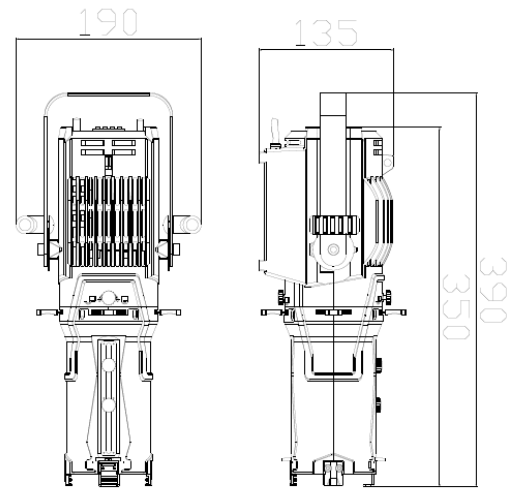
Physical

Color	Black
Size	13.8" x 7.5" x 5.3" (350x190x135mm)
Weight	5.7 lbs. (2.6 kg)
Housing Material	Cast Aluminum

Environmental

Location	IP20 Indoor
Min/Max. Ambient Temperature	-5 to 105°F (-20 to 40°C)
Min. distance to flammable surface	3.3 ft (1.0 m)
Min. distance to illuminated surface	1.0 ft (0.3 m)

Electrical

Voltage	100 - 240VAC, 50/60Hz Auto Ranging
Rated Power	100W
Connection	NEMA 5-15, 3-Pin Edison Plug, Corded 4.5ft (137cm)
Rating Approval	CE

Control

Digital Protocol	USITT DMX512 (1990)
Channel Modes	WW: 1 or 2
	QA: 5 or 9
Data I/O	5 Pin XLR In/Out, Corded: 1.5ft (45cm)
Modes	DMX512 or Manual Stand-Alone

Optics

Light Source	WW: 100W COB LED, 3200K, CRI >90
	QA: 85W COB LED, Red Blue Green Amber
Gobo Size	0.94" ID max (23.9mm), 1.23" OD (31.3mm)
Beam Angle	15° - 30° Adjustable
Gel Frame	3"x3" (76x76mm), center opening 57.4mm diameter

Rigging

Orientation	Any
Mounting Points	Dual Position Yoke, 0.5" (13mm) Clamp 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 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

It is the customer's obligation to notify the Freight Carrier or Shipping Company of any physical damage or signs of mishandling immediately upon receipt. Damage incurred in shipping is the responsibility of the Freight Carrier or Shipping Company. 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 a 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.

Purpose of Manual

The purpose of this manual is to explain the necessary steps for using this fixture properly and to assure peak performance of said product functions. It is intended for use as a reference by a fully qualified electrician, technician and lighting professional. This manual should never be considered a substitute for any provision of a regulation, state, and/or local code. The responsibility of complying with all state and local laws, ordinances, and regulations in regards to installation, maintenance, and operation of this product lies with the buyer and handler of the product. The instructions and precautions set forth in this manual are not necessarily inclusive of or relevant to all applications. Please read the entire manual to fully understand and safely use this product.

Power

⚠ Do not apply power to the fixture without verifying power source. For protection against electric shock, do not attempt to use if fixture appears damaged or is not connected to suitable earth ground. Disconnect from power mains before any service.

This fixture automatically adjusts to mains voltage and frequency within the specified range. Before applying power, check that the power source is within the fixture's specified range. 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>. Consult a qualified electrician if there are any concerns about proper connection to power.

Basic Reference
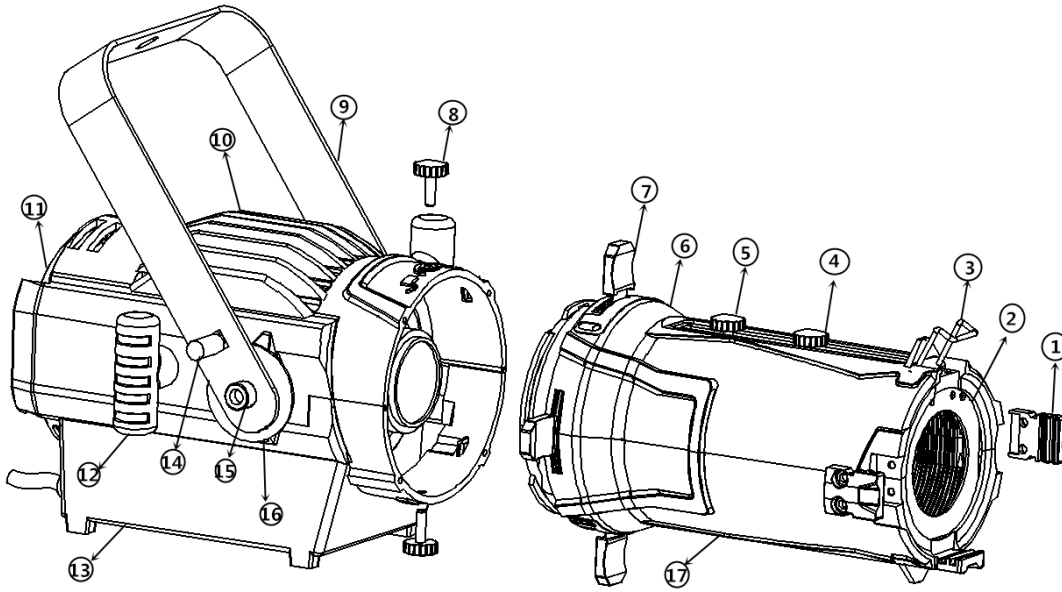
1. Color Frame Guide
2. Aperture
3. Color Frame Spring Clip
4. Focus/Zoom Knob 1
5. Focus/Zoom Knob 2
6. Accessory/Gobo Slot and Cover
7. Framing Shutter
8. Lens Barrel Locking Knob x2
9. Dual Position Yoke
10. LED Heatsink Vents
11. Display and Buttons
12. Yoke Lock Knob x2
13. Floor Base w/Feet
14. Yoke Knob Bolt x2
15. Yoke Pivot Bolt x2
16. Yoke Brake x2
17. Lens Barrel
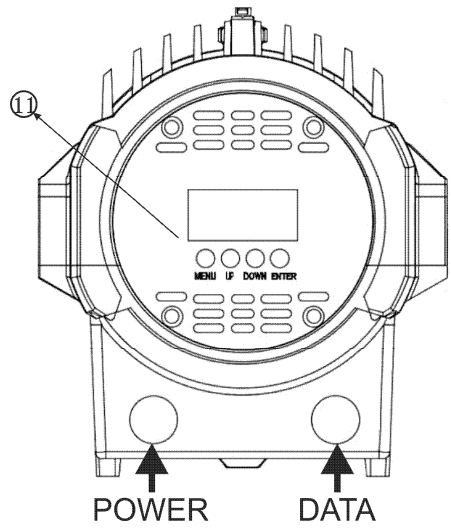
Mounting

Consult a qualified professional before rigging and mounting. Consider access for routine maintenance, adjustments, minimum distances, adequate ventilation, exposure to water, high humidity, and extreme temperature changes. Fixture may be mounted in any orientation provided appropriate clamp is used to mount securely. A secondary mounting positon on the bracket is provided to alter the mounting height. Secure all cables properly and keep away from hot surfaces to prevent heat damage and trip hazards. Do not obstruct any vents.

Rotate or Remove Lens Barrel

The Lens Barrel can be rotated to orient the Framing Shutters by +/-15deg. Select the angle best suited to the application.   The Lens Barrel can also be removed for cleaning.

1. *Only loosen the Lens Barrel Locking Knobs enough to allow Lens Barrel rotation.*
2. *To Rotate:*
    a. *Choose the orientation best suited to the application.*
    b. *Retighten the Lens Barrel Locking Knobs.*
3. *To Remove:*
    a. *Rotate Lens Barrel to hard stop.*
    b. *Further loosen the Lens Barrel Locking Knobs until Barrel can rotate past hard stops.*
    c. *Rotate Lens Barrel and remove.*
    d. *Reinstall in reverse order.*
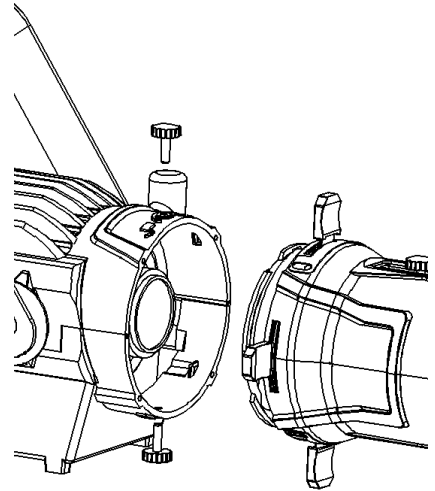
Beam Chart

Approximate Diameter at Distance for given Beam Angle (feet or meters)

	10	20	30	40	50
15°	2.6	5.3	7.9	10.5	13.2
20°	3.5	7.1	10.6	14.1	17.6
25°	4.4	8.9	13.3	17.7	22.2
30°	5.4	10.7	16.1	21.4	26.8
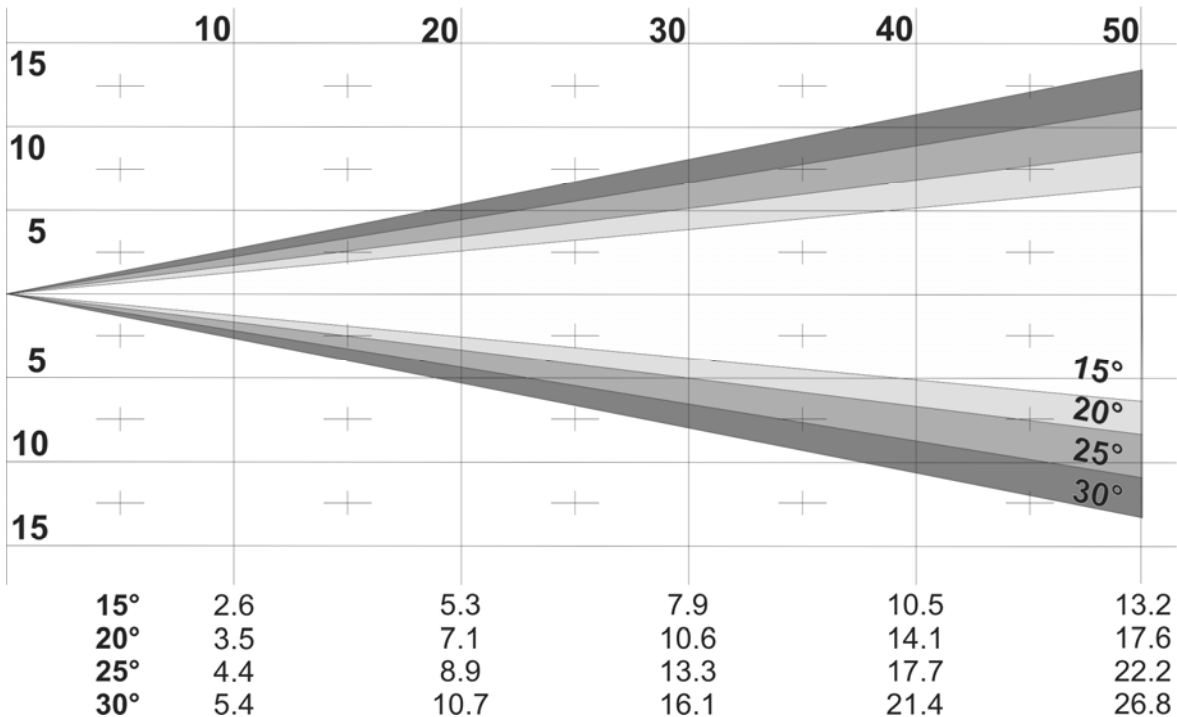
Gobo Accessory Slot

The Gobo Accessory Slot allows for the insertion of a gobo pattern to project. When not used, a cover can be slid and fixed by two screws to prevent light spillage from the fixture. The gobo holder features a hole to attach an optional safety cable to it.

This gobo holder accepts a metal gobo, with an outer diameter of 31.3mm and a maximum image area diameter of 23.9mm.

Basic Setup Wiring Diagrams

There are two basic ways to use the fixture. One is in standalone, which does not require the use of any data lines to be connected nor any controller, each fixture would operate independently based solely on the menu setting. The second method, is to use DMX512 control. This second method requires the fixtures to be wired together via the DMX DATA in and out cables. This allows the units to receive data either from the master unit or the DMX controller. Data wiring is explained in more detail in the DMX Data Connection section of this manual.

Wall Washer

DMX Console
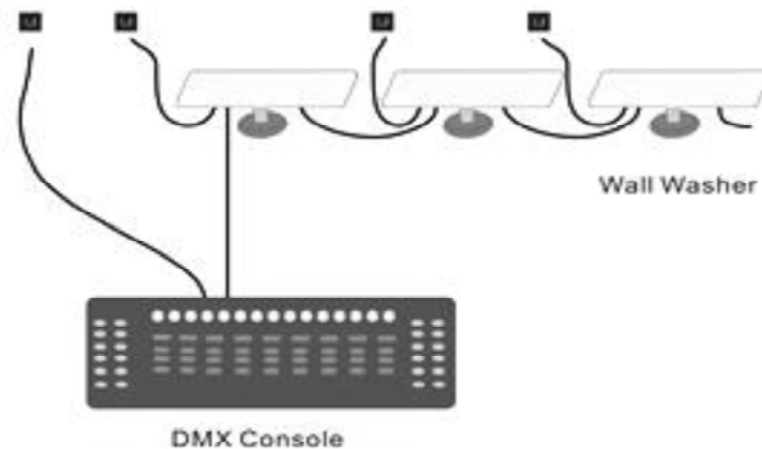
Fixture Menu

Use the 4 buttons and display panel located on the rear of the fixture to access fixture settings.

- **MENU** to step between OPTIONS.
- **UP / DOWN** to change VALUE if present.
- **ENTER** to Confirm and Save.

NOTE: Press ENTER after any change to Confirm and Save.

Failing to Confirm and Save will cause values to revert to previous state after power cycle.

Menu WW – Warm White

OPTION	VALUE	DESCRIPTION
Press ENTER to confirm and save change		
d**xxx**	0 - 512	DMX Start Address "xxx"
1CH	-	1 Channel Mode
2CH	-	2 Channel Mode
AC**xx**	01 - 99	Chase Function, Speed "xx"
AF**xx**	01 - 99	Fade Function, Speed "xx"
AP**xx**	01 - 99	Pulse Function, Speed "xx"
AA	-	Runs AC and AF together
b**xxx**	0 - 255	Manual Dimmer Level
U**xx**	-	Firmware Version "xx"
dl -**x**	0	DMX Lost Signal: Go Dark
	1	DMX Lost Signal: Hold Last Value
dl SP	*toggle*	Display Flip: dl SP **or** dSl P

Menu QA – Red/Blue/Green/Amber

OPTION	VALUE	DESCRIPTION
*d***xxx**	0 - 512	DMX Start Address "xxx"
5CH	-	5 Channel Mode
9CH	-	9 Channel Mode
*AC***xx**	01 - 99	Auto Chase Function, Speed "xx"
*AF***xx**	01 - 99	Auto Fade Function, Speed "xx"
*AP***xx**	01 - 99	Auto Pulse Function, Speed "xx"
AA	-	Auto AC and AF Run Mixed
5.AA	-	Auto AC and AF Run Mixed, Sound Trigger
*r***xxx**	0 - 255	Red Manual Dimmer
*9***xxx**	0 - 255	Green Manual Dimmer
*b***xxx**	0 - 255	Blue Manual Dimmer
*d***xxx**	0 - 255	Amber Manual Dimmer
*U***xx**	-	Firmware Version "xx"
*dl - ***x**	0	DMX Lost Signal: Go Dark
	1	DMX Lost Signal: Hold Last Value
dl 5P	*toggle*	Display Flip: *dl 5P* **or** *d5l P*

Press ENTER to confirm and save change

DMX Channel Assignments and Values

WW: 1-CHANNEL MODE				
Channel	Function	Values		
1	Dimmer	0	-	255	Dimmer 0 - 100%

WW: 2-CHANNEL MODE				
Channel	Function	Values		
1	Dimmer	0	-	255	Dimmer 0 - 100%
2	Strobe	0	-	255	Strobe Slow to Fast

QA: 5-CHANNEL MODE

Channel	Function	Values			
1	Red	0	-	255	Dimmer 0 - 100%
2	Green	0	-	255	Dimmer 0 - 100%
3	Blue	0	-	255	Dimmer 0 - 100%
4	Amber	0	-	255	Dimmer 0 - 100%
5	*Dimmer Curve/Speed	0	-	009	None
		10	-	50	Linear
		51	-	101	Square
		102	-	152	Logarithmic
		153	-	203	Linear Fine
		204	-	255	Logarithmic Fine

* Dimmer Curves alter the actual output level vs dimmer level to match different types of dimmers. Select a curve to produce the desired visual effect or to match other fixtures.

QA: 9-CHANNEL MODE

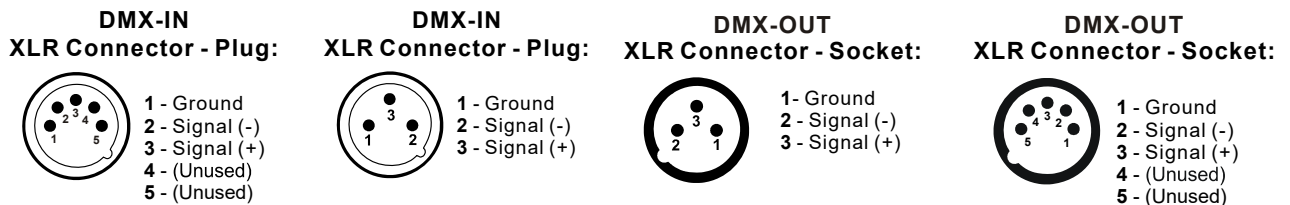| Channel	Function	Values			
1	Red	0	-	255	Dimmer 0 - 100%
2	Green	0	-	255	Dimmer 0 - 100%
3	Blue	0	-	255	Dimmer 0 - 100%
4	Amber	0	-	255	Dimmer 0 - 100%
5	*Dimmer Curve/Speed	0	-	009	None
		10	-	50	Linear
		51	-	101	Square
		102	-	152	Logarithmic
		153	-	203	Linear Fine
		204	-	255	Logarithmic Fine
6	Master Dimmer	0	-	255	Dimmer 0 - 100%
7	Strobe	0	-	9	Off
		10	-	25	Slow to Fast
8	Macro	0	-	9	None
		10	-	50	Chase
		51	-	100	Fade In/Out
		101	-	150	Pulse
		151	-	200	Chase/Fade/Pulse Mixed
		201	-	255	Sound Active Control
9	Macro Speed	0	-	255	Slow to Fast

* Dimmer Curves alter the actual output level vs dimmer level to match different types of dimmers. Select a curve to produce the desired visual effect or to match other fixtures.

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 10 channels of DMX, if set to a Start Address of 11 it would use data from channels: 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20. 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 XLR type connectors. Use 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.

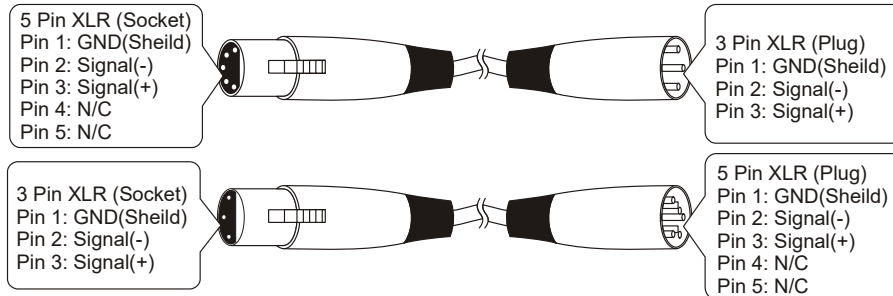| DMX-IN XLR Connector - Plug:	DMX-IN XLR Connector - Plug:	DMX-OUT XLR Connector - Socket:	DMX-OUT XLR Connector - Socket:
1 - Ground 2 - Signal (-) 3 - Signal (+) 4 - (Unused) 5 - (Unused)	1 - Ground 2 - Signal (-) 3 - Signal (+)	1 - Ground 2 - Signal (-) 3 - Signal (+)	1 - Ground 2 - Signal (-) 3 - Signal (+) 4 - (Unused) 5 - (Unused)

Data Terminator

A Data Terminator can be purchased to connect to the DMX-OUT of the last fixture to reduce the effects of signal noise. 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 required.
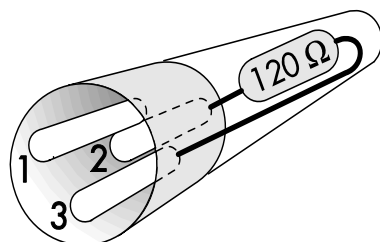
Adapters for 3 or 5 pin XLR

Systems using a mix of 3 and 5 pin XLR DMX interfaces can be accommodated by purchasing adapters or building adapter cables. Numbers designating each pin can be found on connectors. Converting between the two XLR types is done pin-to-pin. Shield wire connects 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.

5 Pin XLR (Socket)
Pin 1: GND(Sheild)
Pin 2: Signal(-)
Pin 3: Signal(+)
Pin 4: N/C
Pin 5: N/C

3 Pin XLR (Plug)
Pin 1: GND(Sheild)
Pin 2: Signal(-)
Pin 3: Signal(+)

3 Pin XLR (Socket)
Pin 1: GND(Sheild)
Pin 2: Signal(-)
Pin 3: Signal(+)

5 Pin XLR (Plug)
Pin 1: GND(Sheild)
Pin 2: Signal(-)
Pin 3: Signal(+)
Pin 4: N/C
Pin 5: N/C

DMX Start Address

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. This fixture features a 3 channel DMX mode. 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 3 channels of DMX.*

For this example, start with the first unit set to the first possible Start Address = **1**.
This fixture occupies 3 DMX channels **1** thru 3.

The next DMX channel available for a Start Address is found by adding the previous fixture's Start Address to its channel requirement: **1**+3=**4**. To maximize channel usage leave no empty channels between fixtures, so the second Start Address is set to DMX channel **4** and that fixture occupies channels **4** thru 6.

The third fixture will be addressed **4**+3=**7** and occupy channels **7** thru 9.

The last fixture is addressed **7**+3=**10** and will occupy channels **10** thru 12.

Thus, 4 fixtures using 3 channels each have Start Addresses of **1, 4, 7** and **10**, leaving the next free channel in the system is 10+3=**13**.

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.

Troubleshooting

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.

Symptom	Possible Cause / Solution
No Power	Check for power on mains
	Check power cord inserted correctly
Erratic / No response to DMX	Check data cables: connection and proper wiring
	Check Display, fixture in DMX512 Mode
	Verify Start Address of Fixture
Incorrectly responds to DMX	Check for overlapping addresses
	Check Fixture Channel Mode
	Check Menu settings
	Cycle Power and Retest
No Output or Image Partially Obstructed	Check Framing Shutter positions and Gobo
Image is Backwards	Check Gobo Orientation in GOBO Holder

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)

Accessory Items (sold separately)

Order Code	Description
CL-CBHALF/NB	Coupler Half Cheeseborough Narrow Black
CL-CBHALF	Half Cheese-borough Coupler 300kg Max Load
CL-MEGA/B	Mega 2" Pipe Heavy Duty Clamp – ½" bolt - Black
CL-MINI/B	MNB Clamp-Mini 3/4"-2"Pipe - Black
SC-30B	Safety Cable 30" black w/lock
SC-A30B	Accessory Thin 1mm Safety Cable 30" black w/spring snap clip
CA-XLR5/5	Pre-made 5' 5-pin XLR Cable
CA-XLR5/10	Pre-made 10' 5-pin XLR Cable
CA-XLR5/15	Pre-made 15' 5-pin XLR Cable
CA-XLR5/25	Pre-made 25' 5-pin XLR Cable
CO-XLRTERM3	XLR 3 Pin Data Terminator
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
GH-MSCLPMZ	Metal Gobo Holder for mzSculpt 100 - Black
TA-FRAMESCLP300	Color Frame 3"x3" Square – Black