

RAYZOR Q7™

user manual

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DOCUMENT VERSION



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Date	Document Version	Software Version	DMX Channel Modes	Notes
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GENERAL INFORMATION

INTRODUCTION

Congratulations, you have just purchased one of the most innovative and reliable lighting fixtures on the market today! The **RAYZOR Q7™** 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 **RAYZOR Q7™** by Elation Professional®. Every **RAYZOR Q7™** 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. Please do not discard the shipping carton in the trash. Please recycle whenever possible.

BOX CONTENTS

- (1) powerCON Cable
- (1) 5pin XLR Cable
- (1) Omega Bracket (Holder)
- (1) Safety Cable
- Manual & Warranty Card

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®.

ELATION SERVICE USA - Monday - Friday 8:00am to 5:00pm PST

Voice: 323-582-3322

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WARRANTY REGISTRATION

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.

IMPORTANT NOTICE!



There are no user serviceable parts inside this unit. Do not attempt any repairs yourself; doing so will void your manufactures warranty. Damages resulting from modifications to this fixture and/or the disregard of safety and general user instructions found in this user manual void the manufactures warranty and are not subject to any warranty claims and/or repairs.

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), and Elation Professional® product rechargeable batteries to be free of manufacturing defects in material and workmanship for a period of six months (180 days), from the original date of purchase. This warranty excludes discharge lamps and all product accessories. 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 any product is sent, it must be shipped in its original package and packaging material. 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 and/or or damage to any such accessories, nor for the safe return thereof.

C. This warranty is void if the product serial number and/or labels are 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 product instructions, guidelines and/or user manual.

D. This is not a service contract, and this warranty does not include any maintenance, cleaning or periodic check-up. During the periods as 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 performance 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 the 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 periods set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said periods have 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 and/or damage, direct and/or consequential, arising out of the use of, and/or the 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.

SAFETY INSTRUCTIONS



The **RAYZOR Q7™** 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.



This device falls under **PROTECTION CLASS 1**. It's essential this device be grounded properly. Only qualified personnel should perform all electrical connections.



KEEP THIS FIXTURE AWAY FROM RAIN AND MOISTURE!



UNPLUG POWER BEFORE SERVICING FIXTURE



NEVER TOUCH FIXTURE DURING OPERATION AS IT MAY BE HOT



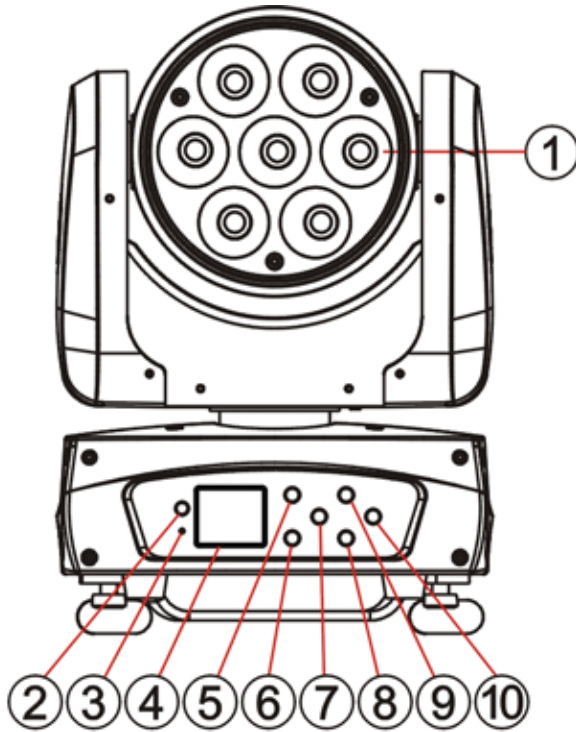
**NEVER LOOK DIRECTLY INTO THE LIGHT SOURCE
SENSITIVE PERSONS MAY SUFFER AN EPILEPTIC SHOCK**

- For proper operation, follow the **Installation** guidelines described in this manual. Only qualified and certified personnel should perform installation of this fixture and only the original rigging parts (brackets, holders, clamps, safety cables) included with this fixture should be used for installation. Any modifications will void the original manufacturer's warranty and increase the risk of damage and/or personal injury.
- Never look directly into the light source of this fixture to prevent risk of injury to your retina, which may induce blindness. Those suffering from **EPILEPSY** should avoid looking directly into the light source of this unit at all times.
- The fan and air inlets must remain clean and never blocked. Allow approx. 6" (15cm) between this fixture and other devices or a wall for proper cooling.
- Always disconnect from main power source before performing any type of service and/or cleaning procedure. Only handle the power cord by the plug end, never pull out the plug by tugging the wire portion of the cord.
- Do not operate this fixture if the power cord has become frayed, crimped and/or damaged. If the power cord is damaged, replace it immediately with a new one of similar power rating.

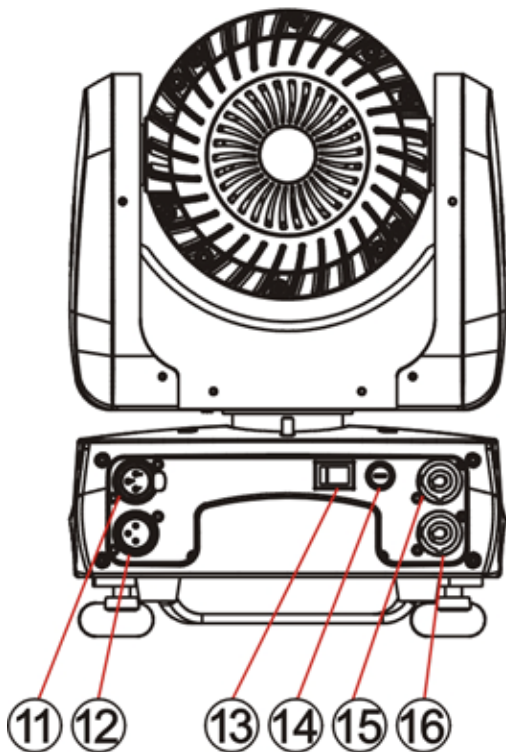
GENERAL GUIDELINES

- **NEVER OPEN THIS FIXTURE WHILE IN USE!**
- During the initial operation of this fixture, a light smoke or smell may emit from the interior of the fixture. This is a normal process and is caused by excess paint in the interior of the casing burning off from the heat associated with the lamp and will decrease gradually over time.
- This fixture is a professional lighting effect designed for **INDOOR / DRY LOCATIONS ONLY** on stage, in nightclubs, theatres, etc.
- Please make sure there are **NO FLAMMABLE MATERIALS** close to the fixture while operating, to prevent any fire hazard.
- The fixture must be installed in a location with adequate ventilation, at least 1.5 feet (.5m) from adjacent surfaces. Be sure no air ventilation slots are blocked.
- **DO NOT** attempt installation and/or operation without knowledge how to do so.
- **DO NOT** permit operation by persons who are not qualified to operate this type of fixture. Most damages are the result of operations by nonprofessionals.
- Consistent operational breaks may ensure the fixture will function properly for many years to come.
- **DO NOT** shake fixture, avoid brute force when installing and/or operating fixture.
- Always install the fixture with an appropriate safety cable. When installing the fixture in a suspended environment, always use mounting hardware that is no less than M10 x 25 mm, also be sure the hardware is insert in the pre-arranged screw holes in the bracket of the fixture.
- Use the original packaging and materials to transport the fixture in for service.
- **DO NOT TOUCH** the housing bare-hand during its operation. Turn OFF the power and allow approximately 15 minutes for the fixture to cool down before replacing or serving.

FIXTURE OVERVIEW



- 1: LED Lens Assembly**
- 2: DC Switch**
- 3: Microphone**
- 4: LCD Menu Control Display**
- 5: MODE/ESC Button**
- 6: ENTER Button**
- 7: LEFT Button**
- 8: DOWN Button**
- 9: UP Button**
- 10: RIGHT Button**



- 11: 5Pin DMX OUT**
- 12: 5Pin DMX IN**
- 13: Power Switch**
- 14: Fuse**
- 15: Power IN**
- 16: Power OUT**

FIXTURE INSTALLATION



FLAMMABLE MATERIAL WARNING

Keep fixture at least 5.0 ft. (1.5m) away from any flammable materials, decorations, pyrotechnics, etc.



ELECTRICAL CONNECTIONS

A qualified electrician should be used for all electrical connections and/or installations.



CAUTIONS

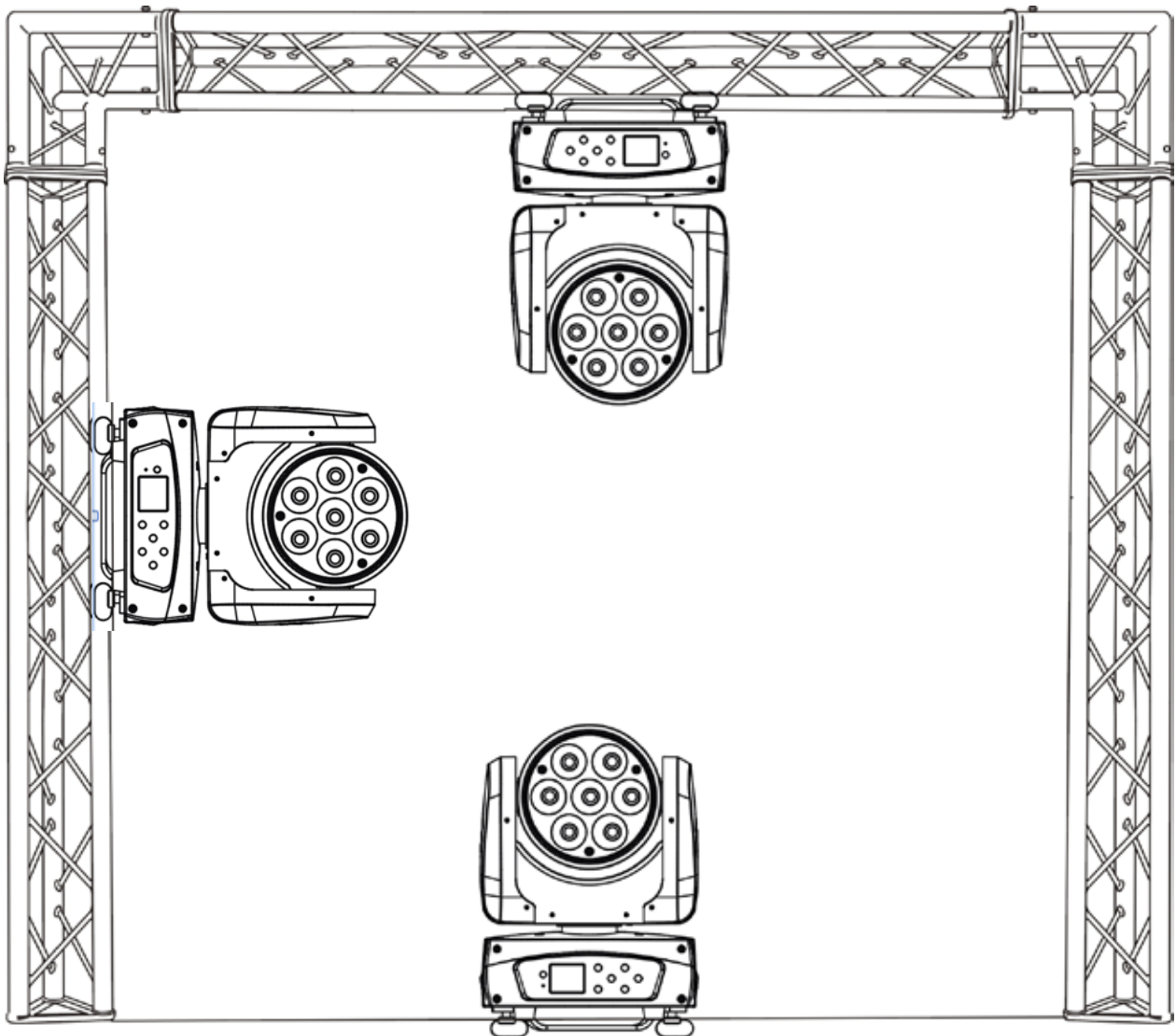
- For added protection, mount the fixture in areas outside walking paths, seating areas, or in areas where unauthorized personnel might reach the fixture.
- Ambient operating temperature range for this fixture is **5°F to 113°F (-15°C to 45°C)**. Do not use the fixture under or above this temperature.
- Before mounting the fixture to any surface, make sure the installation area can hold a minimum point load of 10 times the weight of the fixture.
- 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.

MOUNTING

The **RAYZOR Q7™** is fully operational in three different mounting positions. (See illustration on the next page). Be sure this fixture is kept at least 1.5 feet (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.

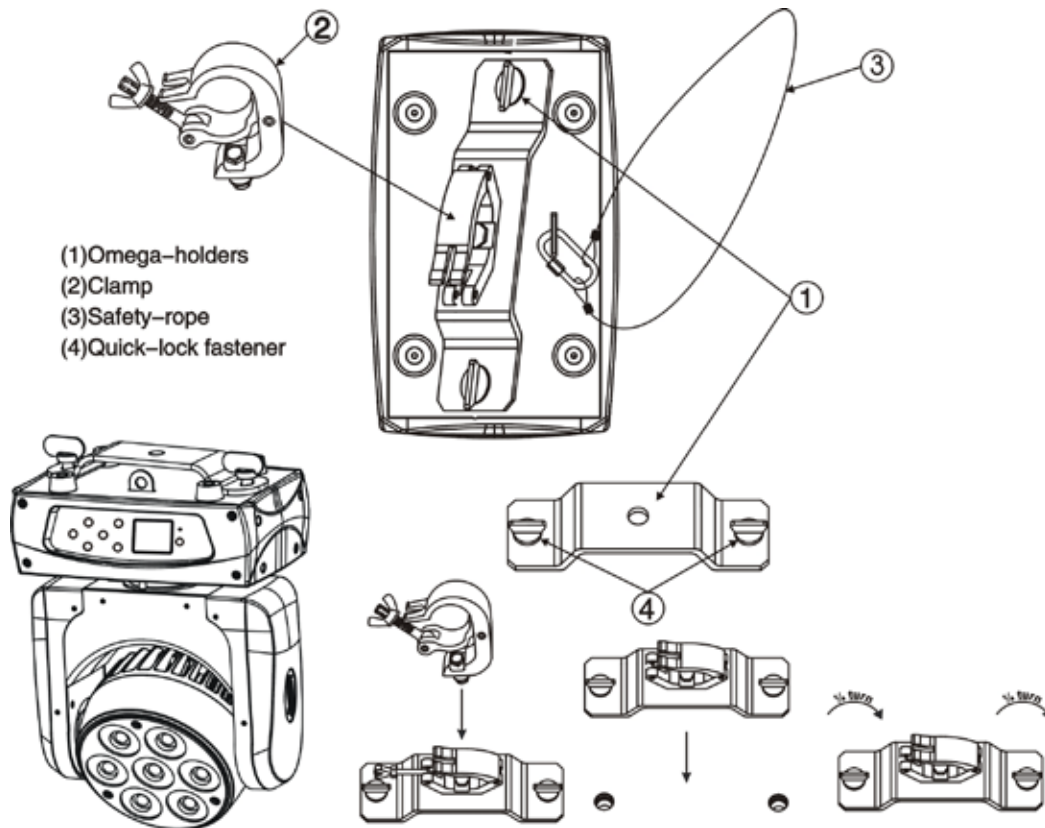
MOUNTING POINTS

- Overhead mounting requires extensive experience, including amongst others calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the device. If you lack these qualifications, do not attempt the installation yourself. Improper installation can result in bodily injury.
- Be sure the fixture is kept at least 0.5m (1.5 feet) away from any flammable materials (decoration etc.).



CLAMP MOUNTING

The **RAYZOR Q7™** provides a unique mounting bracket assembly that integrates the bottom of the base, the included **“Omega Bracket”**, and 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 included omega bracket using a M10 screw fitted through the center hole of the **“Omega Bracket”** and attach at least one properly rated safety cable to the integrated safety cable rigging point in the base assembly.



SECURING

- Secure the clamp to the bracket using a M12 screw fitted through the $\Phi 13$ center hole.
- Insert the ¼ Turn Twist Locks of the first Omega bracket into the respective holes on the bottom of the device. Tighten the Twist Locks a ¼ turn clockwise.
- Install the second Omega bracket on the top of the device in the same way.
- Pull a safety cable through the holes on the bottom of the base and over the trussing system or a safe installation.



This is very important to prevent the fixture from dropping if the clamp fails.

UNDERSTANDING 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 starting 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 **RAYZOR Q7™** can be controlled via DMX-512 protocol and the DMX address is set via the control 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 (see figure below). 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. Also, remember that 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™.

DMX Output
3-Pin XLR Socket



DMX Input
3-Pin XLR Socket



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

DMX Output
5-Pin XLR Socket



DMX Input
5-Pin XLR Socket



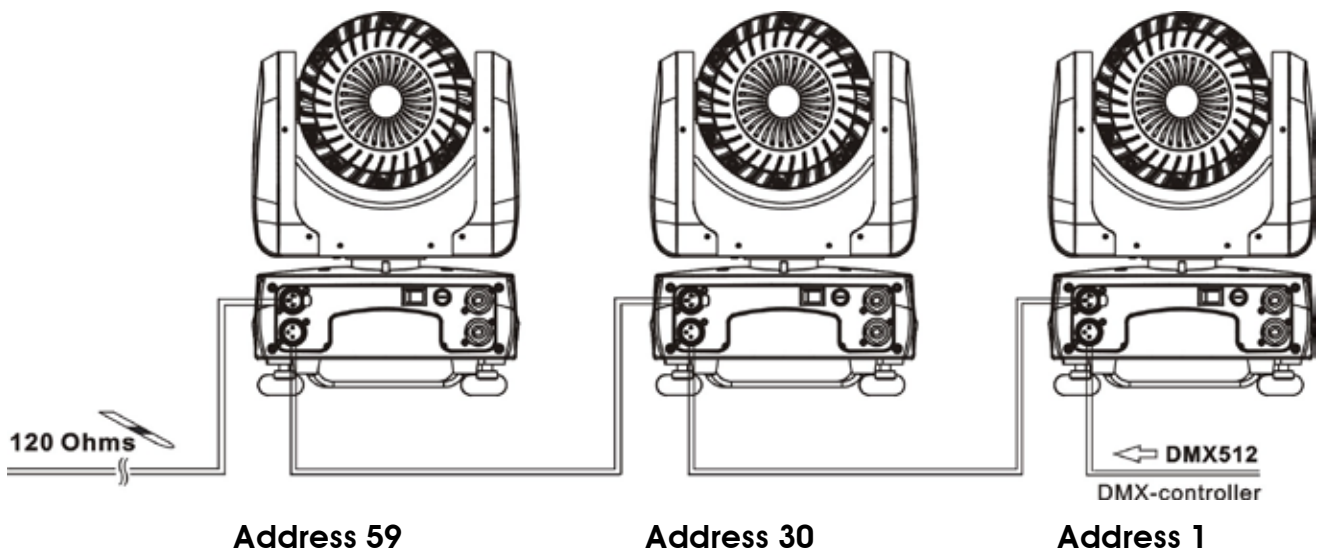
1: Ground
2: Data (-)
3: Data (+)
4: Open
5: Open



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 outer casing. Grounding the shield could cause a short circuit and erratic behavior.

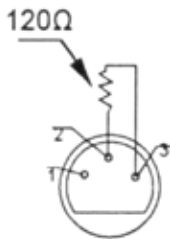
DMX-512 CONTROLLER CONNECTION

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 **RAYZOR Q7™** (Please refer to the diagram below.). You can chain multiple panels together through serial linking. The cable that should be used is two conductor, shielded DMX cable with XLR input and output connectors. Always be sure 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™.



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

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 back 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 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 **RAYZOR Q7™** which is a **29** Channel fixture, you should set the starting DMX address of the first unit to 1, the second unit to 30 (1 + 29), the third unit to 59 (30 + 29), and so on.

Note: During start-up the **RAYZOR Q7™** 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 or 5-PIN XLR 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.


FIXTURE MENU

ON-BOARD SYSTEM MENU

The **RAYZOR Q7™** comes with an easy to navigate system menu. The next section will detail the functions of each command in the system menu.

LCD MENU CONTROL PANEL

The control panel (see image below) allows you to access the main menu and make all necessary adjustments to the **RAYZOR Q7™**. During normal operation, tapping the **MODE/ESC** button 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, DOWN, RIGHT, and LEFT** buttons. Once you reach a field that requires adjusting, tap the **ENTER** button to activate that field and use the **UP** and **Down** buttons to adjust the field. Tapping the **ENTER** button once more will confirm your setting. You may exit the main menu at any time without making any adjustments by tapping the **MODE/ESC** button.

 **NOTE:** To access the LCD Menu Control Display via the internal battery, press and hold the **DC SWITCH** button for 3 seconds. The LCD Menu Control Display will shut **OFF** automatically about 1 minute from the last button press.



RAYZOR Q7™ SYSTEM MENU				*Default Settings Shaded
FUNCTION	Set DMX Address	A001~AXXX		DMX Address Setting
	DMX Value	ALL.....		DMX Value Display
	Slave Mode	Slave1, Slave2, Slave3		Slave Setting
	Auto Program	Master / Alone		Auto Program
	Sound Control	Master / Alone		Music Control
INFORMATION	Time Information	Current Time	XXXX(Hours)	Power On Running Time
		Total Run Time	XXXX(Hours)	Fixture Running Time
		Last Run Time	XXXX(Hours)	Fixture Last Times Clear
		Timer Password	Password=XXX	Timer Password 038
	Clear Last Run	ON/OFF	Clear Fixture Last time	
	Temperature Info	Head Temperature		Temperature In The Head
	Software Version	V1.0.....		Software Version
PERSONALITY	Status Settings	Address via DMX	ON/OFF	Address Via DMX
		No DMX Status	Close/Hold/Auto/Music	Auto Run If No DMX
		Pan Reverse	ON/OFF	Pan Reverse Movement
		Tilt Reverse	ON/OFF	Tilt Reverse Movement
		Pan Degree	630/540offset/ 540	Pan Degree Select 1, 2, 3
		Tilt Degree	270 /240	Tilt Degree Select 1, 2
		Feedback	ON/OFF	Movement Feedback
		Movement Speed	Speed 1 ~ 4	Movement Mode Select
		Mic Sensitivity	0-99%	Sensitivity of Microphone
	Hibernation	OFF, 01M~99M, 15M	Stand By Mode	
Service Setting	Password	Password=XXX		Service Password = 050
	RDM PID	xxxxxx		RDM PID Code
Fans Control	Auto			Fans Speed Select
	High			
	Low			
Display Setting	Shutoff Time	02~60m 05m	Display Shut Off Time	
	Flip Display	ON/OFF	Display Reverse 180°	
	Key Lock	ON/OFF	Key Lock	
	Display Flash	ON/OFF	Display Flashes If No DMX	
Temperature C/F	Celsius			Temperature Switch Between °C or °F
	Fahrenheit			
Initial Status	PAN = XXX		Initial Effect Position	
Reset Default	ON/OFF		Restore Factory Settings	

RESET FUNCTION	Reset All Reset Pan/Tilt		Reset All Settings Reset Pan/Tilt Settings	
EFFECT ADJUST	Test Channel	Auto Program, PAN, PAN-Fine, TILT, TILT-Fine, Move Speed, Strobe, Dimmer, Red-1, Green-1, Blue-1, White-1, Red-2, Green-2, Blue-2, White-2, Red-3, Green-3, Blue-3, White-3, Red-4, Green-4, Blue-4, White-4, Color Macro, Color Preset, Color Mode, Chase Patter, Chase Speed		Test Functions
	Manual Control	Auto Program, PAN, PAN-Fine, TILT, TILT-Fine, Move Speed, Strobe, Dimmer, Red-1, Green-1, Blue-1, White-1, Red-2, Green-2, Blue-2, White-2, Red-3, Green-3, Blue-3, White-3, Red-4, Green-4, Blue-4, White-4, Color Macro, Color Preset, Color Mode, Chase Patter, Chase Speed		Fine Adjustment of Functions (0-255)
	Calibration	-Password- PAN TILT	Password=XXX (0-255) (0-255)	Password = 050 Fine Adjustment of PAN Fine Adjustment of TILT
USER MODE SETTING	User Mode	Stand Mode Basic Mode Extend Mode User Mode A User Mode B User Mode C		Select DMX & User Modes
	Edit User Mode A Edit User Mode B Edit User Mode C	Max Chanel, Auto Program, PAN, PAN-Fine, TILT, TILT-Fine, Move Speed, Strobe, Dimmer, Red-1, Green-1, Blue-1, White-1, Red-2, Green-2, Blue-2, White-2, Red-3, Green-3, Blue-3, White-3, Red-4, Green-4, Blue-4, White-4, Color Macro, Color Preset, Color Mode, Chase Patter, Chase Speed		Preset User Modes

EDIT PROGRAM	Select Program	Auto Pro Part1 = Program 1 ~ 10 Program 1 Auto Pro Part2 = Program 1 ~ 10 Program 2 Auto Pro Part3 = Program 1 ~ 10 Program 3		Select Programs To Be Run
	Edit Program	Program 1 ~ Program 10	Pro. Test, Step 01 – Step 64	Testing Program Program In Loop Save And Exit
	Edit Scenes	Scene 001 ~ Scene 125	Auto Program, PAN, PAN-Fine, TILT, TILT-Fine, Move Speed, Strobe, Dimmer, Red (1-4), Green (1-4), Blue 1-4), White (1-4), Color Macro, Color Preset, Color Mode, Chase Patter, Chase Speed, Fade Time, Scene Time, Input By Output	Save And Automatically Return Manual Scenes Edit
	Record Controller	XX~XX		Automatic Scenes Recorder

FUNCTION - Set DMX Address

Adjust the desired DMX address via the Control Panel.

FUNCTION - DMX Value

Display the DMX 512 value of each channel.

FUNCTION - Set To Slave

Define the fixture as a slave.

FUNCTION - Auto Program

Define the fixture mode (**Master or Alone**) for running Auto Programs. Select the desired internal programs under **Select Program**, set the number of steps under **Edit Program**, and edit the individual scenes under **Edit Scenes**.

FUNCTION – Sound Control

Define the fixture mode (**Master or Alone**) for running Auto Programs via sound activation, default is **Master**.

INFORMATION - Time Information - Current Time

Display the running time of the fixture from last power ON.

The counter is reset after each time the device is powered OFF.

INFORMATION - Time Information - Total Run Times

Display the total running time of the fixture from initial power ON.

INFORMATION - Time Information - Last Run Time

Display the running time of the fixture from its previous cycle.

INFORMATION - Time Information - LastRun Password

Display the timer password. (=038)

INFORMATION - Time Information - Clear Last Run

Clear the last run time of the fixture, default is **OFF**. A correct password must be entered in the **Timer Password** menu in order to clear last run time.

INFORMATION - Temperature Info - Head Temperature

Display the temperature of the fixture, default is **Fahrenheit**.

INFORMATION - Software Version

Display the software version of the fixture.

PERSONALITY - Status Settings - Address Via DMX

When ON, define the desired DMX address via an external controller.

1. Connect the fixture to the external controller and power ON.
2. Set the DMX value of **Channel 1** on the controller to **(7)**.
3. Set the DMX value of **Channel 2** on the controller to **(7)** or **(8)**.
When set to **(7)**, the DMX address can be set between **(1)** and **(255)**.
When set to **(8)**, the DMX address can be set between **(256)** and **(511)**.
4. Using **Channel 3** on the controller set the desired DMX address of the fixture.

Example 1: If the desired DMX address is **57**, set **Channel 1** to a value of **(7)**, set **Channel 2** to a value of **(7)**, and then set **Channel 3** to a value of **(57)**.

Example 2: If the desired DMX address is **420**, set **Channel 1** to a value of **(7)**, set **Channel 2** to a value of **(8)**, and then set **Channel 3** to a value of **(164)**.
(256+164=420)

5. After setting **Channel 3** to the desired DMX address value, wait for approximately 20 seconds for the fixture to complete the address reset function.

PERSONALITY - Status Settings - No DMX Status

Fixture runs in Auto Run if NO DMX signal is detected. Options include **(Hold/Close Shutter/Music Control/Auto Program)**, default is **Hold**.

PERSONALITY - Status Settings - Pan Reverse

Reverse the PAN movement, default is **OFF**.

PERSONALITY - Status Settings - Tilt Reverse

Reverse the TILT movement, default is **OFF**.

PERSONALITY - Status Settings - Pan Degree

Select desired maximum degree of PAN movement, default is **540°**.

PERSONALITY - Status Settings - Pan Degree

Select desired maximum degree of TILT movement, default is **270°**.

PERSONALITY - Status Settings - Feedback

Select desired Feedback setting which allows for automatic **PAN** and **TILT** movement correction in the event either one, is disrupted during normal operation, default is **ON**.

PERSONALITY - Status Settings – Movement Speed

Select desired Movement Speed, default is **Speed 1**.

PERSONALITY - Status Settings – Mic Sensitivity

Select desired Microphone Sensitivity from 0% to 99%, default is **70%**.

PERSONALITY - Status Settings – Hibernation

Select desired Hibernation time, default is **15m**.

PERSONALITY - Service Setting - Password

The Password is **(=050)**.

PERSONALITY - Service Setting - RDM PID

Access various submenus via RDM.

PERSONALITY – Fans Control

Select desired Fans Control setting, default is **Auto Speed**.

PERSONALITY - Display Setting – Shutoff Time

Shut off the Control Panel display after 02 to 60 minutes, default is **05** minutes.

PERSONALITY - Display Setting – Display Reverse

Rotate (Flip) the Control Panel display **180°**, default is **OFF**.

PERSONALITY - Display Setting – Key Lock

Lock the Control Panel buttons automatically after exiting main menu for 15 seconds. Unlock by keeping the **MODE/ESC** button pressed for 3 seconds, default is **OFF**.

PERSONALITY - Display Setting – Disp Flash

Control Panel flashes if NO DMX signal is detected, default is **OFF**.

PERSONALITY – Temperature C/F

Display the temperature in Celsius or Fahrenheit, default is **Fahrenheit**.

PERSONALITY – Initial Status

Display the initial effect position for DMX functions.

PERSONALITY – Reset Default

Restore factory settings function (**ON** or **OFF**), the default is **OFF**.

RESET FUNCTION

Reset fixture function (**Reset All** or **Reset Pan^Tilt**).

EFFECT ADJUST – Test Channel

Test each DMX function.

EFFECT ADJUST – Manual Control

Manual control of each DMX function.

EFFECT ADJUST – Calibrate Values

Adjust **PAN** and **TILT** to desired positions. A correct password must be entered in order to make adjustments. The Password is (**=050**). A technician familiar with the operations of this fixture should only perform this function. This function allows small adjustments to be made to the motor alignments to compensate for wear.



Improper use of this function can result in undesired operation!

Please contact **Elation Customer Support** for further instructions.

USER MODE SETTING – User Mode

Select operating mode, which includes DMX Channel and User defined modes.

USER MODE SETTING – Edit User Mode

Create user defined channel orders allowing the fixture to match the channel order of other fixtures on the market for easier operation. A total of three user modes may be configured: User Mode A, User Mode B, and User Mode C.

EDIT PROGRAM – Select Program

Select one of the (10) user defined internal Auto Programs.

EDIT PROGRAM – Edit Program

Edit any of the (10) user defined internal Auto Programs.

EDIT PROGRAM – Edit Scenes

Edit any of the scenes of the internal Auto Programs.

EDIT PROGRAM – Rec. Controller

The fixture features an integrated DMX-recorder by which you can transmit the programmed scenes from your DMX-controller to the moving head. Adjust the desired scene numbers via the encoder (from – to). When you call up the scenes at your controller, they will automatically be transmitted to the moving head.

EDIT PROGRAM – Record Controller – Working With Built In Programs

A Master unit can send up to 3 different data groups to the Slave units, i.e. a Master unit can start 3 different Slave units, which run 3 different programs. The Master unit sends the 3 program parts in a continuous loop.



The Slave unit receives data from the Master unit according to the group which the Slave unit was assigned to. If e.g. a Slave unit is set to “**Slave 1**” in the menu “**Set to Slave**”, the Master unit sends “**Auto Program Part 1**” to the Slave unit. If set to “**Slave 2**”, the Slave unit receives “**Auto Program Part 2**”.

To start an Auto Program proceed as follows:

1. Slave Setting

- Select **“Function Mode”**.
- Press **ENTER** to confirm.
- Select **“Set to Slave”**.
- Press **ENTER** to confirm.
- Select **“Slave 1”**, **“Slave 2”** or **“Slave 3”**.
- Press **ENTER** to confirm.
- Press **MODE/ESC** in order to return to the main menu.

2. Automatic Program Run

- Select **“Function Mode”**.
- Press **ENTER** to confirm.
- Select **“Auto Program”**.
- Press **ENTER** to confirm.
- Select **“Master”** or **“Alone”**.
- Press **ENTER** to confirm.
- Press **MODE/ESC** in order to return to the main menu.

3. Program Selection for Auto Pro Part

- Select **“Edit Program”**.
- Press **ENTER** to confirm.
- Select **“Select Programs”**.
- Press **ENTER** to confirm.
- Select **“Auto Pro Part 1”**, **“Auto Pro Part 2”** or **“Auto Pro Part 3”**, and select which Slave program is to be sent. Selection **“Part 1”** means, that the Slave unit runs the same program as the master units.
- Press **ENTER** to confirm.
- Press **MODE/ESC** in order to return to the main menu.

EDIT PROGRAM – Record Controller – Working With Built-In Program [continued]

4. Program Selection for Edit Program

- Select “**Edit Program**”.
- Press **ENTER** to confirm.
- Select “**Edit Program**”.
- Press **ENTER** to confirm.
- Select the desired program. With this function you can edit specific scenes into a specific program.
- Press **ENTER** to confirm.
- Press **MODE/ESC** in order to return to the main menu.

5. Automatic Scene Recording

- Select “**Edit Program**”.
- Press **ENTER** to confirm.
- Select “**Edit Scenes**”.
- Select desired scene numbers. A maximum of 250 scenes can be programmed.
- Press **ENTER** to confirm.
- Press **MODE/ESC** in order to return to the main menu.

Example:

Program 2 includes scenes: 10, 11, 12, & 13

Program 4 includes scenes: 8, 9, & 10

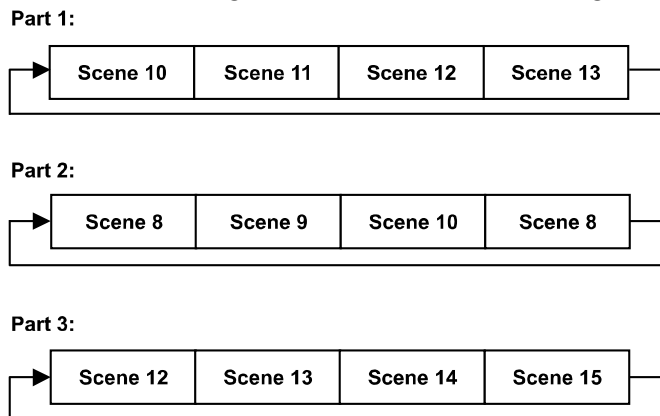
Program 6 includes scenes: 12, 13, 14, & 15

Auto Pro Part 1 is Program 2

Auto Pro Part 2 is Program 3

Auto Pro Part 3 is Program 6

The 3 Slave groups run the Auto Program in certain time segments, as shown in the following picture:

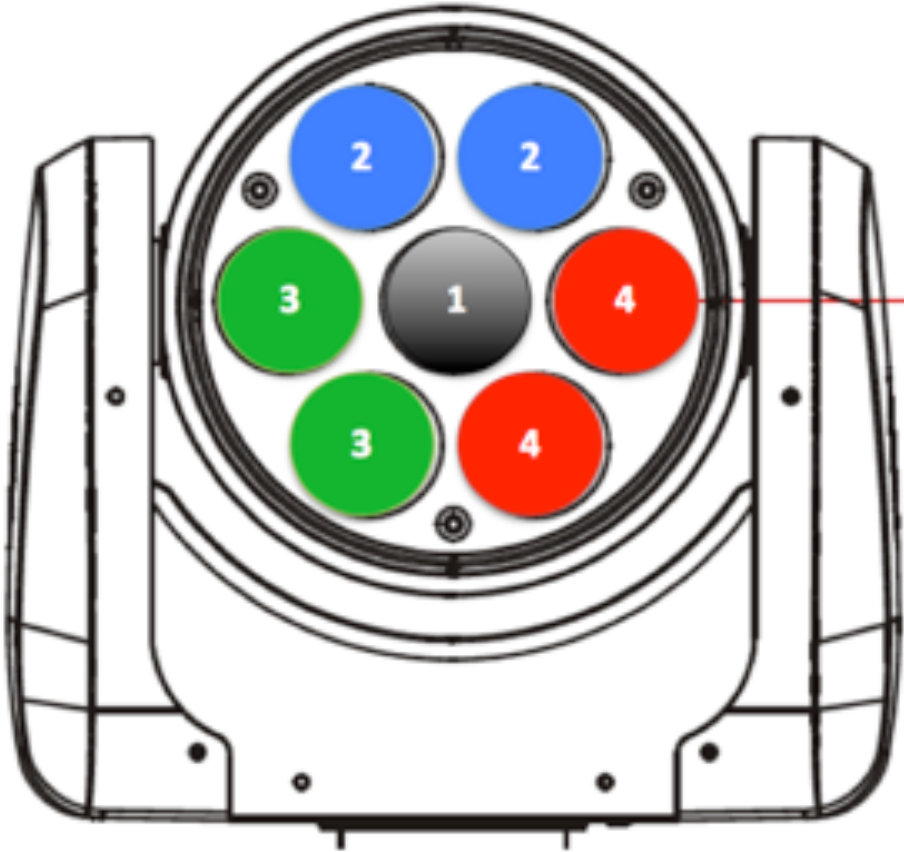


DMX CHANNEL FUNCTIONS AND VALUES

ELATION® RAYZOR Q7™				
DMX Channel Values / Functions (29 DMX Channels)				
Specifications are subject to change without any prior written notice.				
Mode/Channel			Value	Function
STAND	BASIC	EXTEND		
1	1	1		PAN MOVEMENT [8 Bit]
			0-255	PAN Movement
2		2		PAN MOVEMENT [16 Bit]
			0-255	Fine Control Of PAN Movement
3	2	3		TILT MOVEMENT [8 Bit]
			0-255	TILT Movement
4		4		TILT MOVEMENT [16 Bit]
			0-255	Fine Control Of TILT Movement
5	3	5		SPEED PAN/TILT MOVEMENT
			0-225	Max To Min Speed
			226-235	Blackout By Movement
			236-255	NO Function
6	4			RED LED - All Groups [1-4]
			0-255	Red (0-Black - 255-100%)
7	5			GREEN LED - All Groups [1-4]
			0-255	Green (0-Black - 255-100%)
8	6			BLUE LED - All Groups [1-4]
			0-255	Blue (0-Black - 255-100%)
9	7			WHITE LED - All Groups [1-4]
			0-255	White (0-Black - 255-100%)
		13		RED LED - Group [1]
			0-255	Red (0-Black - 255-100%)
		14		GREEN LED - Group [1]
			0-255	Green (0-Black - 255-100%)
		15		BLUE LED - Group [1]
			0-255	Blue (0-Black - 255-100%)
		16		WHITE LED - Group [1]
			0-255	White (0-Black - 255-100%)
		17		RED LED - Group [2]
			0-255	Red (0-Black - 255-100%)
		18		GREEN LED - Group [2]
			0-255	Green (0-Black - 255-100%)
		19		BLUE LED - Group [2]
			0-255	Blue (0-Black - 255-100%)
		20		WHITE LED - Group [2]
			0-255	White (0-Black - 255-100%)
		21		RED LED - Group [3]
			0-255	Red (0-Black - 255-100%)
		22		GREEN LED - Group [3]
			0-255	Green (0-Black - 255-100%)
		23		BLUE LED - Group [3]
			0-255	Blue (0-Black - 255-100%)
		24		WHITE LED - Group [3]
			0-255	White (0-Black - 255-100%)
		25		RED LED - Group [4]
			0-255	Red (0-Black - 255-100%)
		26		GREEN LED - Group [4]
			0-255	Green (0-Black - 255-100%)
		27		BLUE LED - Group [4]
			0-255	Blue (0-Black - 255-100%)
		28		WHITE LED - Group [4]
			0-255	White (0-Black - 255-100%)

ELATION® RAYZOR Q7™				
DMX Channel Values / Functions (29 DMX Channels)				
Specifications are subject to change without any prior written notice.				
Mode/Channel			Value	Function
STAND	BASIC	EXTEND		
10	8	6		SHUTTER, STROBE
			0-31	Shutter CLOSED
			32-63	No Function (Shutter OPEN)
			64-95	Strobe Effect SLOW to FAST
			96-127	No function (Shutter OPEN)
			128-159	Pulse Effect In Sequences
			160-191	No Function (Shutter OPEN)
			192-223	Random Strobe Effect SLOW to FAST
224-255	No Function (Shutter Open)			
11	9	7		DIMMER INTENSITY
			0-255	Intensity 0 to 100%
12	10	8		COLOR MACRO
			0-7	No Function
			8-255	Color Macro Slow To Fast
13	11	9		COLOR PRESETS
			0-10	NO Function
			11-20	White 2700k
			21-30	White 3200k
			31-40	White 4300k
			41-50	White 5600k
			51-60	White 6500k
			61-70	White 8000k
			71-100	Blue [Group 1], Red [Groups 2,3,4]
			101-130	Blue [Group 1], Green [Groups 2,3,4]
			131-160	Green [Group 1], Red [Groups 2,3,4]
			161-190	Red [Group 1], Blue [Groups 2,3,4]
			191-220	Green [Group 1], Blue [Groups 2,3,4]
221-255	Red [Group 1], Green [Groups 2,3,4]			
14	12	10		COLOR MODE
			0-189	NO Function
			190-254	Edit A New White Balance
			255	Store A New White Balance
15	13	11		CHASE MACROS
			0-10	LED OFF
			11-40	Chase Macro 1
			41-70	Chase Macro 2
			71-100	Chase Macro 3
			101-130	Chase Macro 4
			131-160	Chase Macro 5
			161-190	Chase Macro 6
			191-220	Chase Macro 7
221-255	Chase Macro 8			
16	14	12		CHASE SPEED
			0-255	Fast To Slow
17	15	29		RESET INTERNAL PROGRAMS
			0-79	Normal
			80-84	All Motor Reset
			85-87	NO Function
			88-90	NO Function
			91-93	Store White Balance Enabled
			94-96	NO Function
			97-99	NO Function
			100-119	Internal Program 1 (Scene 1 - 8)
			120-139	Internal Program 2 (Scene 9 - 16)
			140-159	Internal Program 3 (Scene 17 - 24)
			160-179	Internal Program 4 (Scene 25 - 32)
			180-199	Internal Program 5 (Scene 33 - 40)
			200-219	Internal Program 6 (Scene 41 - 48)
			220-239	Internal Program 7 (Scene 49 - 56)
240-255	Music Control (Scene Of Program 1)			

LED GROUPS



ERROR CODES

When the fixture is powered ON, it automatically enters a reset/test program, which brings all the motors to a home position before it is ready. The display may show **“Err channel is XX”** if there are problems with one or more channels. **“XX”** stands for channel 1, 2, 3, 4, 5, 6 and 13, which have testing sensors for positioning. For example, when the display shows **“Err channel is PAN”**, it means there is an error in channel 1. If there are errors on channel 1, channel 3, channel 6 at the same time, you may see the error messages, **“Err channel is PAN”**, **“Err channel is TILT”** flash 2 times, and then the fixture will go through a second reset/test program.

If the error messages remain after performing 2 reset/tests, only the channels that have errors will not work properly, all other channels will work normally. If after the third reset/test program all the errors have not been resolved, the fixture cannot function properly and therefore will place itself in a stand-by mode until repairs are made.

PAN - Error (PAN Yoke Movement Error)

This message will appear after completing the motor reset if the PAN movement is not located in the default position after the reset. This error can happen if the yoke’s magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepper-motor or its driving IC on the main PCB is defective or fails.

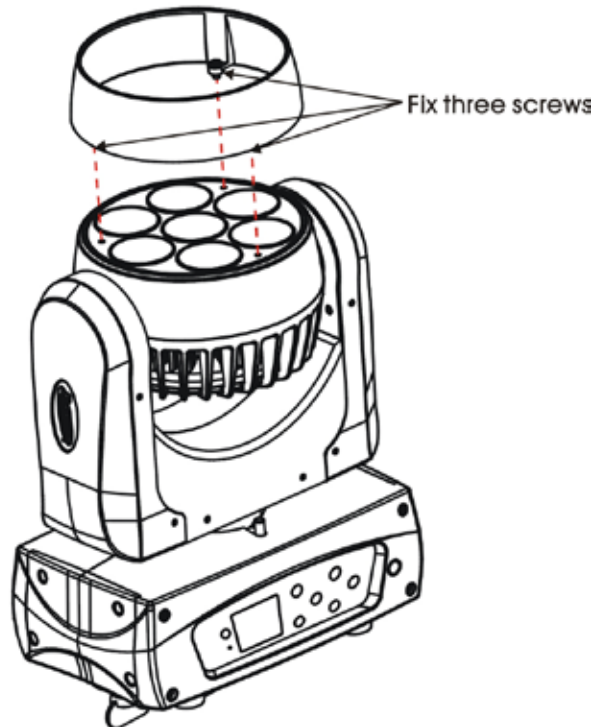
TILT- Error (TILT Head Movement Error)

This message will appear after completing the motor reset if the TILT movement is not located in the default position after the reset. This error can happen if the head’s magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor or its driving IC on the main PCB is defective or fails.

SNOOT & DIFFUSION FILTER INSTALLATION

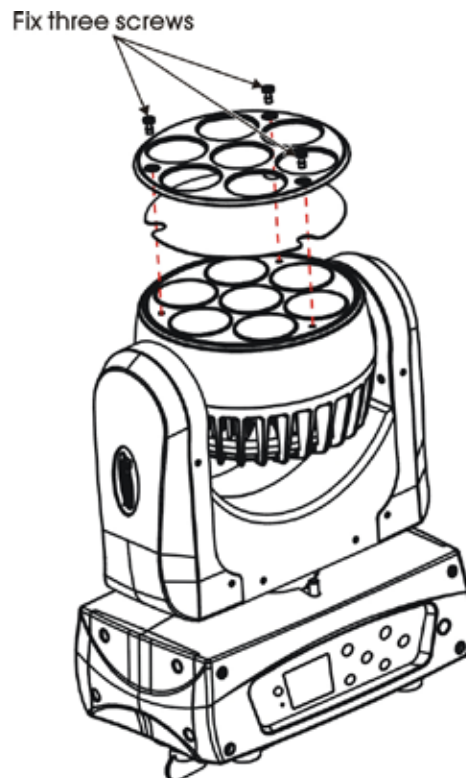
SNOOT (SKU# RAY047-SNOOT)

Place on top of Lens assembly and fix three screws as shown in diagram below.



DIFFUSION FILTER (SKU# RAY047-GFH)

Place on top of Lens assembly and fix three screws as shown in diagram below.



CLEANING AND MAINTENANCE



C A U T I O N

Disconnect power before cleaning or maintenance.

CLEANING

Frequent cleaning is recommended to insure proper function, optimized light output, and an extended life. The frequency of cleaning depends on the environment in which the fixture operates: damp, smoky or particularly dirty environments can cause greater accumulation of dirt on the fixture's optics.

- Clean the external lens surface at least every 20 days with a soft cloth to avoid dirt/debris accumulation.
- Never use alcohol, solvents, or ammonia based cleaners.

MAINTENANCE

Regular inspections are recommended to insure proper function and extended life. There are no user serviceable parts inside this fixture, please refer all other service issues to an authorized Elation service technician. Should you need any spare parts, please order genuine parts from your local Elation dealer.

Please refer to the following points during routine inspections:

- A detailed electric check by an approved electrical engineer every three months, to make sure the circuit contacts are in good condition and prevent overheating.
- Be sure all screws and fasteners are securely tightened at all times. Loose screws may fall out during normal operation resulting in damage or injury as larger parts could fall.
- Check for 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 fixture. Damaged rigging points or unsecured rigging could cause the fixture to fall and seriously injure a person(s).
- Electric power supply cables must not show any damage, material fatigue or sediments. Never remove the ground prong from the power cable.

TECHNICAL SPECIFICATIONS

FEATURES

High Speed High Output Moving Head LED Wash Luminaire
7° Beam / 13° Field Angle
2,165 Total Lumens
4 Independent LED Zones
RGBW Color Mixing and Color Macros
Flicker Free Operation for Broadcast TV and FILM

SOURCE

(7) 15W QUAD Color RGBW LEDs
100,000 Hour Average LED Life

EFFECTS

RGBW Color Mixing
Color & Chase Macros
4 Independent LED Zones
Dimming: 0% - 100%
Strobe: 1-18fps

CONTROL / CONNECTIONS

(3) DMX Channel Modes (15 / 17 / 29)
(6) Button Control Panel
LCD Menu Display
8 / 16 Bit Resolution Adjustable Movement
powerCON In/Out
5pin DMX In/Out

SIZE / WEIGHT

Length: 9.3" (235mm)
Width: 5.6" (141mm)
Vertical Height: 12.5" (318mm)
Weight: 11.0 lbs. (5kg)

ELECTRICAL / THERMAL

AC 100-240V - 50/60Hz
140W Max Power Consumption
14°F to 113°F (-10°C to 45°C)

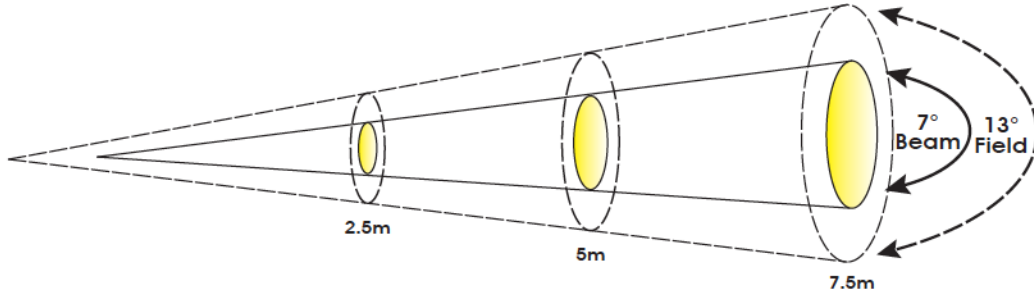
APPROVALS / RATINGS

CE | P20 |



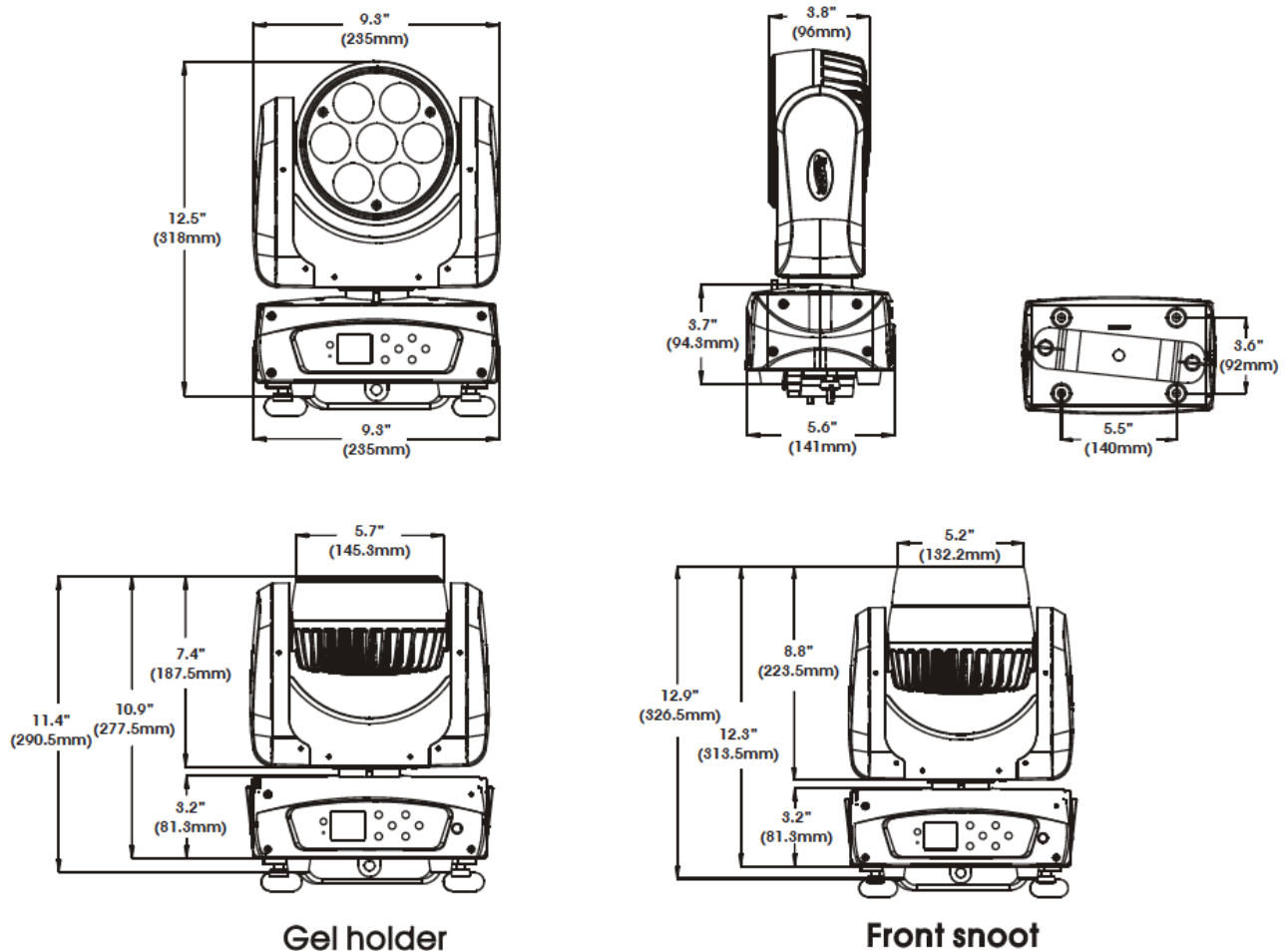
Please Note: Specifications and improvements in the design of this unit and this manual are subject to change without any prior written notice.

PHOTOMETRIC DATA



Distance	m	ft	m	ft	m	ft
	2.5	8.2	5	16.4	7.5	24.6
7° Beam Diameter	0.3	1.0	0.6	2.0	0.9	3.0
13° Field Diameter	0.58	1.9	1.16	3.8	1.74	5.7
	lux	fc	lux	fc	lux	fc
RED LEDs	2,817	262	756	70	295	27
GREEN LEDs	6,650	618	1,769	164	768	71
BLUE LEDs	910	85	250	23	108	10
WHITE LEDs	8,963	833	2,310	215	1,001	93
FULL ON	15,500	1,440	3,920	364	1,743	162

DIMENSIONAL DRAWINGS



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

OPTIONAL ACCESSORIES

ORDER CODE	ITEM
TRIGGER CLAMP	Heavy Duty Wrap Around Hook Style Clamp
EWDMSYSTEM	Wireless DMX System (1 Transmitter, 1 Receiver)
EWDMXT	Wireless DMX Transmitter
EWDMXR	Wireless DMX Receiver
RAY047-SNOOT	Snoot Lens Cover
RAY047-GFH	Diffusion Filter Holder
AC5PDMX5PRO	5 ft. (1.5m) 5pin PRO DMX Cable
	Additional Cable Lengths Available