KRYO.MORPH

TABLE OF CONTENTS

1. GETTING STARTED

What's In The Box?

- 1 x Kryo.Morph™ 10R Beam/Wash/Spot
- A sweet set of mounting brackets
- A groovy power cord
- This lovely user manual

Getting It Out Of The Box

Congratulations on purchasing the Kryo.Morph™, the most far-out moving head in the galaxy with mind-blowing 3-in-1 beam/spot/wash capabilities! Now that you've got your Kryo.Morph™ *(or hopefully, Morphs!)* you should carefully unpack the box and check the contents to ensure that all parts are present and in good condition. If anything looks as if it has been damaged in transit, notify the shipper immediately and keep the packing material for inspection. Again, please save the carton and all packing materials. If a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

Powering Up!

All fixtures must be powered directly off a switched circuit and **cannot be run off a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0% to 100% switch**.

AC Voltage Switch - Not all fixtures have a voltage select switch, so please verify that the fixture you receive is suitable for your local power supply. See the label on the fixture or refer to the fixture's specifications chart for more information. A fixture's listed current rating is its average current draw under normal conditions. Check the fixture or device carefully to make sure that if a voltage selection switch exists that it is set to the correct line voltage you will use.

Warning! *Verify that the voltage select switch on your unit matches the line voltage applied. Damage to your fixture may result if the line voltage applied does not match the voltage indicated on the voltage selector switch. All fixtures must be connected to circuits with a suitable Ground (Earthing).*

Getting A Hold Of Us
If something is wrong, please just visit our website at www.blizzardlighting.com/ support and open a support ticket. We'll be happy to help, honest.

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SAFETY INSTRUCTIONS

> Please read these instructions carefully. They include important information about the installation, usage and maintenance of this product.

• This fixture falls under protection class I, this fixture must be earthed!

• This product is intended for indoor use only.

• Make sure that you are connecting to the proper voltage, and that the line voltage you are connecting to is not higher than that stated on the decal or rear panel of the fixture.

• Avoid direct eye exposure to the light source while it is on.

• To prevent risk of fire or shock, do not expose fixture to rain or moisture.

• The minimum distance between light output and the illuminated surface must be more than 10 meters (32.8 FT).

• Do not touch the device's housing bare hands during its operation (housing becomes hot). Allow the fixture to cool approximately 20 minutes.

• If the fixture has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.

• During the initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective.

• The lamp has to be replaced when it is damaged or deformed due to the heat. Fast on-off-cycles (e.g. 10 min. on/10 min. off) will reduce lamp life.

• Always disconnect the fixture from AC power before cleaning, removing or installing the fuses, or any part.

• For replacement use lamps and fuses of same type and rating only.

• Make sure there are no flammable materials close to the unit while operating.

• The unit must be installed in a location with adequate ventilation, at least 20in (50cm) from adjacent surfaces. Be sure that no ventilation slots are blocked.

• ALWAYS secure fixture using a safety chain. Use its carrying handles while transporting.

• DO NOT operate at ambient temperatures higher than 104°F (40°C).

• In the event of a serious operating problem, stop using the unit immediately. NEVER try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage.

• NEVER connect the device to a dimmer pack.

• Make sure the power cord is never crimped or damaged.

Caution! There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact us at www.blizzardlighting.com/support.

2. MEET THE KRYO.MORPH™ MOVING HEAD

MAIN FEATURES

- 280W Beam/Wash/Spot 3-in-1 Moving Head
- HRI 280W discharge lamp light source
- Smooth dimmer from 0 - 100%
- Control channels: 13/16/24-channel
- Pan: 540°/tilt: 270°, 8/16-bit
- Color wheel: 13 dichroic filters + white
- Rotating gobo wheel: 9 indexable and replaceable slot-n-lock glass gobos +open
- Static gobo wheel: 10 metal gobos & 4 beam reducers
- 8-facet circular bidirectional prism with speed control
- 6-facet linear bidirectional prism with speed control
- Frost effect: separate, variable
- Strobe effect with variable speed (up to 15 flashes/sec.)
- 8/16-bit motorized zoom and focus
- LCD touch screen + 4-button control menu
- Pan/tilt-lock mechanism

ADDITIONAL FEATURES

- Protocol: USITT DMX-512
- DMX Channels: 13/16/24-channel
- Operating modes: standalone, master/slave, auto, sound active
- Dual quarter-turn "OMEGA" clamp brackets
- PowerCon™ compatible in power connector
- Internal fan cooling system

DMX QUICK REFERENCE - 13/16/24-CHANNEL MODES

Channel	Defe 13-channel	Small 16-channel	Standard 24-channel
1	Color Wheel	Pan	Pan
2	Shutter/Strobe	Tilt	Fine Pan
3	Dimmer	Pan/Tilt Speed	Tilt
4	Gobo 1 (Fixed)	Macro Function	Fine Tilt
5	Prism	Color Wheel	Pan/Tilt Speed
6	Prism Rotation	Reserved	Macro Function
7	Gobo 2 (Rotating)	Gobo 1 (Fixed)	Color Wheel
8	Frost	Gobo 2 (Rotating)	Reserved
9	Focus	Gobo Rotation	Reserved
10	Pan	Prism	Gobo 1 (Fixed)
11	Fine Pan	Prism Rotation	Gobo 2 (Rotating)
12	Tilt	Frost	Gobo Rotation
13	Fine Tilt	Zoom	Reserved
14	--	Focus	Prism
15	--	Shutter/Strobe	Prism Rotation
16	--	Dimmer	Frost
17	--	--	Zoom
18	--	--	Fine Zoom
19	--	--	Focus
20	--	--	Fine Focus
21	--	--	Reserved
22	--	--	Shutter/Strobe
23	--	--	Dimmer
24	--	--	Reserved

Figure 1: The Kryo.Morph™ Pin-Up Picture

HRI 280W
Discharge
Lamp

Head/Arms

**The pan and tilt
lock latches should
be in their locked
positions during
transportation.*

*Move these
latches to their
unlocked positions
before operating
the fixture.*

Tilt
Lock

Pan
Lock

Carry
Handle

Control
Buttons

Touchscreen LCD Display

Figure 2: The Rear Connections

5-Pin
DMX
In

3-Pin
DMX
In

Power
Switch

Power
Input

5-Pin
DMX
Out

3-Pin
DMX
Out

Fuse Holder

Page 6
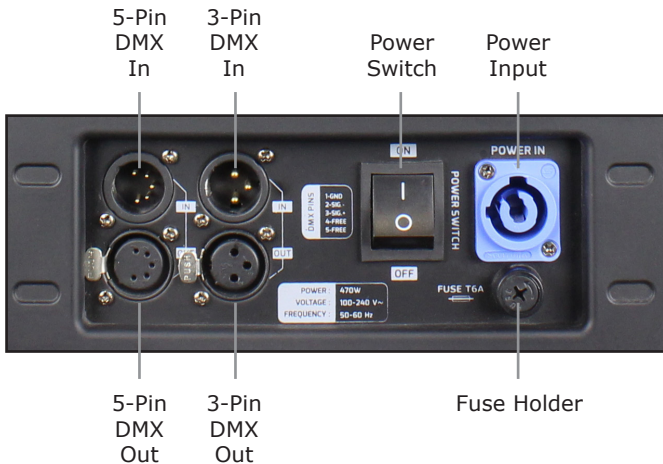
3. SETUP

 !

Before replacing a fuse, disconnect power cord. ALWAYS replace with the same type and rating of fuse.

Fuse Replacement

With a phillips head screwdriver, unscrew the fuse holder out of its housing. Remove the damaged fuse from its holder and replace with exact same type of fuse. Reattach the fuse holder, and then reconnect power.

Connecting A Bunch of Kryo.Morph™ Fixtures

You will need a serial data link to run light shows using a DMX-512 controller or to run shows on two or more fixtures set to sync in master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.

Fixtures on a serial data link must be daisy chained in one single line. Also, connecting more than 32 fixtures on one serial data link without the use of a DMX optically-isolated splitter may result in deterioration of the digital DMX signal. The maximum recommended cable-run distance is 500 meters (1640 ft). The maximum recommended number of fixtures on a serial data link is 32 fixtures.

Data/DMX Cabling

To link fixtures together you'll need data cables. You should use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

For instance, Belden© 9841 meets the specifications for EIA RS-485 applications. Standard microphone cables will "probably" be OK, but note that they cannot transmit DMX data as reliably over long distances. In any event, the cable should have the following characteristics:

> *2-conductor twisted pair plus a shield*
> *Maximum capacitance between conductors – 30 pF/ft.*
> *Maximum capacitance between conductor & shield – 55 pF/ft.*
> *Maximum resistance of 20 ohms / 1000 ft.*
> *Nominal impedance 100 – 140 ohms*

Cable Connectors

Cables must have a male XLR connector on one end and a female XLR connector on the other end. (Duh!)
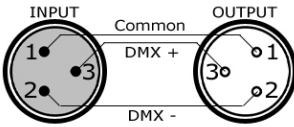
A Word on Termination: DMX is a resilient communication protocol, however errors still occasionally occur. Termination reduces signal errors, and therefore best practices include use of a terminator in all circumstances. If you are experiencing problems with erratic fixture behavior, especially over long signal cable runs, a terminator may help improve performance.

To build your own DMX Terminator: Obtain a 120-ohm, 1/4-watt resistor, and wire it between pins 2 & 3 of the last fixture. They are also readily available from specialty retailers.

120-ohm, 1/4-watt resistor
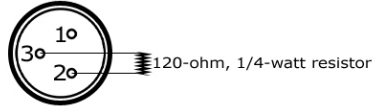
CAUTION: Do not allow contact between the common and the fixture's chassis ground. Grounding the common can cause a ground loop, and your fixture may perform erratically. Test cables with an ohm meter to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or each other.

3-Pin??? 5-Pin??? Huh?!?

If you use a controller with a 5 pin DMX output connector, you will need to use a 5 pin to 3-pin adapter. They are widely available over the internet and from specialty retailers If you'd like to build your own, the chart below details a proper cable conversion:

Conductor	3-Pin Female (Output)	5-Pin Male (Input)
Ground/Shield	Pin 1	Pin 1
DMX Data (-)	Pin 2	Pin 2
DMX Data (+)	Pin 3	Pin 3
Not Used.	No Connection.	No Connection.
Not Used.	No Connection.	No Connection.

Take It To The Next Level: Setting Up DMX Control

Step 1: Connect the male connector of the DMX cable to the female connector (output) on the controller.

Step 2: Connect the female connector of the DMX cable to the first fixture's male connector (input). *Note:* It doesn't matter which fixture address is the first one connected. We recommend connecting the fixtures in terms of their proximity to the controller, rather than connecting the lowest fixture number first, and so on.
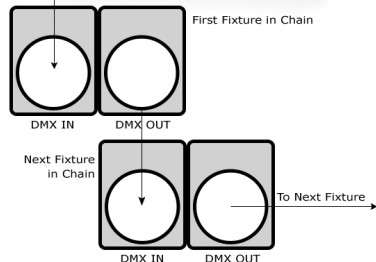
Step 3: Connect other fixtures in the chain from output to input as above. Place a DMX terminator on the output of the final fixture to ensure best communication.

First Fixture in Chain

DMX IN   DMX OUT

Next Fixture in Chain

To Next Fixture

DMX IN   DMX OUT

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Fixture Linking (Master/Slave Mode)

1. Connect the (male) 3/5-pin connector side of the DMX cable to the output (female) 3/5-pin connector of the first fixture.
2. Connect the end of the cable coming from the first fixture which will have a (female) 3/5-pin connector to the input connector of the next fixture consisting of a (male) 3/5-pin connector. Then, proceed to connect from the output as stated above to the input of the following fixture and so on.

First Fixture in Chain

DMX IN   DMX OUT

Next Fixture in Chain

To Next Fixture

DMX IN   DMX OUT
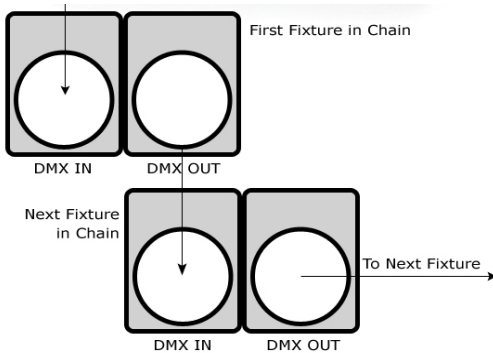
A quick note: Often, the setup for Master-Slave and Standalone operation requires that the first fixture in the chain be initialized for this purpose via either settings in the control panel or DIP-switches. Secondarily, the fixtures that follow may also require a slave setting.

Check the "**Operating Adjustments**" section in this manual for complete instructions for this type of setup and configuration.

Mounting & Rigging

This fixture may be mounted in any SAFE position provided there is enough room for ventilation.

It is important never to obstruct the fan or vents pathway. Mount the fixture using a suitable "C" or "O" type clamp. The clamp should be rated to hold at least 10x the fixture's weight to ensure structural stability. Do not mount to surfaces with unknown strength, and ensure properly "rated" rigging is used when mounting fixtures overhead.

Adjust the angle of the fixture by loosening both knobs and tilting the fixture. After finding the desired position, retighten both knobs.

• When selecting installation location, take into consideration lamp replacement access (if applicable) and routine maintenance.

• Safety cables MUST ALWAYS be used.

• Never mount in places where the fixture will be exposed to rain, high humidity, extreme temperature changes or restricted ventilation.

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Mounting Points

Overhead mounting requires extensive experience, which includes calculating working load limits, 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.
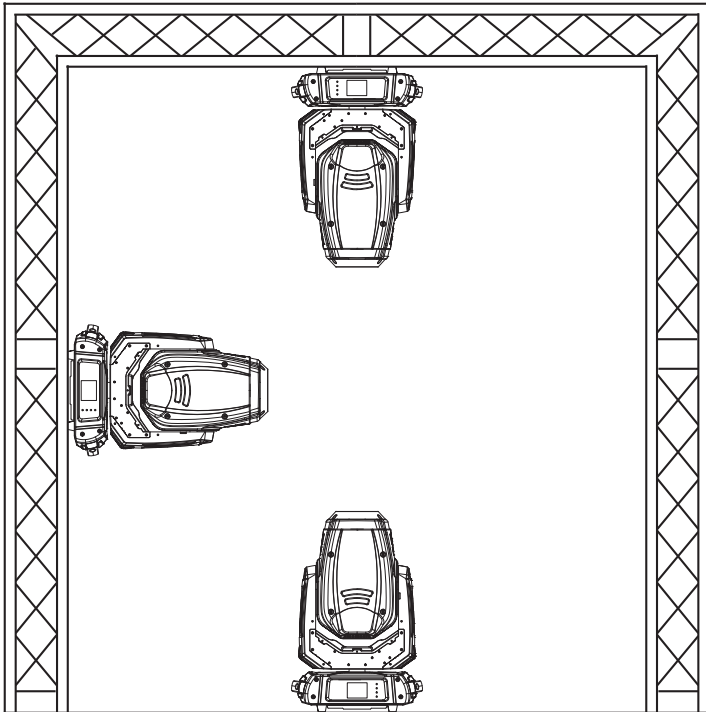
Caution!

Please be aware, you should have a qualified electrician performing all of your electrical connection needs. Better safe than sorry!

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

Clamp Mounting

This fixture provides a mounting bracket assembly that secures the bottom of the base, the "Omega Brackets," and the safety cable rigging point together. When mounting this fixture to truss, be sure to secure an appropriately rated clamp to the omega bracket using an M10 screw fitted through the center hole of the "omega bracket".

1.) Clamp
2.) Omega Bracket
3.) ¼ Turn Quick Lock Fasteners
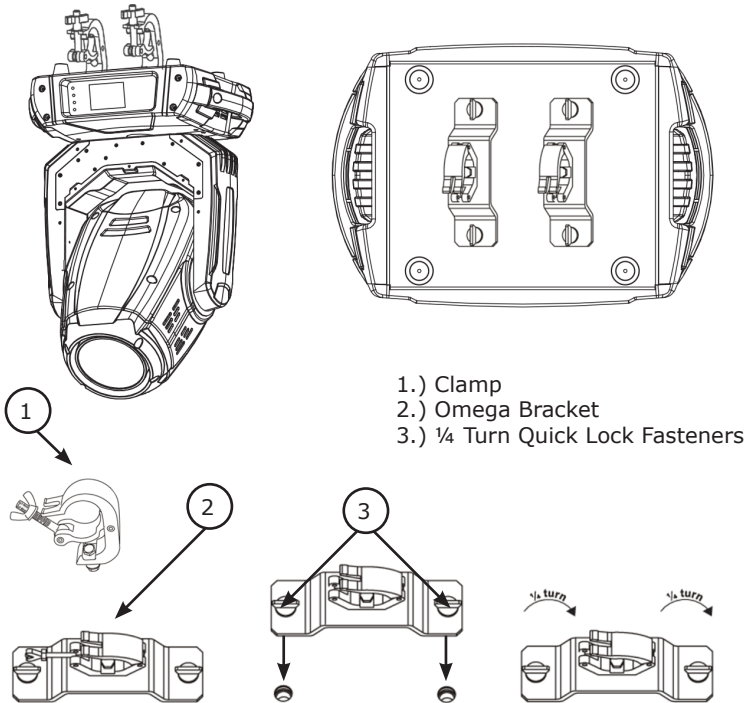
Securing the Fixture

Regardless of the rigging option you choose for your fixtures always be sure to secure your fixture with a safety cable. Be sure to only use the designated rigging point found on the underside of the base assembly for the safety cable. Never secure a safety cable to a carrying handle.

Changing The Lamp

DANGER: Install the lamp with the fixture unplug from mains!

WARNING: Do not touch the lamp's envelope with bare hands. Should this happen, clean the bulb with a cloth soaked in alcohol and dry it.
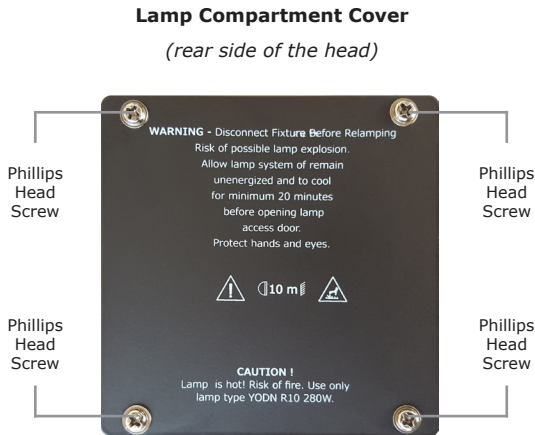
1.) First disconnect the fixture from mains and allow it to cool for at least 20 minutes.

Lamp Compartment Cover

(rear side of the head)

Phillips Head Screw

Phillips Head Screw

Phillips Head Screw

Phillips Head Screw

WARNING - Disconnect Fixture Before Relamping
Risk of possible lamp explosion.
Allow lamp system of remain
unenergized and to cool
for minimum 20 minutes
before opening lamp
access door.
Protect hands and eyes.

10 m

CAUTION !
Lamp is hot! Risk of fire. Use only
lamp type YODN R10 280W.

2.) Remove the lamp compartment cover from the rear side of the head by taking out the 4 phillips head screws that hold it in place.

3.) Remove both electrical fastons from the flat blades of the lamp.

4.) Holding the lamp by its ceramic base, carefully pull it outwards until it snaps free from the spring locks that hold it in place, and remove the old lamp from the compartment.

5.) Holding the new lamp by its ceramics base, insert it into the lamp compartment until it snaps into place (held by the spring locks).

Note: *Do not install a lamp with a higher wattage!*

A lamp like this will generate temperatures this fixture is not designed for. Damages caused by non-observance are not subject to warranty.

6.) Slide both fastons onto the new lamp blades

7.) Reinstall the lamp compartment cover.

Never operate this fixture without the lamp!
Do not operate this fixture without the lamp cover!

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Lamp Adjustment

The lamp holder is aligned at the factory. Due to differences between lamps, fine adjustment may improve light performance. This fixture is designed to make horizontal (left and right) fine adjustments.

Image on the wall

1.) Connect the fixture to the mains, switch on the lamp, open shutter and dimmer, set zoom and focus (static gobo wheel and rotating gobo wheel should be set at zero), and check the image on the wall.
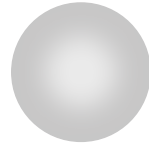
2.) The hot spot should be fairly centered within the circle of light that is projected on the wall.

Centered lamp

3.) If needed, the lamp needs to move into the direction of shifted hot spot.

Move the lamp to the right ▶

◀ Move the lamp to the left

Lamp Compartment:

Loosen Hex Screw

Loosen Hex Screw

Edge of Lamp Holder

Edge of Lamp Holder
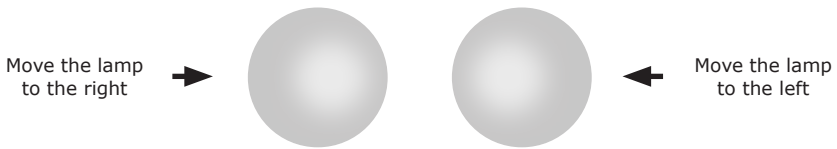
Loosen Hex Screw
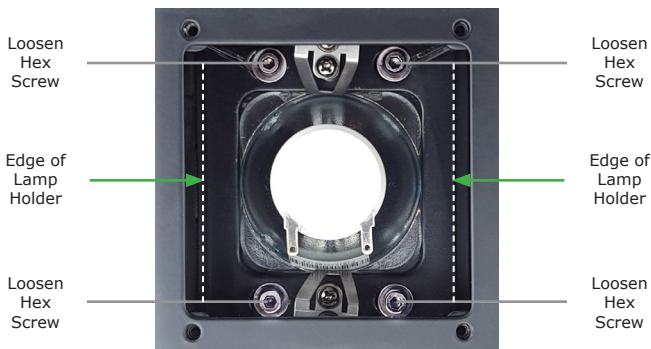
Loosen Hex Screw

4.) Disconnect the fixture from mains, and remove the lamp compartment cover *(see page 12)*.

5.) Loosen *(but do not remove)* the 4 hex screws that secure the lamp holder.

6.) Place a flat head screwdriver on the left or right edge of the lamp holder, and gently push the horizontally sliding lamp holder to the left or right to make any fine adjustments, then re-tighten the hex screws.

7.) Reinstall the lamp compartment cover, connect the fixture to the mains and check if the adjustment has been correctly made. To adjust again, disconnect the fixture from mains and repeat.

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4. OPERATING ADJUSTMENTS

The Control Panel

All the goodies and different modes possible with the Kryo.Morph™ are accessed by using the control panel on the front of the fixture. In addition to the on-screen touch sensitive menu icons, there are 4 control menu buttons to the right of the LCD display which allow you to navigate through the various control panel menus.

<FUNC>

Is used to return to the main menu navigation screen.

<UP>

Scrolls through menu items and numbers in ascending order.

<DOWN>

Scrolls through menu items and numbers in descending order.

<ENTER>

Is used to select and confirm/store the current selection.

The control panel LCD display shows the menu items you select from the menu map on pages 15-16. On the home screen there are 8 icons to choose from, **Feature Settings**, **Manual**, **System Info**, **Display Settings**, **Lamp Settings**, **Rotate Display**, **Language**, and **Back to Home** icons.

The 4 corresponding buttons are **<FUNC>**, **<UP>**, **<DOWN>**, and **<ENTER>**. Press the **<ENTER>** button once from startup to reach the home screen, use the **<UP/DOWN>** buttons to scroll through the menu, press **<ENTER>** for the sub menu to make changes or touch the icon on the screen.

Control Panel Menu Structure

Icon	Level 1	Level 2	Level 3
	FEATURES SETTING	Run Mode	DMX / Wire (slave) / Auto
		ChanMode	DEFE (13-channel mode)
			SMAL (16-channel mode)
			STAN (20-channel mode)
		X Reverse	ON/OFF
		Y Reverse	ON/OFF
		X. Angle	540
		XY Fback	ON/OFF
		SignalClear	ON/OFF
		Full Color	ON/OFF
		Shortcut	ON/OFF
		RST.	
		SAVE	
		ESC	
		ADV.	Zero. Set
			Chan. Def.
			Fact. Set
			Use. Mang.
			ESC
		UNLOCK	PassWord1 (0-255)
			PassWord2 (0-255)
			KEY
			ESC
		Passwords:	
		Zero. Set/Chan. Def.	1,0
		Fact. Set	1,2
		Use. Mang.	3,4
	MANUAL	REST (reset)	ALL MOTOR (Yes/No)
			PART MOTOR (Yes/No)
			XY MOTOR (Yes/No)
		TEST RUN	AUTO
			SOUND
			ESC
		SMULATE DMX (Add value to the DMX channels)	CH1-CH32 (0-255)
			ESC

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Control Panel Menu Structure (continued)

Icon	Level 1	Level 2	Level 3
	SYSTEM INFO	DMX VALUE	CH1-CH32(0-255)
			ESC
		OTHER INFO	Run Time (0-9999)
			Run Count (0-9999)
			Fan 1 (0-9999)
			Fan 2 (0-9999)
			Temp 1 (0-100)
			Temp 2 (0-100)
			ESC
		ERROR INFO	Color
			RotGobos
			FixeGobo
			Plane
			Tilt
			RotGobos1
			Prism
			Effect
			Prism.R
			Effect.R
			Zoom
			Focus
			ESC
	DISPLAY SETTINGS	Brightness	Level 1-7
		LightDelay	10Sec/20Sec/30Sec/On
		Menuback	10Sec/20Sec/30Sec/Off
		Flicker	ON/OFF
		Save	
		ESC	
	LAMP SETTINGS	Default	ON/OFF
		Manual	ON/OFF
		Electronic	ON/OFF
		ESC	
	ROTATE DISPLAY	Change orientation of the display	
	LANGUAGE	Chinese/English	
	BACK	Back to LOGO screen	

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DMX Values In-Depth (16/24-Channel Mode)

Standard Mode: 24ch	Compact Mode: 16ch	Value	What It Does
1	1	000 <--> 255	Pan
2	--	000 <--> 255	Fine Pan
3	2	000 <--> 255	Tilt
4	--	000 <--> 255	Fine Tilt
5	3	000 <--> 255	Pan/Tilt Speed
6	4	000 <--> 049 050 <--> 059 060 <--> 069 070 <--> 079 080 <--> 089 090 <--> 099 100 <--> 109 110 <--> 119 120 <--> 129 130 <--> 139 140 <--> 149 150 <--> 189 190 <--> 199 200 <--> 209 210 <--> 229 230 <--> 239 240 <--> 255	**Macro Function** Blank Pan/Tilt Speed Mode Pan/Tilt Time Mode Blackout while pan/tilt moves Disabled blackout while pan/tilt moves Blackout while color wheel moves Disabled blackout while color wheel moves Blackout while gobo wheel moving Disabled blackout while gobo wheel moves Lamp On, reset all (except pan/tilt) Pan/Tilt Reset Effects Reset Blank Light Reset Blank Lamp Off By Controller Blank
7	5	0 9 18 27 37 46 55 64 73 82 91 101 110 119 128 <--> 129 130 <--> 134 135 <--> 138 139 <--> 143 144 <--> 147 148 <--> 152 153 <--> 157 158 <--> 161 162 <--> 166 167 <--> 171 172 <--> 176 177 <--> 180 181 <--> 185 186 <--> 189 190 <--> 215 216 <--> 217 218 <--> 243 244 <--> 249 250 <--> 255	**Color Wheel** (continual positioning) White Deep Red Deep Blue Yellow Green Magenta Azure Red Deep Green Amber Blue Orange Cooling Fluorescent Blue White **Color Wheel** (positioning by color) Crimson Deep Blue Yellow Green Magenta Azure Red Deep Green Amber Blue Orange Cooling Fluorescent Blue Forwards rainbow effect (fast <--> slow) No Rotation Backwards rainbow effect (slow <--> fast) Random color selection by sound control Random color selection by audio control
8	--	--	Reserved
9	6	--	Reserved

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DMX Values In-Depth (16/24-Channel Mode), continued

Standard Mode: 24ch	Compact Mode: 16ch	Value	What It Does
10	7		**Static Gobo Wheel**
		000 <--> 003	Open
		004 <--> 009	Gobo 1
		010 <--> 015	Gobo 2
		016 <--> 021	Gobo 3
		022 <--> 027	Gobo 4
		028 <--> 033	Gobo 5
		034 <--> 039	Gobo 6
		040 <--> 045	Gobo 7
		046 <--> 051	Gobo 8
		052 <--> 057	Gobo 9
		058 <--> 063	Gobo 10
		064 <--> 069	Beam reducer 1
		070 <--> 075	Beam reducer 2
		076 <--> 087	Beam reducer 3
		088 <--> 095	Gobo 1 Shake (slow <--> fast)
		096 <--> 103	Gobo 2 Shake (slow <--> fast)
		104 <--> 111	Gobo 3 Shake (slow <--> fast)
		112 <--> 119	Gobo 4 Shake (slow <--> fast)
		120 <--> 127	Gobo 5 Shake (slow <--> fast)
		128 <--> 135	Gobo 6 Shake (slow <--> fast)
		136 <--> 143	Gobo 7 Shake (slow <--> fast)
		144 <--> 151	Gobo 8 Shake (slow <--> fast)
		152 <--> 159	Gobo 9 Shake (slow <--> fast)
		160 <--> 167	Gobo 10 Shake (slow <--> fast)
		168 <--> 175	Beam reducer 1
		176 <--> 183	Beam reducer 2
		184 <--> 199	Beam reducer 3
		200 <--> 201	Open
		202 <--> 221	Forwards gobo wheel rotation (fast <--> slow)
		222 <--> 223	No rotation
		224 <--> 243	Backwards gobo wheel rotation (slow <--> fast)
		244 <--> 249	Random gobo selection by audio control
		250 <--> 255	Auto random gobo (fast <--> slow)
11	8		**Rotating Gobo Wheel**
		000 <--> 004	Blank
		005 <--> 007	Gobo 1
		008 <--> 010	Gobo 2
		011 <--> 013	Gobo 3
		014 <--> 016	Gobo 4
		017 <--> 019	Gobo 5 *Set indexing on channel 12/9*
		020 <--> 022	Gobo 6
		023 <--> 025	Gobo 7
		026 <--> 028	Gobo 8
		029 <--> 031	Gobo 9
		032 <--> 034	Gobo 1
		035 <--> 037	Gobo 2
		038 <--> 040	Gobo 3
		041 <--> 043	Gobo 4 *Set rotation on channel 12/9*
		044 <--> 046	Gobo 5
		047 <--> 049	Gobo 6
		050 <--> 052	Gobo 7
		053 <--> 055	Gobo 8
		056 <--> 059	Gobo 9
		060 <--> 067	Gobo 1 Shake
		068 <--> 075	Gobo 2 Shake
		076 <--> 083	Gobo 3 Shake
		084 <--> 091	Gobo 4 Shake *Set indexing on channel 12/9*
		092 <--> 099	Gobo 5 Shake
		100 <--> 107	Gobo 6 Shake
		108 <--> 115	Gobo 7 Shake *(slow <--> fast)*
		116 <--> 123	Gobo 8 Shake
		124 <--> 129	Gobo 9 Shake

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DMX Values In-Depth (16/24-Channel Mode), continued

Standard Mode: 24ch	Compact Mode: 16ch	Value	What It Does
11	8	130 <--> 137 138 <--> 145 146 <--> 153 154 <--> 161 162 <--> 169 170 <--> 177 178 <--> 185 186 <--> 193 194 <--> 199 200 <--> 201 202 <--> 221 222 <--> 223 224 <--> 243 244 <--> 249 250 <--> 255	**Static Gobo Wheel (continued)** Gobo 1 Shake Gobo 2 Shake Gobo 3 Shake *Set rotation on Gobo 4 Shake channel 12/9 Gobo 5 Shake Gobo 6 Shake (slow <--> fast) Gobo 7 Shake Gobo 8 Shake Gobo 9 Shake Open Forwards gobo wheel rotation (fast <--> slow) No rotation Backwards gobo wheel rotation (slow <--> fast) Random gobo selection by audio control Auto random gobo (fast <--> slow)
12	9	000 <--> 127 128 <--> 177 178 <--> 203 204 <--> 255	**Gobo Rotation** Indexing Backwards gobo rotation (slow <--> fast) Stop Forwards gobo rotation (fast <--> slow)
13	--	--	Reserved
14	10	000 <--> 019 020 <--> 049 050 <--> 075 076 <--> 105 106 <--> 127 128 <--> 135 136 <--> 143 144 <--> 151 152 <--> 159 160 <--> 167 168 <--> 175 176 <--> 183 184 <--> 191 192 <--> 199 200 <--> 207 208 <--> 215 216 <--> 223 224 <--> 231 232 <--> 239 240 <--> 247 248 <--> 255	**Prism** Open 6-facet linear rotating prism 6-facet circular rotating prism 8-facet linear rotating prism 8-facet circular rotating prism Macro function 1 Macro function 2 Macro function 3 Macro function 4 Macro function 5 Macro function 6 Macro function 7 Macro function 8 Macro function 9 Macro function 10 Macro function 11 Macro function 12 Macro function 13 Macro function 14 Macro function 15 Macro function 16
15	11	000 <--> 127 128 <--> 191 192 <--> 193 194 <--> 255	**Prism Rotation** Index Forward prism rotation (fast <--> slow) No rotation Backward prism rotation (slow <--> fast)
16	12	000 <--> 064 065 <--> 255	**Frost** Open Frost (0% <--> 100%)
17	13	000 <--> 255	**Zoom** From maximum to minimum beam angle
18	--	000 <--> 255	**Zoom - Fine** Fine zooming
19	14	000 <--> 255	**Focus** Continuous adjustment (far <--> near)
20	--	000 <--> 255	**Focus - Fine** Fine focusing

DMX Values In-Depth (16/24-Channel Mode), continued

Standard 24ch	Small 16ch	Value	What It Does
21	--	--	Reserved
22	15	000 <--> 031 032 <--> 063 064 <--> 095 096 <--> 127 128 <--> 143 144 <--> 159 160 <--> 191 192 <--> 223 224 <--> 255	**Shutter/Strobe** Shutter closed Shutter open Strobe effect (slow <--> fast) Strobe open Closing pulse in sequences (fast <--> slow) Opening pulse in sequences (slow <--> fast) Shutter open Random strobe effect (slow <--> fast) Shutter open
23	16	000 <--> 255	**Dimmer** Dimmer intensity (0% <--> 100%)
24	--	--	Reserved

DMX Values In-Depth (13-Channel Mode)

Defe 13-ch	Value	What It Does
1	0 9 18 27 37 46 55 64 73 82 91 101 110 119 128 <--> 129 130 <--> 134 135 <--> 138 139 <--> 143 144 <--> 147 148 <--> 152 153 <--> 157 158 <--> 161 162 <--> 166 167 <--> 171 172 <--> 176 177 <--> 180 181 <--> 185 186 <--> 189 190 <--> 215 216 <--> 217 218 <--> 243 244 <--> 249 250 <--> 255	**Color Wheel** (continual positioning) White Deep Red Deep Blue Yellow Green Magenta Azure Red Deep Green Amber Blue Orange Cooling Fluorescent Blue White **Color Wheel** (positioning by color) Crimson Deep Blue Yellow Green Magenta Azure Red Deep Green Amber Blue Orange Cooling Fluorescent Blue Forwards rainbow effect (fast <--> slow) No Rotation Backwards rainbow effect (slow <--> fast) Random color selection by sound control Random color selection by audio control
2	000 <--> 031 032 <--> 063 064 <--> 095 096 <--> 127	**Shutter/Strobe** Shutter closed Shutter open Strobe effect (slow <--> fast) Strobe open

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Defe 13-ch	Value	What It Does
2	128 <--> 143 144 <--> 159 160 <--> 191 192 <--> 223 224 <--> 255	Closing pulse in sequences (fast <--> slow) Opening pulse in sequences (slow <--> fast) Shutter open Random strobe effect (slow <--> fast) Shutter open
3	000 <--> 255	**Dimmer** Dimmer intensity (0% <--> 100%)
4	000 <--> 003 004 <--> 009 010 <--> 015 016 <--> 021 022 <--> 027 028 <--> 033 034 <--> 039 040 <--> 045 046 <--> 051 052 <--> 057 058 <--> 063 064 <--> 069 070 <--> 075 076 <--> 087 088 <--> 095 096 <--> 103 104 <--> 111 112 <--> 119 120 <--> 127 128 <--> 135 136 <--> 143 144 <--> 151 152 <--> 159 160 <--> 167 168 <--> 175 176 <--> 183 184 <--> 199 200 <--> 201 202 <--> 221 222 <--> 223 224 <--> 243 244 <--> 249 250 <--> 255	**Static Gobo Wheel** Open Gobo 1 Gobo 2 Gobo 3 Gobo 4 Gobo 5 Gobo 6 Gobo 7 Gobo 8 Gobo 9 Gobo 10 Beam reducer 1 Beam reducer 2 Beam reducer 3 Gobo 1 Shake (slow <--> fast) Gobo 2 Shake (slow <--> fast) Gobo 3 Shake (slow <--> fast) Gobo 4 Shake (slow <--> fast) Gobo 5 Shake (slow <--> fast) Gobo 6 Shake (slow <--> fast) Gobo 7 Shake (slow <--> fast) Gobo 8 Shake (slow <--> fast) Gobo 9 Shake (slow <--> fast) Gobo 10 Shake (slow <--> fast) Beam reducer 1 Beam reducer 2 Beam reducer 3 Open Forwards gobo wheel rotation (fast <--> slow) No rotation Backwards gobo wheel rotation (slow <--> fast) Random gobo selection by audio control Auto random gobo (fast <--> slow)
5	000 <--> 019 020 <--> 049 050 <--> 075 076 <--> 105 106 <--> 127 128 <--> 135 136 <--> 143 144 <--> 151 152 <--> 159 160 <--> 167 168 <--> 175 176 <--> 183 184 <--> 191 192 <--> 199 200 <--> 207 208 <--> 215 216 <--> 223 224 <--> 231 232 <--> 239 240 <--> 247 248 <--> 255	**Prism** Open 6-facet linear rotating prism 6-facet circular rotating prism 8-facet linear rotating prism 8-facet circular rotating prism Macro function 1 Macro function 2 Macro function 3 Macro function 4 Macro function 5 Macro function 6 Macro function 7 Macro function 8 Macro function 9 Macro function 10 Macro function 11 Macro function 12 Macro function 13 Macro function 14 Macro function 15 Macro function 16

DMX Values In-Depth (13-Channel Mode), continued

Defe 13-ch	Value	What It Does
6	000 <--> 127 128 <--> 191 192 <--> 193 194 <--> 255	**Prism Rotation** Index Forward prism rotation (fast <--> slow) No rotation Backward prism rotation (slow <--> fast)
7	000 <--> 004 005 <--> 007 008 <--> 010 011 <--> 013 014 <--> 016 017 <--> 019 020 <--> 022 023 <--> 025 026 <--> 028 029 <--> 031 032 <--> 034 035 <--> 037 038 <--> 040 041 <--> 043 044 <--> 046 047 <--> 049 050 <--> 052 053 <--> 055 056 <--> 059 060 <--> 067 068 <--> 075 076 <--> 083 084 <--> 091 092 <--> 099 100 <--> 107 108 <--> 115 116 <--> 123 124 <--> 129	**Rotating Gobo Wheel** Blank Gobo 1 Gobo 2 Gobo 3 Gobo 4 Gobo 5 Gobo 6 Gobo 7 Gobo 8 Gobo 9 Gobo 1 Gobo 2 Gobo 3 Gobo 4 Gobo 5 Gobo 6 Gobo 7 Gobo 8 Gobo 9 Gobo 1 Shake Gobo 2 Shake Gobo 3 Shake Gobo 4 Shake Gobo 5 Shake Gobo 6 Shake Gobo 7 Shake Gobo 8 Shake Gobo 9 Shake
8	000 <--> 064 065 <--> 255	**Frost** Open Frost (0% <--> 100%)
9	000 <--> 255	**Focus** Continuous adjustment (far <--> near)
10	000 <--> 255	Pan
11	000 <--> 255	Fine Pan
12	000 <--> 255	Tilt
13	000 <--> 255	Fine Tilt

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Gobo Replacement

1) Remove the gobo cover by removing the four screws on the top of the fixture head.
2) Remove the slot-n-lock gobo from the gobo wheel by lifting up slightly and sliding it out.
3) Using a small tool, pry the tension ring from the gobo holder.
4) Remove the old gobo, insert the new gobo, and replace in the reverse steps of removal.
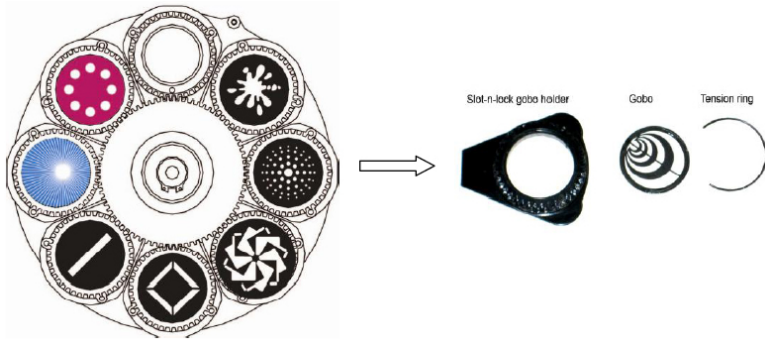
Troubleshooting

Symptom	Solution
Fixture Auto-Shut Off	Check the fan in the fixture. If it is stopped or moving slower than normal, the unit may have shut itself off due to high heat. This is to protect the fixture from overheating. Clear the fan of obstructions, or return the unit for service.
Beam is Dim	Check optical system and clean excess dust/grime. Also ensure that the 220V/110V switch is in the correct position, if applicable.
No Light Output	Check to ensure fixture is operating under correct mode, IE sound active/auto/DMX/Etc., if applicable.
No Power	Check fuse, AC cord and circuit for malfunction.
Blown Fuse	Check AC cord and circuit for damage, verify that moving parts are not restricted and that unit's ventilation is not obstructed
Slow Movement	Check that speed channels are set appropriately.
No Response to Audio	Verify that the fixture is in "Sound Active" mode. Adjust Audio Sensitivity, If Applicable.
Fixture Not Responding / Responding Erratically	Make sure all connectors are seated properly and securely. Use Only DMX Cables. Install a Terminator. Check all cables for defects. Reset fixture(s).
Fixture Moving On Its Own	Verify proper mode of operation. Is the fixture in "Auto" mode?

**If your problem isn't listed, or if problems persist,
please open a support ticket at www.blizzardlighting.com/support.**

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5. APPENDIX

A Quick Lesson On DMX

DMX (aka DMX-512) was created in 1986 by the United States Institute for Theatre Technology (USITT) as a standardized method for connecting lighting consoles to lighting dimmer modules. It was revised in 1990 and again in 2000 to allow more flexibility. The Entertainment Services and Technology Association (ESTA) has since assumed control over the DMX512 standard. It has also been approved and recognized for ANSI standard classification.

DMX covers (and is an abbreviation for) Digital MultipleXed signals. It is the most common communications standard used by lighting and related stage equipment.

DMX provides up to 512 control "channels" per data link. Each of these channels was originally intended to control lamp dimmer levels. You can think of it as 512 faders on a lighting console, connected to 512 light bulbs. Each slider's position is sent over the data link as an 8-bit number having a value between 0 and 255. The value 0 corresponds to the light bulb being completely off while 255 corresponds to the light bulb being fully on.

DMX data is transmitted at 250,000 bits per second using the RS-485 transmission standard over two wires. As with microphone cables, a grounded cable shield is used to prevent interference with other signals.

There are five pins on a DMX connector: a wire for ground (cable shield), two wires for "Primary" communication which goes from a DMX source to a DMX receiver, and two wires for a "Secondary" communication which goes from a DMX receiver back to a DMX source. Generally, the "Secondary" channel is not used so data flows only from sources to receivers. Hence, most of us are most familiar with DMX-512 as being employer over typical 3-pin "mic cables," although this does not conform to the defined standard.

DMX is connected using a daisy-chain configuration where the source connects to the input of the first device, the output of the first device connects to the input of the next device, and so on. The standard allows for up to 32 devices on a single DMX link.

Each receiving device typically has a means for setting the "starting channel number" that it will respond to. For example, if two 6-channel fixtures are used, the first fixture might be set to start at channel 1 so it would respond to DMX channels 1 through 6, and the next fixture would be set to start at channel 7 so it would respond to channels 7 through 12.

The greatest strength of the DMX communications protocol is that it is very simple and robust. It involves transmitting a reset condition (indicating the start of a new "packet"), a start code, and up to 512 bytes of data. Data packets are transmitted continuously. As soon as one packet is finished, another can begin with no delay if desired (usually another follows within 1 ms). If nothing is changing (i.e. no lamp levels change) the same data will be sent out over and over again. This is a great feature of DMX -- if for some reason the data is not interpreted the first time around, it will be re-sent shortly.

Not all 512 channels need to be output per packet, and in fact, it is very uncommon to find all 512 used. The fewer channels are used, the higher the "refresh" rate. It is possible to get DMX refreshes at around 1000 times per second if only 24 channels are being transmitted. If all 512 channels are being transmitted, the refresh rate is around 44 times per second.

In summary, since its design and evolution in the 1980's DMX has become the standard for lighting control. It is flexible, robust, and scalable, and its ability to control everything from dimmer packs to moving lights to foggers to lasers makes it an indispensable tool for any lighting designer or lighting performer.

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Keeping Your Kryo.Morph™ As Good As New

The fixture you've received is a rugged, tough piece of pro lighting equipment, and as long as you take care of it, it will take care of you. That said, like anything, you'll need to take care of it if you want it to operate as designed. You should absolutely keep the fixture clean, especially if you are using it in an environment with a lot of dust, fog, haze, wild animals, wild teenagers or spilled drinks.

Cleaning the optics routinely with a suitable glass cleaner will greatly improve the quality of light output. Keeping the fans free of dust and debris will keep the fixture running cool and prevent damage from overheating.

In transit, keep the fixtures in cases. You wouldn't throw a prized guitar, drumset, or other piece of expensive gear into a gear trailer without a case, and similarly, you shouldn't even think about doing it with your shiny new light fixtures.

Common sense and taking care of your fixtures will be the single biggest thing you can do to keep them running at peak performance and let you worry about designing a great light show, putting on a great concert, or maximizing your client's satisfaction and "wow factor." That's what it's all about, after all!

Returns (Gasp!)

We've taken a lot of precautions to make sure you never even have to worry about sending a defective unit back, or sending a unit in for service. But, like any complex piece of equipment designed and built by humans, once in a while, something doesn't go as planned. If you find yourself with a fixture that isn't behaving like a good little fixture should, you'll need to obtain a Return Authorization (RA).

Don't worry, this is easy. Just go to our website and open a support ticket at www.blizzardlighting.com/support, and we'll issue you an RA. Then, you'll need to send the unit to us using a trackable, pre-paid freight method. We suggest using USPS Priority or UPS. Make sure you carefully pack the fixture for transit, and whenever possible, use the original box & packing for shipping.

When returning your fixture for service, be sure to include the following:

> 1.) Your contact information (Name, Address, Phone Number, Email address).
> 2.) The RA# issued to you
> 3.) A brief description of the problem/symptoms.

We will, at our discretion, repair or replace the fixture. Please remember that any shipping damage which occurs in transit to us is the customer's responsibility, so pack it well!

Shipping Issues

Damage incurred in shipping is the responsibility of the shipper, and must be reported to the carrier immediately upon receipt of the items. Claims must be made within seven (7) days of receipt.
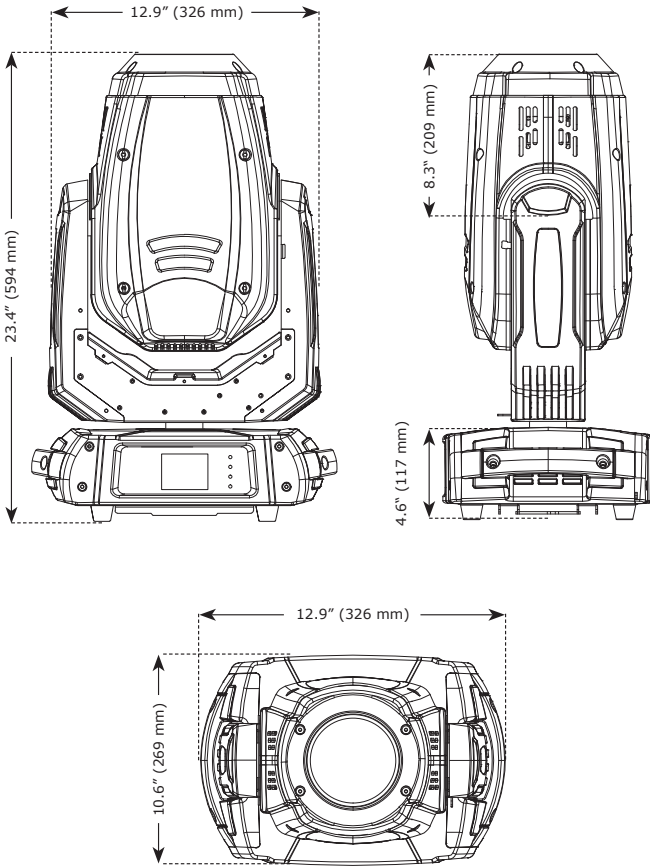
Tech Specs!

Weight & Dimensions	
Width	15.3 inches (388 mm)
Depth	10.6 inches (269 mm)
Height	23.4 inches (594 mm)
Weight	15.5 lbs (34.2 kg)
Power	
Operating Voltage	100-240VAC, 50-60 Hz (autoranging)
Fuse	5A 250V
Power Consumption	365W, 3.12A, PF: .99
Light Source	
Lamp	HRI 280W discharge lamp
Optical	
Beam Angle	2.5°-10° beam application, 5°–20° spot application
Luminous Intensity	Beam mode narrow: 132,811 lux @ 5M Beam mode wide: 46,094 lux @ 5M Spot mode narrow: 76,955 lux @ 5M Spot mode wide: 6,588 lux @ 5M Wash mode narrow: 12,420 lux @ 5M Wash mode wide: 3,707 lux @ 5M
Gobo Size	14.75mm (external dimensions), 13mm (inner dimensions)
Movement Range	
Pan	540°
Tilt	270°
Thermal	
Max. Operating Temp.	104 degrees F (40 degrees C) ambient
Control	
Protocol	USITT DMX-512
DMX Channels	13/16/24-channel
Input	3-pin XLR Male
Output	3-pin XLR Female
Other Information	
The best thing about telepathy is... I know, right?	
Warranty	2-year limited warranty.

DISCLAIMER:
The power connector fitted to the fixture and fixture cord are designed for compatibility with products manufactured by Neutrik AG, Neutrik USA and their related entities, however they are not manufactured by, affiliated with or endorsed by Neutrik AG, Neutrik USA, or any related entity. Neutrik® and powerCON® are registered trademarks of Neutrik AG.

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Dimensional Drawings

12.9" (326 mm)

23.4" (594 mm)

8.3" (209 mm)

4.6" (117 mm)

12.9" (326 mm)

10.6" (269 mm)

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Enjoy your product!
Our sincerest thanks for your purchase!
--The team @ Blizzard Lighting