# ELATION
## PROFESSIONAL

# Design LED Par Zoom MH

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# CONTENTS

# 1. GENERAL INFORMATION

*INTRODUCTION:* Congratulations, you have just purchased one of the most innovative and reliable lighting fixtures on the market today! The Design LED Par Zoom MH™ has been designed to perform reliably for years when the guidelines in this booklet are followed. Please read and understand the instructions in this manual carefully and thoroughly before attempting to operate this unit. These instructions contain important information regarding safety during use and maintenance.

*UNPACKING:* Thank you for purchasing the Design LED Par Zoom MH™ by Elation Professional®. Every Design LED Par Zoom MH™ has been thoroughly tested and has been shipped in perfect operating condition. Carefully check the shipping carton for damage that may have occurred during shipping. If the carton appears to be damaged, carefully inspect your unit for damage and be sure all accessories necessary to operate the unit have arrived intact. In the event damage has been found or parts are missing, please contact our customer support team for further instructions. Please do not return this unit to your dealer without first contacting customer support at the number listed below.

*CUSTOMER SUPPORT:* Elation Professional® provides a customer support line, to provide set up help and to answer any question should you encounter problems during your set up or initial operation. You may also visit us on the web at www.elationlighting.com for any comments or suggestions. For service related issue please contact Elation Professional®. Service Hours are Monday through Friday 9:00 a.m. to 5:00 p.m. Pacific Standard Time.

    Voice:      (323) 582-3322
    Fax:        (323) 582-3108
    E-mail:         support@elationlighting.com
    Forum:      www.ElationLighting.com/forum

*Warning!* To prevent or reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.

*Caution!* There are no user serviceable parts inside this unit. Do not attempt any repairs

yourself, doing so will void your manufactures warranty.

*Elation Encourages Recycling: Please do not discard the shipping carton in the trash. Please recycle whenever possible.*

*WARRANTY REGISTRATION:* The Design LED Par Zoom MH™ carries a two year (730 days) limited warranty. Please fill out the enclosed warranty card to validate your purchase. All returned service items whether under warranty or not, must be freight pre-paid and accompany a return authorization (R.A.) number. The R.A. number must be clearly written on the outside of the return package. A brief description of the problem as well as the R.A. number must also be written down on a piece of paper and included in the shipping container. If the unit is under warranty, you must provide a copy of your proof of purchase invoice. Items returned without a R.A. number clearly marked on the outside of the package will be refused and returned at customer's expense. You may obtain a R.A. number by contacting customer support at (323) 582-3322.

## Never open this fixture while in use!

This device falls under protection-class 1. Therefore it is essential that the device be grounded properly.

All electrical connections must performed by qualified personal.

Be sure the available voltage matches the voltage requirements of the unit.

Be sure the power cord is never crimped or damaged. If the power cord is damaged, replace it immediately with a new one of similar power rating.

Always disconnect from main power before performing any type of service or any cleaning procedure.

Only handle the power cord by the plug. Never pull out the plug by tugging the wire portion of the cord.

Please be aware that damages caused by manual modifications to the device are not subject to warranty.

## 2. SAFETY INSTRUCTIONS

> ⚠️ The Design LED Par Zoom MH™ is an extremely sophisticated piece of electronic equipment. To guarantee a smooth operation, it is important to follow the guidelines in this manual. The manufacturer of this device will not accept responsibility for damages resulting from the misuse of this fixture due to the disregard of the information printed in this manual.

1.  Always be sure that the fan and the air inlets remain clean and are never blocked. Allow about 6" (15cm) between this fixture and other devices or a wall to allow for proper cooling.

2.  Never touch the fixture during normal operation. This can cause severe personal injuries and/or damage to the fixture.

3.  Be sure to unplug the DESIGN LED PAR ZOOM MH™ from the power outlet before performing any service related issues.

4.  Never look directly into the light beam. You risk injury to your retina, which may induce blindness.

5.  For safe operation, follow the Installation guide described in chapter two of this manual. Operating the DESIGN LED PAR ZOOM MH™ without suited safety aids such as safety cables or clamps can increase the risk of damage and/or personal injury.

6.  Installation should only be performed by qualified and certified personal.

7.  When mounting this fixture, use only the original rigging parts included with this fixture. Any structural modification will void the original manufactures warranty and may increase the risk of damage and/or personal injury.

8.  To reduce the risk of fire or shock, do not expose this fixture to rain or moisture.

9.  Do not attempt to operate this fixture if the power cord has become damaged or frayed.

*Important Notice: Damages resulting from the disregard of safety and general user instructions found in this user manual are not subject to any warranty claims.*

## 3. FEATURES

- Pan 540˚ / Tilt 265°

- Firmware Upgradeable via Elation E-Load Programming Device

- Low power consumption

- Minimal heat emission

- Equipped with 36 Tricolor, 3 watt LEDs: (12 red, 12 blue, 12 green)

- 100,000 hours **RATED** LEDs

- Variable Zoom (10˚ ~ 60˚)

- Step-less, smooth RGB additive color mixing, 16.7 million colors (24bit)

- Preprogrammed colored macros

- Strobe-effect with a maximum flash rate of 18fps (white or color)

- 13 or 11 DMX-channel operation (16 or 8 bit operation)

- Flicker-free operation for television and film

- Brilliant light output

- 3 operation mode: DMX controlled, stand alone or sound activated (via internal microphone)

- Dimmer intensity from 0%~100%

- Control board with 4-digit display and foil-keyboard

- Digital display can be turned 180° to fit different installation position

- RDMX (Remote DMX addressing from any DMX console)

- Auto test for all functions

- Automatic Pan/Tilt Correction

- USITT DMX-512 Complaint

- Value of each DMX-channel can be displayed

- 8 User Assignable Program Presets - Internal Program: Edit and save programs to the incorporated EEPROM through the front control panel or external controller; you can save a maximum of 48 scenes, and run the saved programs by using the "run" menu on the front control panel

## 4.  GENERAL GUIDELINES

This fixture is a professional lighting effect designed for use on stage, in nightclubs, in theatres, etc. Do not attempt operation or installation without a proper knowledge on how to so.

This fixture was designed for indoor use only, use of this product outdoors will void all warranties written or implied.

Although this fixture has not duty cycle, consistent operational breaks will ensure that the fixture will function properly for many years to come.

Do not shake the fixture around. Avoid brute force when installing or operating the device.

When choosing an installation location, please be sure the fixture will not be exposed to extreme heat, moisture, or dust. The minimum distance between the fixture and a wall or flat surface should be at least .5 meter (about 1.5ft).

Always install the fixture with an appropriate safety cable. When installing the fixture in a suspended environment always be to use mounting hardware no less than M10 x 25 mm, also be sure the hardware is insert in the pre-arranged mounting holes in the "Omega" clamp (see page 14).

When using the quick release "Omega" cam-lock system, be sure the four quick lock fasteners are locked in the quick lock mounting points properly.

Do not attempt to operate this fixture until you have familiarized yourself with its functions.

Do not permit operation by persons not qualified for operating this type of theatrical fixture; most damages are the result of operations by persons unfamiliar with this type of product.

## 5. FIXTURE OVERVIEW
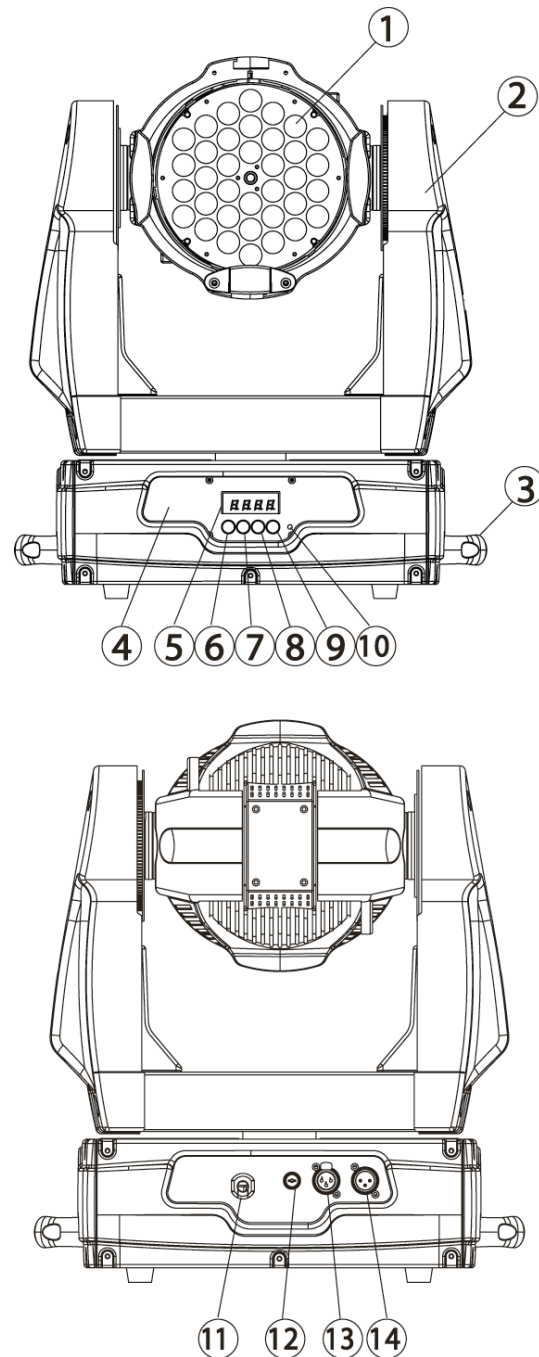


1) **LED LENS ASSEMBLY –** 36 Tricolor, 3 watt LEDs rated at 100,000 hours (12 red, 12 green, 12 blue).

2) **YOKE ASSEMBLY-** Holds all the electronics and motors that generate the tilt

movement.

3) **TRANSPORT HANDLE –** This fixture contains a build-in carrying handle be sure to always transport this fixture by the handle and never by grasping the head or yoke assembly.

4) **BASE ASSEMBLY –** The main base holds the majority of the electronics and logic boards. The base also provides a means to securely mount the fixture to the floor or ceiling.

5) **LED MENU DISPLAY –** Four segment LED menu display, details all menu functions.

6) **MODE/ESC BUTTON –** This button is used to access and exit the fixture's on-board menu system.

7) **UP BUTTON –** This button is used to scroll forward when navigating through the fixture's menu system.

8) **DOWN BUTTON –** This button is used to scroll backwards when navigating through the fixture's menu system.

9) **ENTER BUTTON –** This button is used to select and confirm a menu function.

10) **POWER SWITCH –** This switch controls main power to the unit (if I have to tell you that, you probably should not be using this fixture!).

11) **POWER CONNECTION –** This cable provides main power to your fixture. Always be sure to use a properly grounded power cable. If this cable ever becomes frayed or damaged this cable should be replaced immediately by a qualified technician.

12) **FUSE HOLDER –** This housing holds a 4A/250v GMA fuse and is designed to protect the electronics in the event of severer power fluctuations. Never defeat this

fuse. In the event of fuse failure, always be sure to replace with an exact match fuse unless other wise specified by an authorized Elation Professional technician.

13) **DMX OUTPUT JACK –** This 3-pin XLR jack sends a DMX signal to another DMX fixture. For best results this jack should be terminated if it is the last fixture in a DMX daisy chain (see DMX termination on page 17).

14) **DMX INPUT JACK –** This 3-pin XLR jack is receives an incoming DMX signal from a DMX controller.

# 6. MOUNTING AND INSTALLATION

## Cautions:

For added protection mount the fixtures in areas outside walking paths, seating areas, or in areas were unauthorized personnel might reach the fixture.

Before mounting the fixture to any surface, make sure that the installation area can hold a minimum point load of 10 times the device's weight.

Fixture installation must always be secured with a secondary safety attachment, such as an appropriate safety cable.

Never stand directly below the device when mounting, removing, or servicing the fixture.

| ⚠ | **CAUTION!**<br>Before taking into operation for the first time,<br>the installation has to be approved by an expert. |
|---|---|

| ⚠ | **CAUTION!**<br>When installing the device, make sure there is no highly<br>inflammable material within a distance of min. 0,5m |
|---|---|

### *Mounting*

The DESIGN LED PAR ZOOM MH™ is fully operational in two different mounting positions, hanging upside-down from a ceiling, or set on a flat level surface (see illustration on next page). To avoid internal damage to the unit, ***never mount the unit on its side in a permanent installation*** as illustrated on the next page. This could cause excessive stress on the motors and damage the unit. Be sure this fixture is kept at least 0.5m away from any flammable materials (decoration etc.). Always use and install the supplied safety cable as a safety measure to prevent accidental damage and/or injury in the event the clamp fails.

| ⚠ | **Refer to regulations BGV C1 (formerly VBG 70) and DIN VDE 0711-217 for proper installation in Europe**<br>**To ensure proper installation, only qualified staff should attempt installation.** |
|---|---|

*Be sure to complete all rigging and installation procedures before connecting the main power cord to the appropriate wall outlet.*
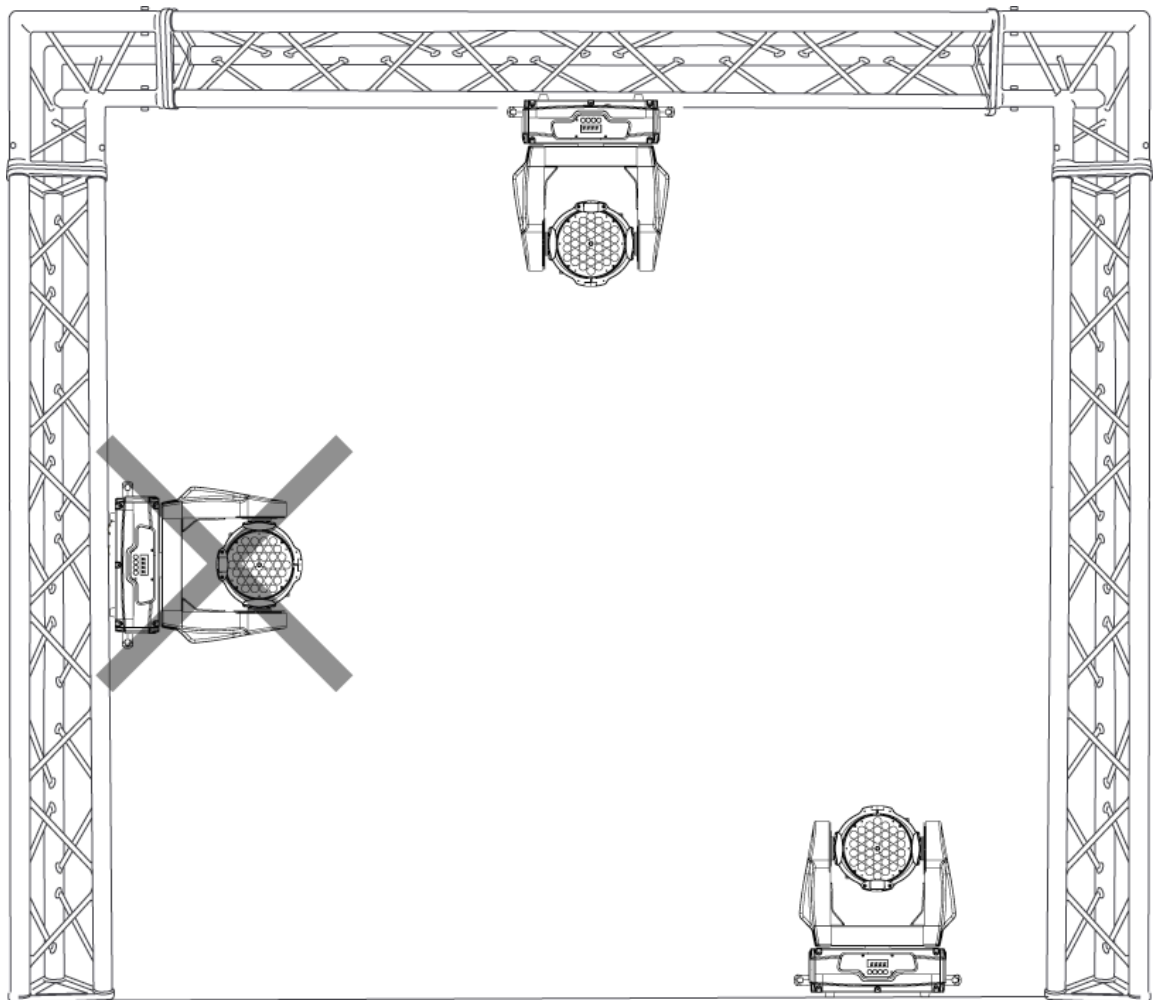


### *Mounting points*

Overhead mounting requires extensive experience, including amongst others calculating working load limits, a fine knowledge of the installation material being used, and periodic safety inspection of all installation material and the fixture. If you lack these qualifications, do not attempt the installation yourself. Improper installation can result in bodily injury.

> **CAUTION!**
> **Be sure a qualified electrician performs all electrical connections.**

**Clamp Mounting**

The Design LED Par Zoom MH™ provides a unique mounting bracket assembly that integrates the hanging yoke as well as the safety cable rigging point in one unit (see the illustration below). When mounting this fixture to truss be sure to secure an appropriately rated clamp to the hanging yoke using a M10 screw fitted through the center hole of the hanging yoke. As an added safety measure be sure to attached at least one properly rated safety cable to the fixture using on of the safety cable rigging point integrated in the bracket assembly



1) Omega Bracket
2) Clamp
3) Safety Cable
4) 1/4 Turn Twist Locks
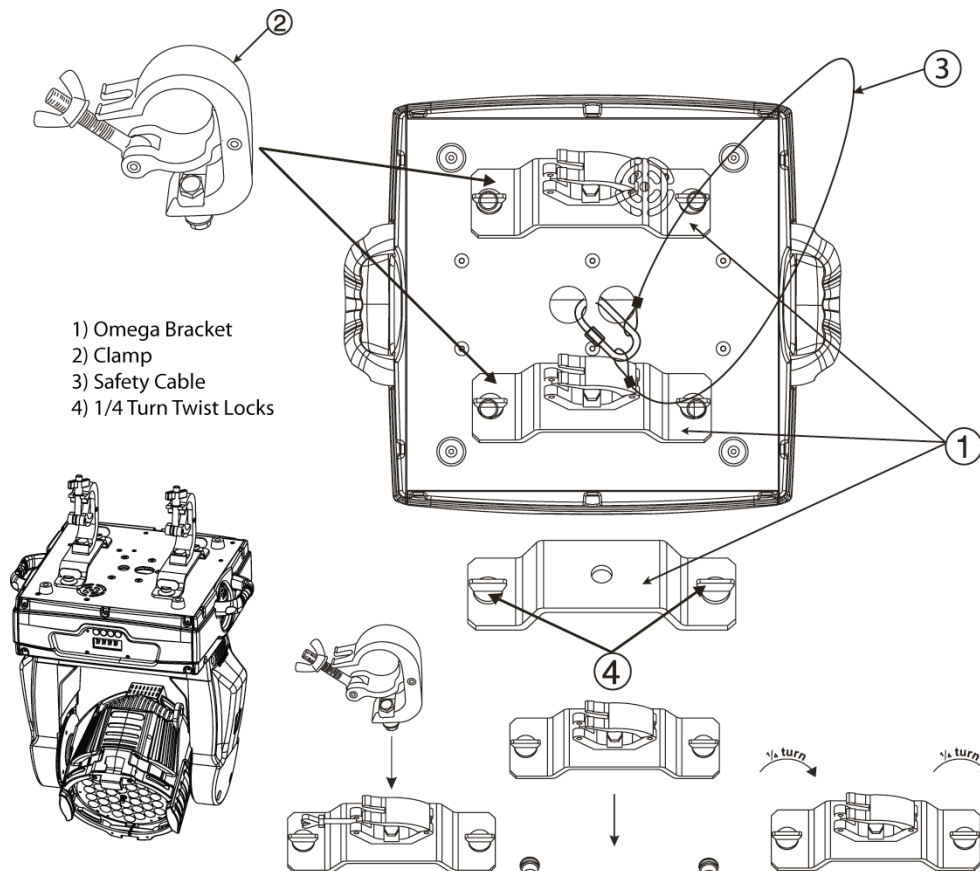
**Securing the DESIGN LED PAR ZOOM MH™**

Regardless of the rigging option you choose for your DESIGN LED PAR ZOOM MH™ always be sure to secure your fixture with a safety cable. The fixture provides a built-in rigging point for a safety cable on the hanging bracket as illustrated above. Be sure to only use the designated rigging point for the safety.
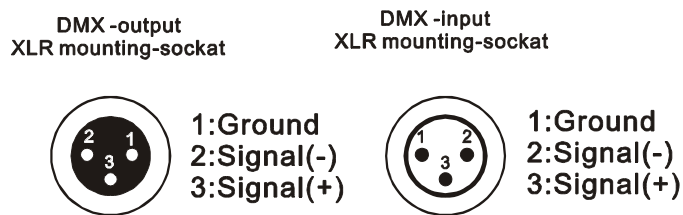
# 7. UNDERSTADING DMX

*DMX-512:* DMX is short for Digital Multiplex. This is a universal protocol used by most lighting and controller manufactures as a form of communication between intelligent fixtures and controllers. DMX allows all makes and models of different manufactures to be linked together and operate from a single controller. This is possible as long as all the fixtures and the controller are DMX compliant. A DMX controller sends the DMX data instructions to the fixture allowing the user to control the different aspects of an intelligent light. DMX data is sent out as serial data that travels from fixture to fixture via data "IN" and data "OUT" XLR terminals located on the fixtures (most controllers will only have output jacks).

*DMX Linking:* To ensure proper DMX data transmission always use proper DMX cables and a terminator. When using several DMX fixtures try to use the shortest cable path possible. Never split a DMX line with a "Y" style connector. The order in which the fixtures are connected in a DMX line does not influence the DMX addressing. For example; a fixture assigned a DMX address of 1 may be placed anywhere in the DMX chain, at the beginning, at the end, or anywhere in the middle. The DMX controller knows to send data assigned to address 1 to that fixture no matter where it is located in the DMX chain. The Design LED Par Zoom MH™ can be controlled via DMX-512 protocol. The Design LED Par Zoom MH™ is a 13-channel DMX fixture. The DMX address is set electronically using the controls on the LCD menu.

*Data Cable (DMX Cable) Requirements (For DMX and Master/Slave Operation):* Your fixture and your DMX controller require a standard 3-pin or 5-pin XLR connector for data input and data output (the figure below is of a 3-Pin XLR connector). If you are making your own cables, be sure to use two conductor shielded digital DMX cable rated at 120 ohms; this cable is designed for DMX transmission and may be purchased from your Elation dealer or at most professional lighting retailers. Your cables should be made with a male and female XLR connector on either end of the cable. A DMX line must be daisy chained and cannot be split, unless using an approved DMX splitter such as the Elation Opto Branch 4™ or DMX Branch/4™.

COMMON

DMX512 OUT
3-PIN XLR

DMX +

DMX -

DMX512 IN
3-PIN XLR
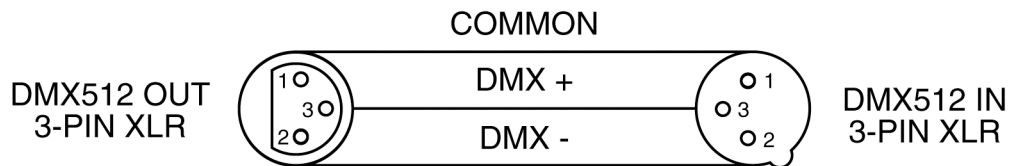
*Be sure to follow the above figure when making your own cables. Do not use the ground lug on the XLR connector. Do not connect the cable's shield conductor to the ground lug or allow the shield conductor to come in contact with the XLR's outer casing. Grounding the shield could cause a short circuit and erratic behavior.*

DMX -output
XLR mounting-sockat

DMX -input
XLR mounting-sockat

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

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

### DMX-512 control connection

Connect the provided XLR cable to the female 3-pin XLR output of your controller and the other side to the male 3-pin XLR input of the moving head (Please refer to the diagram below.). You can chain multiple moving heads together through serial linking. The cable that should be used is two conductor, shielded DMX cable with XLR input and output connectors. Remember to daisy chain your "in" and "out" data connections, never split or "Y" your DMX connections unless you are using an approved DMX splitter such as the Elation Opto Branch 4™ or DMX Branch/4™.

120 Ohms

DMX512

DMX-controller
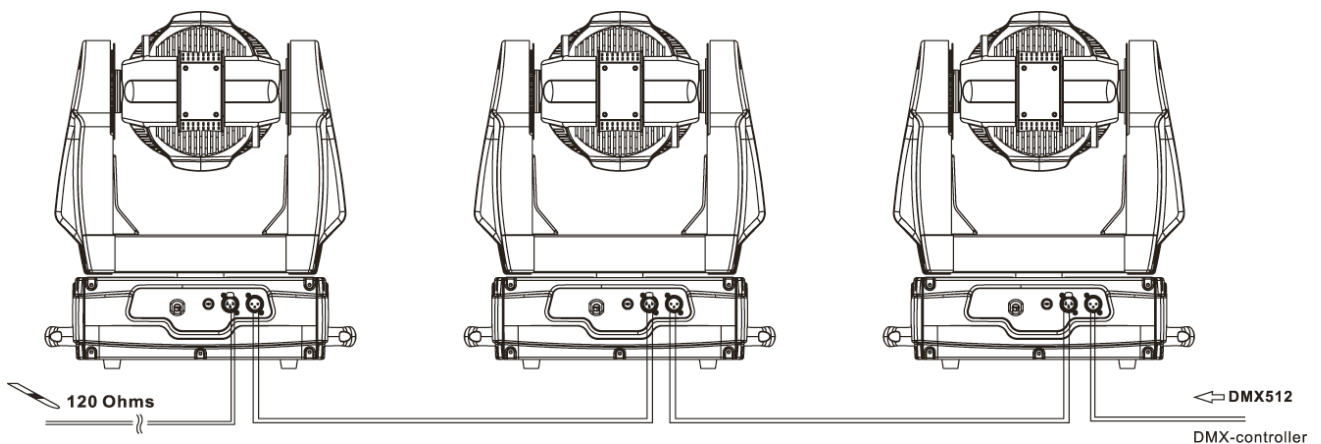
### DMX-512 connection with DMX terminator

A DMX terminator should be used in all DMX lines especially in longer runs. The use of a terminator may avoid erratic behavior in your DMX line. A terminator is a 120 ohm 1/4 watt resistor that is connected between pins 2 and 3 of a male XLR connector (DATA + and DATA -). This fixture is inserted in the female XLR connector of the last fixture in your daisy chain to terminate the line. Using a *line terminator (Elation part: DMX T PACK) will decrease the possibilities of erratic behavior.*
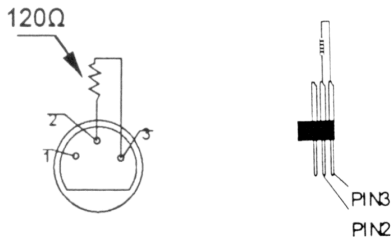


Termination reduces signal errors and avoids signal transmission problems and interference. It is always advisable to connect a DMX terminal, (Resistance 120 Ohm 1/4 W) between PIN 2 (DMX-) and PIN 3 (DMX +) of the last fixture.

**5-Pin XLR DMX Connectors**. Some manufactures use 5-pin XLR connectors for DATA transmission in place of 3-pin. 5-pin XLR fixtures may be implemented in a 3-pin XLR DMX line. When inserting standard 5-pin XLR connectors in to a 3-pin line a cable adaptor must be used, these adaptors are readily available at most electric stores. The following chart details a proper cable conversion.

| 3-Pin XLR to 5-Pin XLR Conversion | | |
|---|---|---|
| Conductor | 3-Pin XLR Female (Out) | 5-Pin XLR Male (In) |
| Ground/Shield | Pin 1 | Pin 1 |
| Data Compliment (- signal) | Pin 2 | Pin 2 |
| Data True (+ signal) | Pin 3 | Pin 3 |
| Not Used | | Pin 4 - Do Not Use |
| Not Used | | Pin 5 - Do Not Use |

### Fixture DMX addressing;

All fixtures should be given a DMX starting address when using a DMX controller, so the correct fixture responds to the correct control signal. This digital starting address is the

channel number from which the fixture starts to "listen" to the digital control information sent out from the DMX controller. The allocation of this starting DMX address is achieved by setting the correct DMX address on the digital display located on the head of the fixture.

You can set the same starting address for all fixtures or a group of fixtures, or set different address for each individual fixture. Be advised that setting all you fixtures to the same DMX address will subsequently control all fixtures in the same fashion, in other words, changing the settings of one channel will affect all the fixtures simultaneously.

If you set each fixture to a different DMX address, each unit will start to "listen" to the channel number you have set, based on the quantity of control channels (DMX channels) of each fixture. That means changing the settings of one channel will only affect the selected fixture.

In the case of the Design LED Par Zoom MH™, which is a 13 channel fixture (default can also be 11), you should set the starting DMX address of the first unit to 1, the second unit to 14 (13 + 1), the third unit to 27 (13 + 14), and so on.

**Note:** During start-up the Design LED Par Zoom MH™ will automatically detect whether a DMX data signal is being received or not. If DMX data signal is being received, the display will show **"Addr=XXX" (XXX** representing the actual DMX address). If the fixture is not receiving a DMX signal the display will flash. If your fixture is connected to a DMX controller and the display is flashing (not receiving a DMX signal), please check the following:
- The 3-PIN DMX input plug (cable with DMX signal from controller) is not connected or is not inserted completely into the DMX input jack of the fixture.
- The DMX controller is switched off or defective.
- The DMX cable or connector is defective.
- A DMX terminator has been inserted into the last fixture in your DMX chain.

# 8.  FIXTURE MENU

**On-Board System Menu:** The DESIGN LED PAR ZOOM MH™ comes with an easy to navigate system menu. This next section will detail the functions of each command in the system menu.

**LED Control Panel:** The control panel located on the top, front of the fixture allows you to access the main menu and make all necessary adjustments to the **Design LED Par Zoom MH™.** During normal operation, tapping the "**MODE/ESC**" key once will access the fixture's main menu. Once in the main menu you can navigate through the different functions and access the sub-menus with the **Up** and **Down** buttons. Once you reach a field that requires adjusting, tap the **ENTER** button to activate that field and use the **UP** and **Down** button to adjust the field. Tapping the **Enter** button once more will confirm your setting. Once a setting is saved the LED will briefly readout **PASS** to confirm a new setting has been made and locked into memory. You may exit the main menu at any time without making any adjustments by tapping the **MODE/ESC** button.

**MODE/ESC Button -** To access the main menu locate the MODE/ESC button on the front of the unit. Press this button to activate the system menu. Tap the UP button until you reach the function you wish to change. When you reach the function you wish to change tap the ENTER button once to select that menu function. When a function is selected the menu will begin to flash, use the UP or DOWN button to change the function. Once your changes are made tap the ENTER button yet again to lock the change in the system menu. To exit without making any changes tap the MODE/ESC button.

*Default settings shaded.*

| 0 | ADDR | AXXX   A001 | | Indicate the staring DMX address<br>A001 also is the setting for slave |
|---|---|---|---|---|
| 1 | TEST | T-01~T-13 | | Automatically test the function |
| 2 | PLAY | RUN | MSTR/ALON | Runs fixture as "master" or "alone" for auto |
| | | AUDI | MSTR/ALON | Runs fixture as "master" or "alone" for audio |
| | | AUTO | Clos/ Hold/Auto/Audi | Runs fixture for no DMX |
| 3 | RESE | ALL | | Reset all motors and returns fixture to home |
| | | SCAN | | Reset only motors for pan/tilt |
| 4 | TIME | LIFE | 0000~9999 | Displays the total fixture running time |

| | | CLMT | | | Clear fixture running time |
|---|---|---|---|---|---|
| 5 | RPAN | ON/OFF | | | Reverses the pan movements |
| 6 | RTLT | ON/OFF | | | Reverses the tilt movements |
| 7 | FINE | ON/OFF | | | Switch between 16 bit/8 bit |
| 8 | DEGR | 540/630 | | | Pan degree select |
| 9 | MIC | M-XX | | | Mic sensitivity |
| 10 | DISP | VALU | D–XX  D-00 (DXXX) | | Display the DMX512 value of each channel |
| | | D ON | ON/OFF | | Display turn off after 2mins |
| | | FLIP | ON/OFF | | This function will reverse the display 180 |
| | | LOCK | ON/OFF | | Key Lock |
| 11 | SPEC | RDMX | ON/OFF | | Change DMX address via external controller |
| | | DFSE | ON/OFF | | Resets all the fixture functions to default |
| | | FEED | ON/OFF | | Pan/tilt feedback (error correction) on/off |
| | | HIBE | OFF/1~99M 15M | | Standby mode |
| | | VER | V1.0~V9.9 | | Software version |
| | | ADJU | CODE | CXXX | Fixture code *code is "C050" |
| | | | CH01~CHXX | XXXX(-128~127) | Motor Calibration |
| 12 | EDIT | STEP | S–01 ~S–48 | | Set the amount of your program |
| | | SCXX | PAN | XXX (000~255) | Edit the channels of each scene |
| | | | PANF | XXX (000~255) | |
| | | | TILT | XXX (000~255) | |
| | | | TILF | XXX (000~255) | |
| | | | RED | XXX (000~255) | |
| | | | GREN | XXX (000~255) | |
| | | | BLUE | XXX (000~255) | |
| | | | MACO | XXX (000~255) | |
| | | | ZOOM | XXX (000~255) | |
| | | | STRB | XXX (000~255) | |
| | | | DIMM | XXX (000~255) | |
| | | | SPED | XXX (000~255) | |
| | | | PROG | XXX (000~255) | |
| | | | TIME | T XXX(001~999) | Time for each scene |
| | | | CEDT | ON/OFF | Edit program via controller |
| | | REC. | RE.XX | | Auto Save |
| | | RUN | ON/OFF | | Program test |

## Main Menu Functions

## 1. ADDRESS MENU

$Addr$ - **AOO1 - A511** (Value) - This is where you set the fixtures DMX address.

### Setting/Changing the DMX Address

This function is used to set or adjust the fixture's starting DMX address. Every device controlled by DMX has to have a unique starting address. The addressing feature is what allows DMX to function properly. The DMX address of a fixture is what allows it to

communicate with a controller properly. The DMX addressing also allows the fixture to ignore any DMX information coming from the controller that is not meant specifically for the fixture. Because each fixture is connected in a daisy-chain fashion it is imperative to assign a proper and unique starting DMX address to each and every fixture. The DMX address is non-destructive and will remain in the fixture's memory even when the power to the unit is switched off. Memory is backed-up and retain by an internal power source that should last about five years. For proper DMX addressing see Section 9/Page 34 of this user manual.
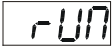
## 2. TEST MENU

$\boxed{\text{EESE}}$ - **T-01 - T-XX** (Test) - Tests the functions of channel. To enter the test menu follow the procedure below:

1. Access the main menu.
2. Tap the UP button until "TEST" is displayed, press ENTER.
3. The display will show T-01. You can now press the up button and test the different channels. For example: If you press the up button until "T-05" is displayed, the unit will test the color channel, changing the color one by one and show the rainbow effect with different speeds.
4. Press MODE/ENTER or EXIT to exit.

## 3. PLAY MENU -

### RUN

$\boxed{\text{rUП}}$ – This feature is used to run the internal preset programs in either a Master/Slave or a stand-alone operating mode. Follow the procedure below to enter the run menu:

1. Access the main menu.
2. Tap the UP or DOWN button until "PLAY" is displayed, press ENTER.
3. Tap the UP or DOWN button until "RUN" is displayed, press ENTER.
4. Tap the UP or DOWN button to select either "Master" or "Alone" and press ENTER.
5. Press MODE/ESC to return to the main menu.

### AUDI

$\boxed{\text{AUdi}}$ - This feature is used to run the internal preset programs in AUDIO mode in either a

Master/Slave or a stand-alone operating mode Follow the procedure below to enter the audio menu:

1. Access the main menu.
2. Tap the UP or DOWN button until "PLAY" is displayed, press ENTER.
3. Tap the UP or DOWN button until "AUDI" is displayed, press ENTER.
4. Tap the UP or DOWN button to select either "Master" or "Alone" and press ENTER.
5. Press MODE/ESC to return to the main menu.

*AUTO*

$\boxed{\text{AUtO}}$ – Runs the unit without any DMX signal in stand-alone mode. Follow the procedure below to enter the auto menu:

1. Access the main menu.
2. Tap the UP or DOWN button until "PLAY" is displayed, press ENTER.
3. Tap the UP or DOWN button until "AUTO" is displayed, press ENTER.
4. Tap the UP or DOWN button to select "CLOS", "HOLD," "AUTO," or "AUDI" and press ENTER to confirm.
5. Press MODE/ESC to return to the main menu.

   This function dictates how the fixture will function if it looses DMX signal during normal operation. The default function is set to hold, in which the fixture will lock into the last DMX signal it received and remain in that position until it is turned off or begins receiving a new DMX signal.   If the fixture is turned on without any DMX signal, the fixture will automatically go in to sound-active mode.   Available settings are: "Close" – Shutter flags will close. "Hold" – Fixture will remain at it's last settings. "Auto" – Fixture will go into stand-alone mode, running the built-in program. "Music" – The fixture will go into sound-active mode.

*4.  RESE (RESET) MENU -*

$\boxed{\text{rESt}}$

**ALL**

$\boxed{\text{ALL}}$ - When you activate this reset function, the fixture will begin to reset all motors.

1. Access the main menu.
2. Tap the UP button until "RESE" is displayed, press ENTER.

3. Tap the UP button until "ALL" is displayed, press ENTER.

4. The display will show "ON/OFF". Press the UP button to select "ON" to reset the color motor.

5. Press ENTER to confirm

6. Press MODE/ESC to return to the main menu.

## SCAN

$\boxed{5CAN}$ - When you activate this reset function, the fixture will only reset the Pan and Tilt mirror motor.

1. Access the main menu.

2. Tap the UP button until "RESE" is displayed, press ENTER.

3. Tap the UP button until "SCAN" is displayed, then press ENTER to confirm.

4. The display will show "ON/OFF". Press the UP button to select "ON" to reset the color motor. Press ENTER to confirm.

5. Press MODE/ESC to return to the main menu.

## 5. TIME MENU -

$\boxed{t\ IME}$

### LIFE

$\boxed{LIFE}$ - With this function you can display the total running time of the fixture.

1. Access the main menu.

2. Tap the UP button until "TIME" is displayed, press ENTER.

3. Tap the UP button until "LIFE" is displayed, press ENTER.

4. Press MODE/ESC to return to the main menu.

### CLMP

$\boxed{CLMP}$ - With this function you can clear the running time of the lamp. Note: ***Please clear the lamp time every time you replace the lamp.***

1. Access the main menu.

2. Tap the UP button until "TIME" is displayed, press ENTER.

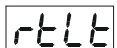3. Tap the UP button until "CLMP" is displayed, press ENTER.

4. Press MODE/ ENTER, the display will show "ON/OFF".

5. Press the UP button to select "ON" to activate this function, or "OFF" to deactivate this function.

6. Press ENTER to confirm.

7. Press MODE/ESC to return to the main menu.

## 6. RPAN MENU

$\boxed{\text{rPAN}}$ - This menu function will reverse the mirror PAN movements.

1. Access the main menu.

2. Tap the UP button until "RPAN" is displayed, press ENTER.

3. The display will show "ON/OFF".

4. Press the UP button to select "ON" to activate this function, or "OFF" to deactivate this function.

5. Press ENTER to confirm.

6. Press MODE/ESC to return to the main menu.

## 7. RTLT MENU

$\boxed{\text{rtLt}}$ - This menu function will reverse the mirror TILT movements.

1. Access the main menu.

2. Tap the UP button until "RTLT" is displayed, press ENTER.

3. The display will show "ON/OFF".

4. Press the UP button to select "ON" to activate this function, or "OFF" to deactivate this function.

5. Press ENTER to confirm.

6. Press MODE/ESC to return to the main menu.

## 8. FINE MENU

$\boxed{\text{FINE}}$ - This menu item switches between 16 bit (fine) and 8 bit (coarse) modes. When this function is turned on the fixture will operate in 16 bit (fine) mode. When functioning in 16 bit mode the fixture will use 13 DMX channels, when the 16bit function is turned off the fixture will use 11 DMX channels. To access the Fine menu follow the procedure below:

1. Access the main menu.

2. Tap the UP button until "FINE" is displayed, press ENTER.

3. The display will show "ON/OFF".

4. Press the UP button to select "ON" to activate this function, or "OFF" to deactivate this function.

5. Press ENTER to confirm.

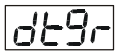6. Press MODE/ESC to return to the main menu.

## 9.  DEGR MENU -

$\boxed{\text{dt9r}}$  - This menu function will toggle between the 630° and 540° for pan movement

When this function is turned on, the fixture will operate with a pan movement of 540°.

1. Access the main menu.

2. Tap the UP button until "DEGR" is displayed, press ENTER.

3. The display will display "630/540".

4. Press the UP or DOWN button to select 630° or 540° for the pan movement angle, the default is 540°

5. Press ENTER to confirm.

6. Press MODE/ESC to return to the main menu.
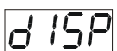
## 10.  MIC MENU

$\boxed{\text{NIC}}$  - This function allows for electronic control of the internal microphone's sound sensitivity.

1. Access the main menu.

2. Tap the UP button until "MIC" is displayed and press ENTER.

3. The display will show "M-XX" (Where XX represents a value between 00 & 99).

4. Use the UP and DOWN button to adjust the mic sensitivity, 99 being the highest.

5. Press ENTER to confirm and lock your new setting in place.

6. Press MODE/ESC to return to the main menu.

## 11.  DISPLAY MENU

$\boxed{\text{dISP}}$  **-** This menu function will control the various on-board display features.

$\boxed{\text{VALU}}$  **VALU** – This function will display the DMX value of each channel as it is

adjusted through the use of a DMX console.

1. Access the main menu.
2. Tap the UP button until "DISP" is displayed.
3. Press ENTER, the display will show "VALU".
4. Press ENTER, once again "d-00" will be displayed.
5. Press ENTER to confirm.
6. Press MODE/ESC to return to the main menu.

`dON` **D ON** – This function will turn the display off after the has gone two seconds without any menu activity.

1. Access the main menu.
2. Tap the UP button until "DISP" is displayed.
3. Press ENTER, the display will show "VALU".
4. Tap the UP button until "D-ON" is displayed and tap the ENTER button.

Press the UP button to select "ON" to activate this function, or "OFF" to deactivate this function. When set "OFF", this function will turn the display off after the display has gone two seconds without any menu activity.

5. Press ENTER to confirm.
6. Press MODE/ESC to return to the main menu.

`FLIP` **FLIP** – This function will reverse the display readout buy 180˚.

1. Access the main menu.
2. Tap the UP button until "DISP" is displayed.
3. Press ENTER, the display will show "VALU".
4. Tap the UP button until "FLIP" is displayed and tap the ENTER button.
5. Press the UP button to select "ON" to activate this function, or "OFF" to deactivate this function.
6. Press ENTER to confirm.
7. Press MODE/ESC to return to the main menu.

`LOCH` **LOCK** –This function allows you to lock the keys.

With this function you can activate the automatic keylock status. If this function is

activated, the keys will be automatically locked in 15 seconds from the last press. In order to deactivate the keylock status, press the Mode/Esc-button for 3 seconds.
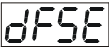
1. Access the main menu.

2. Tap the UP button until "DISP" is displayed.

3. Press ENTER, the display will show "VALU".

4. Tap the UP button until "LOCK" is displayed and tap the ENTER button.

5. Press the UP button to select "ON" to activate this function, or "OFF" to deactivate this function.

6. Press ENTER to confirm.

7. Press MENU to return to the main menu.

**12. SPEC MENU** – *This menu option access all the special functions listed below.*

**RDMX**

$\boxed{rd\Pi ll}$ – This function allows the DMX address to remotely be adjusted from a DMX console. This setting requires special settings for both the controller and the fixture. RDMX is on by default. For proper DMX addressing uing the RDMX function see DMX addressing Section 9/ Page 34.

**DFSE**

$\boxed{dFSE}$ - With this function you can restore the factory default settings of the fixture. All settings will be set back to the default values. Any edited scenes will be lost. When restoring the factory settings the unit must be set to the address that the unit was in when you started editing. ***When you confirm this function, the fixture will begin to reload the original factory settings.***

1. Access the main menu.

2. Tap the UP button until "SPEC" is displayed, press ENTER.

3. Tap the UP button until "DFSE" is displayed, press ENTER.

4. The display will show "ON/OFF."

5. Press the UP button to display "ON" to activate this function, or "OFF" to deactivate this function.

6. Press ENTER to confirm.

7. Press MODE/ESC to return to the main menu.

**FEED**

$\boxed{FEEd}$ - Use this function to activate the pan/tilt error correction.

1. Access the main menu.
2. Tap the UP button until "SPEC" is displayed, press ENTER.
3. Tap the UP button until "FEED" is displayed, press ENTER.
4. The display will show "ON/OFF."
5. Press the UP button to display "ON" to activate this function, or "OFF" to deactivate this function.
6. Press ENTER to confirm.
7. Press MODE/ESC to return to the main menu.

**HIBE**

$\boxed{HIbE}$ - This function is used to change the functionality of the internal cooling fans. Follow the procedure below to access the fan menu:

1. Access the main menu.
2. Tap the UP or DOWN button until "SPEC" is displayed, press ENTER.
3. Tap the UP or DOWN button until "HIBE" is displayed, press ENTER.
4. The display will show "15M", Press <Up/Down>, the display will show "01M", "02M" …. "99M" or "OFF".
5. Press UP or DOWN button to select "01M", "02M" …. "99M" or "OFF".
6. Press ENTER to confirm.
7. Press MODE/ESC to return to the main menu.

**VER**

$\boxed{UEr}$ - Use this function to display the Software version of the unit.

1. Access the main menu.
2. Tap the UP button until "SPEC" is displayed, press ENTER.
3. Tap the UP button until "VER" is displayed, press ENTER.
4. The display will show "V-1.0," the display may also show, "V-2.0," "V-9.9" etc.
5. Press ENTER or MODE/ESC to exit.

**ADJU**

$\boxed{AdJU}$ - This function is used to calibrate the various internal motors in the event the internal homing mechanism become slightly out of adjustment. This function is protected with a password to prevent unauthorized personal from tampering with the fixture. To enter the calibration menu follow the steps below:

1. Access the main menu.
2. Tap the UP or DOWN buttons until "ADJU" is displayed, then press ENTER.
3. Tap the UP or DOWN buttons until "CODE" is displayed, then press ENTER.
4. The display will show "CXXX", were as XXX represents the calibration password. The calibration password is "C050." Use the UP or DOWN buttons to enter the proper password.
5. Once the proper password is entered the display will read "CHXX", were as "XX" represents the fixture channel number, in the case of the DLED PAR ZOOM MH™ 1 ~ 16.
6. Select the desired channel to be calibrated by pressing the UP or DOWN buttons and then ENTER to confirm.
7. The display will then read "xxxx", were "xxxx" stands for the calibrate values.
8. Adjust the desired calibration value between –128 and 127 by pressing the UP and DOWN. As you scroll up and down through the calibration values you will notice slight changes in the wheel or motor you are attempting to calibrate.
9. Once you reach your desired calibration press ENTER to confirm and lock in your calibration.

## *14. EDIT MENU*

$\boxed{Ed\ It}$ - This menu item allows you to write a program into the fixture's internal memory (EEPROM) via the control panel or via an external DMX controller.

**STEP** (S-01 - S-48) - These are the steps slots that you write your programs into. There are at total of 48 steps.

**STXX** (SC01 – SC48) - These are the scenes that are stored in your program. There are a total of 48 scenes. C-01 - C-11 (Channel 1 - Channel 11) – Represents the total fixture channels for each scene that can be edited.

**TIME** (Time) - Running time of the entire program.

**CEDT** - Edit program using a external controller.

**REC** – Auto save function.

**RUN** – Program test mode.

REC - Records scenes automatically from any external DMX controller and stores them inside the fixtures built-in memory. These scenes can then be recalled without the use of an external controller.

1. Access the main menu.
2. Tap the UP or DOWN buttons until "EDIT" is displayed, then press ENTER.
3. Tap the UP or DOWN buttons until "REC" is displayed, then press ENTER.
4. After entering the REC function the display will read "RE.XX," where as "XX" represents the scene number in the internal memory to which the scene will be stored.
5. Press the UP or DOWN buttons to select the desired scene number.
6. When you reach the scene number you wish to store the scene to, press ENTER to confirm and lock the scene into the fixture's memory.
7. Press MODE/ESC to return to the main menu.

**STEP**

$\boxed{StEP}$ - With this function you can program the number of steps in your individual Program.

1. Access the main menu.
2. Tap the UP button until "EDIT" is displayed, press ENTER.
3. Tap the UP button until "STEP" is displayed, press ENTER.
4. The display shows "S-01," this indicates the first step of your program. You can call up to 48 scenes in "Run." For example; if "S-05" is displayed, it means that the scene will "RUN" the first 5 scenes you saved in "Edit."
5. Press ENTER to save and MODE/ESC to exit.

**SC01**

`SC01`- This function allows you to choose the total number of scenes in your internal program.

1. Access the main menu.
2. Tap the UP button until "EDIT" is displayed, press ENTER.
3. Tap the UP button until "SC01" is displayed.
4. The display indicates "SC01," this stands for the first scene of your program. You may recall up to 48 scenes. For example, if you choose "SC05," and then select the "Run" function, the first 5 scenes you saved in "Edit" mode will run.
1. Press ENTER to save and MODE/ESC to exit.

**Editing procedure 1**: Using the control board only.

1. Access the main menu.
2. Tap the UP button until "EDIT" is displayed and press ENTER.
3. The display will show "SC-01", this stands for the scene number. For example, "SC-01" is displayed, it means you will be editing scene 1, press ENTER. You can change the scene number by tapping the UP button.
4. Press ENTER, the display will show "C-01," this represents the channel number. If "C-01" is displayed, you will be editing the fixture's channel 1 value of the selected scene, press ENTER. You can change the channel number by tapping the UP button.
5. The display will show the DMX value for the channel that is being edited. It will be displayed as "11XX," it stands for Channel 11 of the editing scene, the DMX value is "XX."
6. Adjust the DMX value by tapping the UP button, until you get the expected effect for this channel.
7. Press ENTER to enter the editing of the other channels of the scene.
8. Repeat steps 5-8, until you finish setting all the DMX values for all the channels of this scene, each scene can have 16 channels maximum.
9. Once all the channels are completed, the display will begin to flash "TIME," this indicates the time needed to run this scene.
10. Press ENTER to edit the time needed, the display shows "TXXX", "XXX"

represents the time needed to run this scene. For example, "T002" means scene 1 needs 0.4 seconds to run, "T-15" means this scene needs 3.0 seconds to run. Note: "XX" is always 0.2 seconds not one second.

11. Adjust the time needed by tapping the UP button.

12. Press ENTER to save the settings for the scene you are editing, the display will change to the next scene automatically.

13. Repeat steps 3-12 to edit other scenes, you can edit and save 48 scenes maximum.

14. Press MODE/ESC to exit and save your edited scene into the fixtures internal memory. The number of steps can be defined under "EDIT" and the scenes can be called up under "Run." To run the scenes see page 30.

**Editing procedure 2:** Using an external controller.

1. Call up the first scene in your controller now.

2. Select "SC01" by pressing the UP or DOWN buttons.

3. Press MODE/ESC, the display shows "SC01".

4. Press MODE/ESC, the display shows "C-01".

5. Select "**CEDT**" by pressing the UP or DOWN buttons.

6. Press MODE/ESC, the display shows "OFF".

7. Press UP, the display will read "ON".

8. Press MODE/ESC, the display shows "SC02". You successfully downloaded the first scene.

9. Adjust the Step-time as described above.

10. Call up the second scene in your controller now.

11. Repeat steps 5-11 until all desired scenes are downloaded.

**12.** Press MODE/ESC to exit. The number of steps can be defined under "STEP" and the scenes can be called up under "RUN."

## RUN
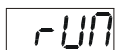
| r U N | - This function allows you to "RUN" the user-installed program. You can set the number of steps under Step (S-01- S-48). You can edit the individual scenes under Edit.

1. Access the main menu.

2. Tap the UP button until "EDIT" is displayed, press ENTER.

3. Tap the UP button until "RUN" is displayed, press ENTER.

4. The display will show "ON/OFF".

5. Press the UP button to display "ON" to activate this function, or "OFF" to deactivate this function.

6. Press MODE/ESC to return to the main menu.

# 9. DMX ADDRESSING

***Setting the DMX address -*** After the fixture is turned "ON" it will immediately complete a reset process that test all the fixture's functions. When the reset process concludes the LCD will display the fixture's current DMX address. If the fixture is not receiving a DMX signal, the display will flash continuously. To set or adjust a DMX address, please follow the procedure below:

1. Toggle through the menu by pressing the Up and Down buttons until the display reads "Set DMX Address." Tap the enter button to make changes to the address.

2. While the current three-digit address is flashing use the "UP" and "DOWN" buttons to select a new address. Once the new address has been selected, lock the new address into the fixture's memory by pressing the "ENTER" button.

The DMX address is non-volatile and will remain in the fixture's memory even when the power to the unit is switched off. Memory is backed-up and retain by an internal power source that should last about five years

***Remote DMX addressing (RDMX) / Address Via DMX***- This function allows the DMX address to be changed remotely from a DMX console. This setting requires special settings for both the controller and the fixture. RDMX is on by default. Follow the procedure listed below to access the RDMX functions:

### *Fixture Settings:*

1. Access the main menu and use the UP or DOWN to get to the "Personality" menu, then press ENTER.

2. Once in the "Personalities" menu, tap the UP or Down to get to the "Status Settings " menu, press ENTER.

3. Once in the "Status Settings" tap the UP or Down to get to the "Address via DMX" function and press ENTER.

4. "Address via DMX" is the function that turn the RDMX function on and off.

5. Press the UP button to display "ON" to activate this function, or "OFF" to deactivate this function.

6. Press ENTER to confirm.

7. Press MODE/ESC to return to the main menu.

**Controller Settings**:

1. Set the DMX value of channel 1 to a value of 7.

2. Set the DMX value of channel 2 to a value of 7 or 8. When channel 2 is set to "7" you can adjust the starting address between 1 and 255. When set to "8" you can adjust the starting address between 256 and 511.

3. Use channel 3 to set your desired DMX starting address. **For example:** If you want to set the starting address to 57, set channel 1 to a value of "7," set channel 2 to a value of "7" and use channel 3 to set your address to 57 by selecting a channel value of 57. Example 2: If you want to set the starting address to 420, set channel 1 to a value of "7," channel 2 to "8" and channel 3 to "164" (256+164=420).

4. **Wait for approximately 20 seconds for the unit to complete the address reset function.**

# 10. OPERATION

*Operating Modes: The Design LED Par Zoom MH™ can operate in several different modes. This next section will detail the differences in the operating modes.*

• *Auto Program Mode (Master) -* The fixture will chase through the built-in programs, sending a DMX control signal to all other fixtures connect via DMX cables instruction for a synchronized light show.

• *Auto Program Mode (Stand-alone) -* The fixture will chase through the built-in program. This feature is great for store front with custom logos, where as the logos need to be displayed but the use of a controller is unwanted.

• *Music Control Mode (Stand-alone) -* The fixture will react to sound, chasing through the built-in programs. Great for small clubs or DJs that do not want to bother with programming.

• *Music Control Mode (Master/Slave) -* You can daisy chain up to 16 fixtures together to get a synchronized light show without the need of an external controller. The fixtures will react to sound, chasing to a synchronized light show.

• *Set To Slave –* This function will set the fixture to slave mode for use in either the auto program or music control program modes.

• *DMX control mode -* This function will allow you to control each individual fixtures traits with a standard DMX-512 controller such as the Elation® Show Designer 2 or Show Designer 3.

**10.1   Stand-Alone Operation (Auto Program or Music Control):** This mode allows a single fixture to run to the built-in programs with or without sound. Only use this mode when running a single fixture, or when running several fixtures as individuals.

- Mount your fixture in a secure and stable manner.
- For functionality without sound control: Access the "Function" menu and select the "Auto Program" function, this will give you access to the "Auto Program" submenu. See page 20 for the menu breakdown. Once in the "Auto Program" submenu select "Alone"
- For functionality that chases to sound: Access the "Function" menu and

select the "Music Control" function, this will give you access to the "Music Control" submenu. See page 20 for the menu breakdown. Once in the "Music Control" submenu select "Alone"

**10.2** **Master-Slave Operation (Auto Program or Music Control):** This function allows up to 16 fixtures to be linked together to provide a synchronized light show without the use of a controller. Only use this when linking several Design LED Par Zoom MH together for use without a controller. Any fixture can act as a "Master or a "Slave."

- Using XLR DMX cables, daisy chain your fixtures together via the XLR connectors. Remember the Male XLR connector is the input and the Female XLR connector is the output. The first fixture in the chain (master) will use the female XLR connector only - The last fixture in the chain will use the male XLR connector only. For longer cable runs we suggest a terminator at the last fixture.
- For the unit functioning as the "Master" unit follow the same procedures listed in the previous Stand-Alone section.
- For the "Slave" units, access the "Set To Slave" settings in the "Function Mode" menu and assign each slave fixture a designation (Slave 1, Slave 2, Slave 3…etc).

**10.3 Universal DMX Control:** This function allows you to use a universal DMX-512 controller such as the Elation® Show Designer 2™ or Elation® Show Designer 3™ to control head movement, the color wheel, the shutter (strobe), and all other DMX traits. A DMX controller allows you to create unique programs tailored to your individual needs. The Design LED Par Zoom MH™ uses 13 DMX channels. See page 38 for detailed description of the DMX traits. To control your fixture in DMX mode, follow the set-up procedures on pages 15-18 as well as the set-up specifications that are included with your DMX controller. Use the controller's faders to control the various DMX fixture traits. This will allow you to create your own programs.

- Follow the instruction on page 34 to set the DMX address.
- Be sure to use a terminator on the last fixture, especially for longer cable runs (more than a 100 feet).
- For help operating in DMX mode consult the controller's user manual.

# 11. DMX CHANNEL TRAITS

The chart below details the channel layout for 13 DMX channels (default).

*In 8bit mode the "Pan Fine" and "Tilt Fine" channels are not used, thus converting the fixture into an 11-channel DMX fixture.*

| % | 1 Pan | 2 Pan High Resolution | 3 Tilt | 4 Tilt High Resolution | 5 Red | 6 Green | 7 Blue | 8 Rainbow | 9 Zoom | 10 Strobe | 11 Dimmer | 12 Scan speed | 13 Auto program |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100% | | 16 bit pan move | | 16 bit tilt move | | | | ⚡⚡ | ◯ | RANDOM STROBE | ◯ | No function | Gradient effect |
| 75% | | | | | | | | Crossfading Colours | ● ● ● | Pulse-effect in sequences | | Blackout by movement | Program 7 ┆ Program 1 |
| 50% | | | | | | | | Rainbow Colours | ● ● ● | | | Min / Moving speed / Max | No function / Scan motor reset / All motor reset |
| 25% | | | | | | | | | | | | | No function |
| 0% | | | | | | | | No Function | ◯ | ● | ● | | Normal control |

CHANNEL 1: Pan Movement (max. 540˚)

CHANNEL 2: 16bit Pan Movement (pan fine)

CHANNEL 3: Tilt Movement (max. 265°)

CHANNEL 4: 16bit Tilt Movement (tilt fine)

CHANNEL 5: Red LEDs

CHANNEL 6: Green LEDs

CHANNEL 7: Blue LEDs

CHANNEL 8: Rainbow Control (Built-in color macros)

CHANNEL 9: Zoom (Variable 15˚~60˚)

CHANNEL 10: Strobe Control (0~13Hz, Variable, Random, Pulse)

CHANNEL 11: Dimmer Control

CHANNEL 12: Speed Control (Pan/Tilt movement, blackout selection)

CHANNEL 13: Special (Auto program control and motor reset)

**DMX channel functions and values (13DMX channels):**

| | |
|---|---|
| | |
| **Channel 1 - PAN movement 8bit:** | |
| | |
| **Channel 2 – Pan fine** | |
| | |
| **Channel 3 - TILT movement 8bit:** | |
| | |
| **Channel 4– Tilt fine** | |
| | |
| **Channel 5 - Red:** | |
| 0-255 | Red (0-Black, 255-100% Red) |
| | |
| **Channel 6 - Green:** | |
| 0-255 | Green (0-Black, 255-100% Green) |
| | |
| **Channel 7 - Blue:** | |
| 0-255 | Blue (0-Black, 255- 100% Blue) |
| | |
| **Channel 8 - Color macros:** | |
| 0 | No function |
| 1-7 | Color macro 1 |
| 8-15 | Color macro 2 |
| 16-23 | Color macro 3 |
| 24-31 | Color macro 4 |
| 32-39 | Color macro 5 |
| 40-47 | Color macro 6 |
| 48-55 | Color macro 7 |
| 56-63 | Color macro 8 |
| 64-71 | Color macro 9 |
| 72-79 | Color macro 10 |
| 80-87 | Color macro 11 |
| 88-95 | Color macro 12 |
| 96-103 | Color macro 13 |
| 104-111 | Color macro 14 |
| 112-119 | Color macro 15 |
| 120-127 | Color macro 16 |
| 128-135 | Color macro 17 |
| 136-143 | Color macro 18 |
| 144-151 | Color macro 19 |
| 152-159 | Color macro 20 |
| 160-167 | Color macro 21 |

| 168-175 | Color macro 22 |
|---|---|
| 176-183 | Color macro 23 |
| 184-191 | Color macro 24 |
| 192-199 | Color macro 25 |
| 200-207 | Color macro 26 |
| 208-215 | Color macro 27 |
| 216-223 | Color macro 28 |
| 224-231 | Color macro 29 |
| 232-239 | Color macro 30 |
| 240-247 | Color macro 31 |
| 248-255 | Color macro 32 |
| | |

**Channel 9 – Zoom:**

| 0-255 | Continuous adjustment from far to near |
|---|---|
| | |

**Channel 10   - Shutter, strobe:**

| 0-31 | Blackout (All LEDs Off) |
|---|---|
| 32-63 | Shutter Open (LEDs Active) |
| 64-95 | Strobe effect slow to fast |
| 96-127 | Shutter Open (LEDs Active) |
| 128-159 | Pulse-effect in sequences |
| 160-191 | Shutter Open (LEDs Active) |
| 192-223 | Random strobe effect slow to fast |
| 224-255 | Shutter Open (LEDs Active) |
| | |

**Channel 11 - General dimming/speed:**

| 0-255 | Dimming (0-Black, 255- 100%) |
|---|---|
| | Speed from slow to fast /when running internal programs |
| | Speed from slow to fast /when running gradient effect |
| | |

**Channel 12 - Speed pan/tilt movement**

| 0-225 | Maximum to minimum speed |
|---|---|
| 226-235 | Blackout by movement |
| 236-255 | No function |
| | |

**Channel 13 – Reset, internal programs**

| 0-19 | Normal control |
|---|---|
| 20-79 | No function |
| 80-84 | All motor reset |
| 85-87 | Scan motor reset |
| 88-99 | No function |
| 100-119 | Internal program 1 |

| 120-139 | Internal program 2 |
|---------|--------------------|
| 140-159 | Internal program 3 |
| 160-179 | Internal program 4 |
| 180-199 | Internal program 5 |
| 200-219 | Internal program 6 |
| 220-239 | Internal program 7 |
| 240-255 | Gradient effect |

## 12. ERROR CODES:

When power is applied, the unit will automatically enter a "reset/test" mode. This mode brings all the internal motors to a home position. If there is an internal problem with one or more of the motors an error code will flash in the display in the form of "XXer" were as XX will represent a function number. For example, when the display shows "02Er," it means there is some type of error with the channel 2 motor. If there are multiple errors during the start-up process they will all flash in the display. For example: if the fixtures has errors on channel 1, channel 2, and channel 5 all at the same time, you will see the error message "01Er", "02Er," and "05Er" flash repeated 5 times.

If an error does occur during the initial start-up procedure the fixture will self-generate a second reset signal and try to realign all the motors and correct the errors, if the error persist after a second attempt a third attempt will be made.

If after a third attempt all the errors have not been corrected the fixture will make the following determinations: 1) 3 or more errors - The fixture cannot function properly with three or more errors therefore the fixture will place itself in a stand-by mode until subsequent repairs can be made. 2) Less than 3 errors - The fixture has less than 3 errors, therefore most other functions will work properly. The fixture will attempt to operate normally until the errors can be correct by a technician. The errors in question will remain flashing in the display as a reminder of internal errors.

**01Er –** PAN movement error:
The yoke is not located in the default position after start-up or after a reset command. This message will appear after a fixture reset if the pan-yoke's magnetic-indexing circuit malfunctions (sensor failed or magnet is missing) or there is a stepper motor failure (defective motor or a defective motor IC drive on the main PCB).

**03Er –** TILT movement error:
The head is not located in the default tilt position after start-up or after a reset command. This message will appear after a fixture reset if the tilt magnetic-indexing circuit malfunctions (sensor failed or magnet is missing) or there is a stepper motor failure (defective motor or a

defective motor IC drive on the main PCB).

**093Er –** Zoom movement error:

The lens assembly is not located in the default home position after start-up or after a reset command. This message will appear after a fixture reset if the tilt magnetic-indexing circuit malfunctions (sensor failed or magnet is missing) or there is a stepper motor failure (defective motor or a defective motor IC drive on the main PCB).

## 13. CLEANING AND MAINTENANCE

Please refer to the following points during normal inspection:

1. Be sure all screws and fasteners are securely tightened at all times. Lose screws may fall out during normal operation resulting in damage or injury as larger parts could fall.
2. There must not be any deformations on the housing, color lenses, rigging hardware and rigging points (ceiling, suspension, trussing). Deformations in the housing could allow for dust to enter into the motor assemblies. Damaged rigging points or unsecured rigging could cause the unit to fall and serious injure a person.
3. All mechanical parts and motors should not show any traces of serious wear and should rotate freely.
4. Electric power supply cables must not show any damage, material fatigue or sediments. Never remove the ground prong from the power cable.

*Further instructions depending on installation and usage have to be adhered to by a skilled installer and any safety problems should be addressed before attempting operation.*
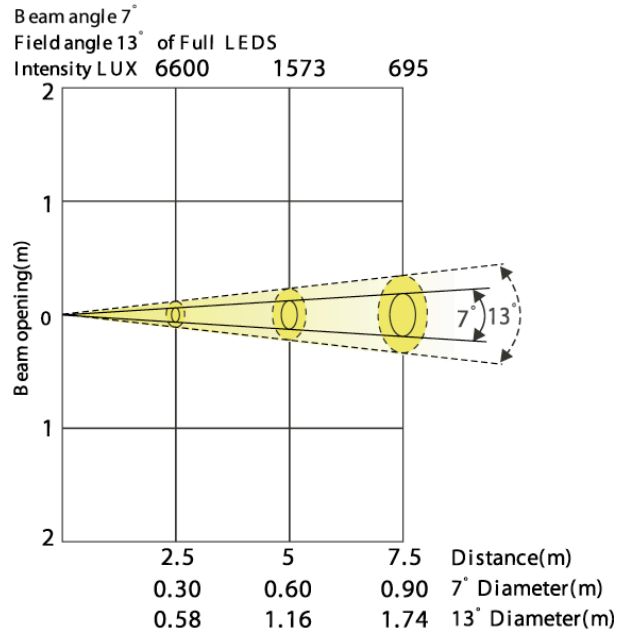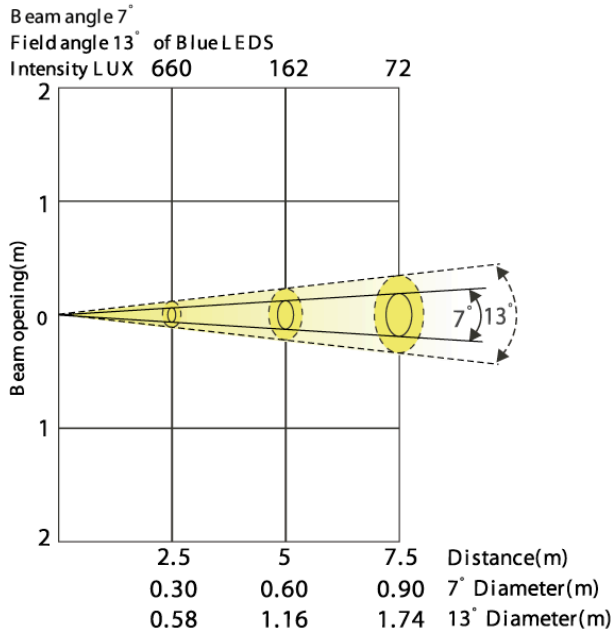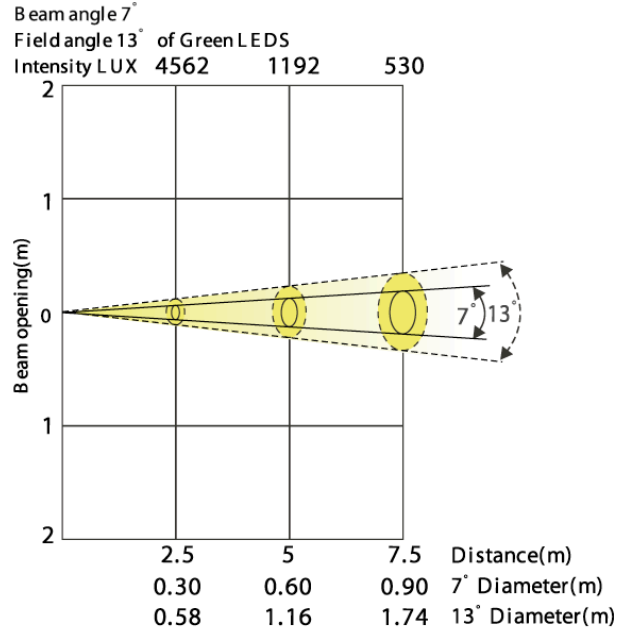
We recommend frequent cleaning of the device; this will ensure operational longevity and crisp light output. When cleaning, please use a moist, lint-free cloth. Never use alcohol or solvents.

There are no user serviceable parts inside this. Please refer all other service related issues to an authorized Elation service technician.
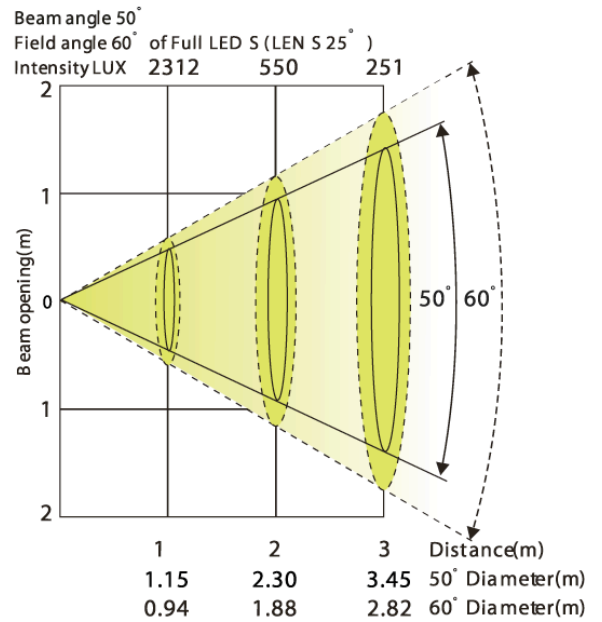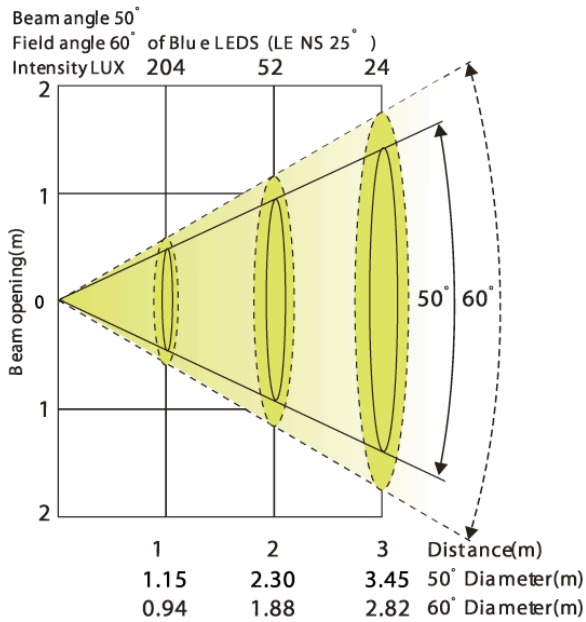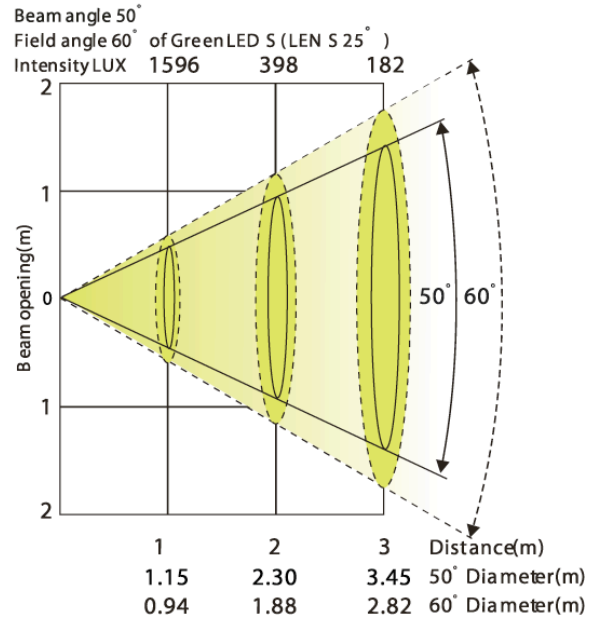
Should you decide to service the fixture yourself please order genuine Elation parts directly from Elation.

## 14.   PHOTOMETRIC DATA:

Minimum Beam Angle (10˚)

Beam angle 7˚
Field angle 13˚  of Red LEDS
Intensity LUX   868          218          95



| | | | |
|---|---|---|---|
| 2.5 | 5 | 7.5 | Distance(m) |
| 0.30 | 0.60 | 0.90 | 7˚ Diameter(m) |
| 0.58 | 1.16 | 1.74 | 13˚ Diameter(m) |

Beam angle 7˚
Field angle 13˚  of Green LEDS
Intensity LUX   4562         1192         530



| | | | |
|---|---|---|---|
| 2.5 | 5 | 7.5 | Distance(m) |
| 0.30 | 0.60 | 0.90 | 7˚ Diameter(m) |
| 0.58 | 1.16 | 1.74 | 13˚ Diameter(m) |

Beam angle 7˚
Field angle 13˚  of Blue LEDS
Intensity LUX   660          162          72



| | | | |
|---|---|---|---|
| 2.5 | 5 | 7.5 | Distance(m) |
| 0.30 | 0.60 | 0.90 | 7˚ Diameter(m) |
| 0.58 | 1.16 | 1.74 | 13˚ Diameter(m) |

Beam angle 7˚
Field angle 13˚  of Full LEDS
Intensity LUX   6600         1573         695



| | | | |
|---|---|---|---|
| 2.5 | 5 | 7.5 | Distance(m) |
| 0.30 | 0.60 | 0.90 | 7˚ Diameter(m) |
| 0.58 | 1.16 | 1.74 | 13˚ Diameter(m) |

## Maximum Beam Angle (60°)

Beam angle 50°
Field angle 60° of Red LED S (LEN S 25° )
Intensity LUX   470    105    47

Beam angle 50°
Field angle 60° of Green LED S (LEN S 25° )
Intensity LUX   1596    398    182

Beam angle 50°
Field angle 60° of Blu e LEDS (LE NS 25° )
Intensity LUX   204    52    24

Beam angle 50°
Field angle 60° of Full LED S (LEN S 25° )
Intensity LUX   2312    550    251

## 15. DIMENSIONAL DRAWINGS:

# Design LED Par Zoom MH - Dimensional Data



Remark: When Omega clamp is installed, add 76.5mm.
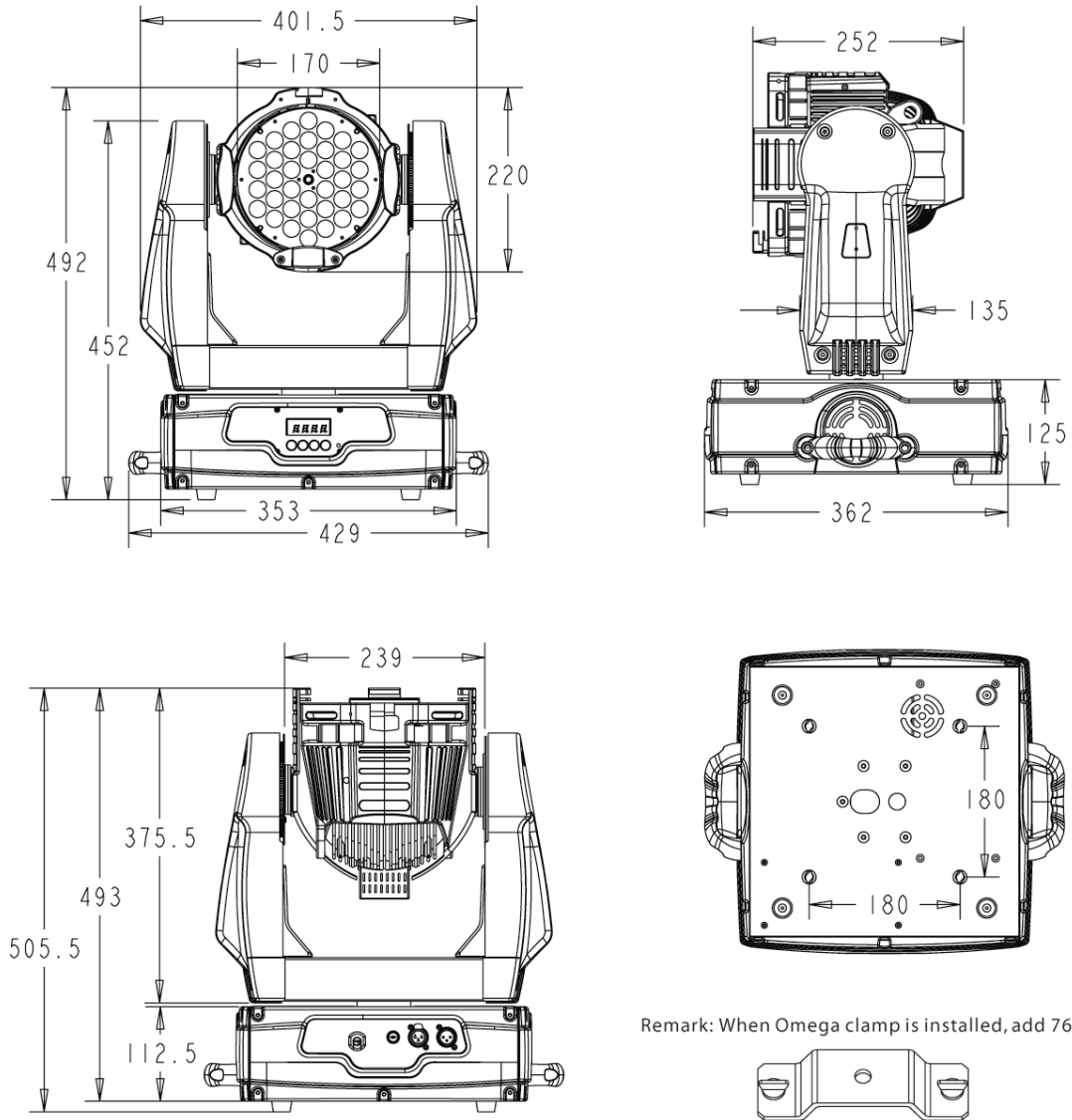
## 16. CIRCUIT SCHEMATIC:
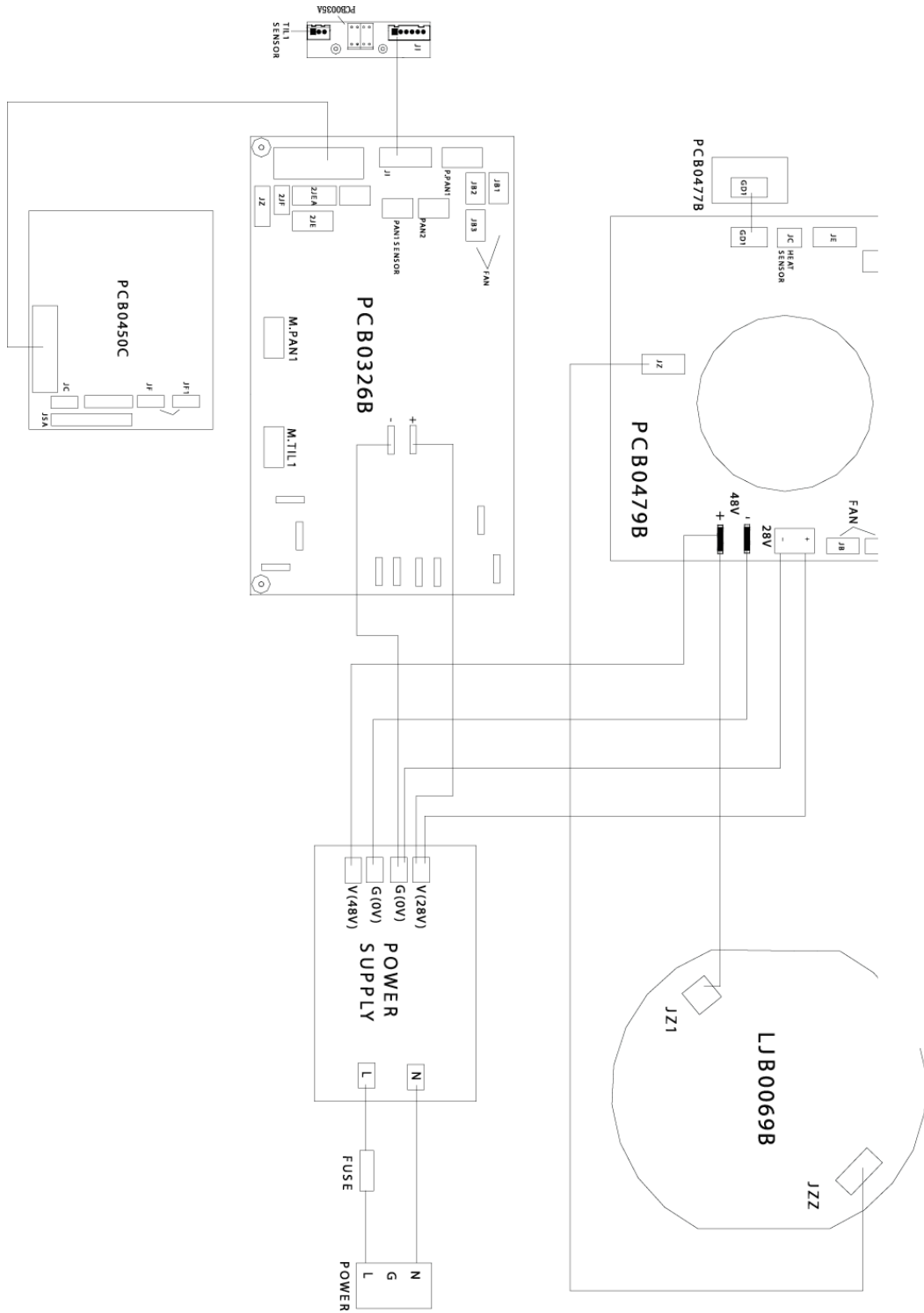
## 17. 2-YEAR LIMITED WARRANTY

A.   Elation Professional® hereby warrants, to the original purchaser, Elation Professional® products to be free of manufacturing defects in material and workmanship for a period of two years, (730 days) from the date of purchase. This warranty shall be valid only if the product is purchased within the United States of America, including possessions and territories. It is the owner's responsibility to establish the date and place of purchase by acceptable evidence, at the time service is sought.

B.   For warranty service, send the product only to the Elation Professional® factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, Elation Professional® will pay return shipping charges only to a designated point within the United States. If the entire instrument is sent, it must be shipped in its original package. No accessories should be shipped with the product. If any accessories are shipped with the product, Elation Professional® shall have no liability what so ever for loss of or damage to any such accessories, nor for the safe return thereof.

C.    This warranty is void if the serial number has been altered or removed; if the product is modified in any manner which Elation Professional® concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the Elation Professional® factory unless prior written authorization was issued to purchaser by Elation Professional®; if the product is damaged because not properly maintained as set forth in the instruction manual.

D.   This is not a service contract, and this warranty does not include maintenance, cleaning or periodic check-up. During the period specified above, Elation Professional® will replace defective parts at its expense, and will absorb all expenses for warranty service and repair labor by reason of defects in material or workmanship.   The sole responsibility of Elation Professional® under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of Elation Professional®. All products covered by this warranty were manufactured after January 1, 1990, and bare

identifying marks to that effect.

E.    Elation Professional® reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products theretofore manufactured.

F.    No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with products described above. Except to the extent prohibited by applicable law, all implied warranties made by Elation Professional® in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty period set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said period has expired. The consumer's and or Dealer's sole remedy shall be such repair or replacement as is expressly provided above; and under no circumstances shall Elation Professional® be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product.

G.    This warranty is the only written warranty applicable to Elation Professional® Products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

## 18. TECHNICAL SPECIFICATIONS

| Power supply | |
|---|---|
| **Power consumption** | □100VAC, 50Hz; □120VAC,50Hz; □208VAC, 50Hz; □220VAC, 50Hz; □230VAC,50Hz; □240VAC, 50Hz; □100VAC,60Hz; □120VAC,60Hz; □208VAC,60Hz; □220VAC,60Hz; □230VAC,60Hz; □240VAC,60Hz; |
| **Power Consumption** | 150W |
| **Fuse protection** | 120V = 4A/250V, GMA (5x20mm fine-wire fuse) 220V = 2A/250V, GMA (5x20mm fine-wire fuse) |

| Lamp | |
|---|---|
| **Type** | 36 x 3w LEDs |
| **Life time** | 100,000 Hrs Rated |

| Color |
|---|
| 12 x Red LEDs ~ 12 Green LEDs ~ 12 Blue LEDs |

| Zoom |
|---|
| Linear Zoom (10˚~60˚) |

| Strobe / Dimmer |
|---|
| Strobe-effect with variable speed 1 - 18 flashes per second |
| Continuously mechanical dimmer 0 - 100% |

| DMX Channels |
|---|
| 13 (16bit – default) *or* 11 (8bit – user selectable) |

| Drive |
|---|
| Standard DMX-512, 3 pole XLR; [+] = Pin 3     [-] = Pin 2     [Ground] = Pin 1. Starting DMX [001]. |

| Pan / Tilt | |
|---|---|
| **Pan- movement** | **540° in max. 2.0 seconds, 16 bit resolution** |
| **Tilt- movement** | **265° in max. 1.5 seconds, 16 bit resolution** |

| Weights and measures | |
|---|---|
| **Dimensions** | **13" x 13.3" x 20"** |
| **Weight (net)** | **19Kgs / 42Lbs** |

*Please Note: Specifications and improvements in the design of this unit and this manual are subject to change without any prior written notice.*

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