

MAX™
150



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1. GETTING STARTED

What's In The Box?

- 1 x G-Max™ 150 Moving Head Spot
- An Ever-So-Handy Power Cord
- A Sweet Safety Cable & set of Mounting Brackets
- This Lovely User Manual

Getting It Out Of The Box

Congratulations on your purchase of like, the most totally awesome to the max, G-Max™ 150 LED moving head spot, OMG! Now that you've got your G-Max™ 150 (or hopefully, G-Maxes!), 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 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.

- Please keep this User Guide for future use. If you sell the unit to someone else, be sure that they also receive this User Guide.
- ALWAYS 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.
- This product is intended for indoor use only.
- To prevent risk of fire or shock, do not expose fixture to rain or moisture.
- 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 disconnect from the power source before servicing or replacing fuse and be sure to replace with same fuse size and type.
- ALWAYS secure fixture using a safety chain. NEVER carry the fixture by its head. Use its carrying handles.
- 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 or malfunction. Please contact the nearest authorized technical assistance center. Always use the same type spare parts.
- NEVER connect the device to a dimmer pack.
- Make sure the power cord is never crimped or damaged.
- Never disconnect the power cord by pulling or tugging on the cord.
- Avoid direct eye exposure to the light source while it is on.

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 open a support ticket at www.blizzardlighting.com/tickets.

2. MEET THE G-MAX™ 150 MOVING HEAD

MAIN FEATURES

- Single 150W white LED spot moving head
- 16-bit smooth pan/tilt resolution
- 540° pan + 270° tilt with 3-phase motors
- Automatic pan/tilt position correction
- 7 colors + open color wheel with half-colors
- 2 gobo wheels, 1 static/1 rotating, both with 7 gobos + open
- 3/8-facet dual prism with variable speed and direction & iris effects
- Automatic and manual focus capabilities
- 0-100% linear LED dimmer
- Internal fan cooling
- 3-pin and 5-pin male/female input and outputs
- PowerCon™ compatible AC power In/Out connectors

CONTROL:

- Protocol: USITT DMX-512
- DMX Channels: 21/23/24
- 4-button menu with LCD icon-based display
- Operating Modes: Standalone, Master/Slave, Auto, Sound Active

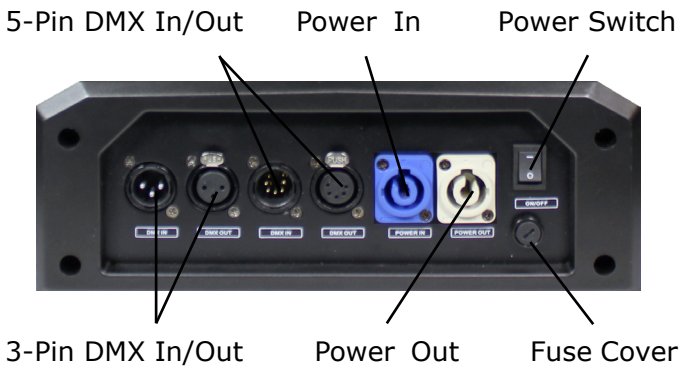
DMX Quick Reference (21/23/24-Channel Modes)

Channel	Reduced Mode (21ch)	Channel	Standard Mode (23ch)	Channel	Extended Mode (24ch)
1	Pan	1	Pan	1	Pan
2	Tilt	2	Fine Pan	2	Fine Pan
3	Pan/Tilt Speed	3	Tilt	3	Tilt
4	Shutter/Strobe Function	4	Fine Tilt	4	Fine Tilt
5	Shutter/Strobe	5	Pan/Tilt Speed	5	Pan/Tilt Speed
6	Dimmer	6	Shutter/Strobe Function	6	Pan/Tilt Function
7	Color Wheel Function	7	Shutter/Strobe	7	Shutter/Strobe Function
8	Color Wheel	8	Dimmer	8	Shutter/Strobe
9	Gobo Wheel 1 Function	9	Color Wheel Function	9	Dimmer
10	Gobo Wheel 1	10	Color Wheel	10	Color Wheel Function
11	Gobo 1 Rotation Functions	11	Gobo Wheel 1 Function	11	Color Wheel
12	Gobo 1 Rotation Speed	12	Gobo Wheel 1	12	Gobo Wheel 1 Function
13	Gobo Wheel 2 Functions	13	Gobo 1 Rotation Functions	13	Gobo Wheel 1
14	Gobo Wheel 2	14	Gobo 1 Rotation Speed	14	Gobo 1 Rotation Functions
15	Prism	15	Gobo Wheel 2 Functions	15	Gobo 1 Rotation Speed
16	Prism Rotation	16	Gobo Wheel 2	16	Gobo Wheel 2 Functions
17	Focus Functions	17	Prism	17	Gobo Wheel 2
18	Focus	18	Prism Rotation	18	Prism
19	Iris Functions	19	Focus Functions	19	Prism Rotation
20	Iris	20	Focus	20	Focus Functions
21	Reset/Display Control	21	Iris Functions	21	Focus
--	--	22	Iris	22	Iris Functions
--	--	23	Reset/Display Control	23	Iris
--	--	--	--	24	Reset/Display Control

Figure 1: The G-Max™ 150 Pin-Up Picture



Figure 2: The Rear Connections



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 which is a 5A, 220V fuse. Reattach the fuse holder, and then reconnect power.

Connecting A Bunch of G-Max™ 150 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*

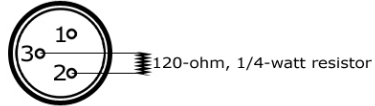
Cable Connectors

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.



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:

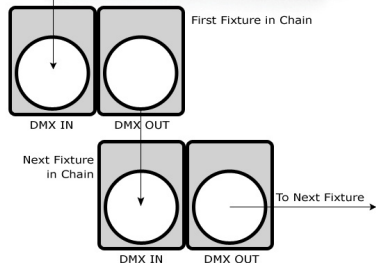
Conductor	3-Pin Female (Output)	5-Pin Male (Input)
Ground/Shield	Pin 1	Pin 1
DMX Data (-)	Pin 2	Pin 2
DMX Data (+)	Pin 3	Pin 3
Not Used.	No Connection.	No Connection.
Not Used.	No Connection.	No Connection.

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.



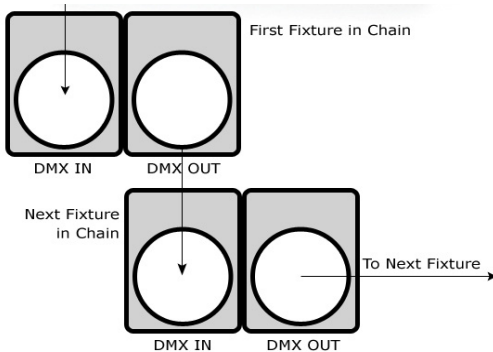
Step 2: Connect the female connector of the DMX cable to the first fixture's male connector (input). *Note:* It doesn't matter which fixture address is the first one connected. We recommend connecting the fixtures in terms of their proximity to the controller, rather than connecting the lowest fixture 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.

Fixture Linking (Master/Slave Mode)

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



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. Secondly, 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.

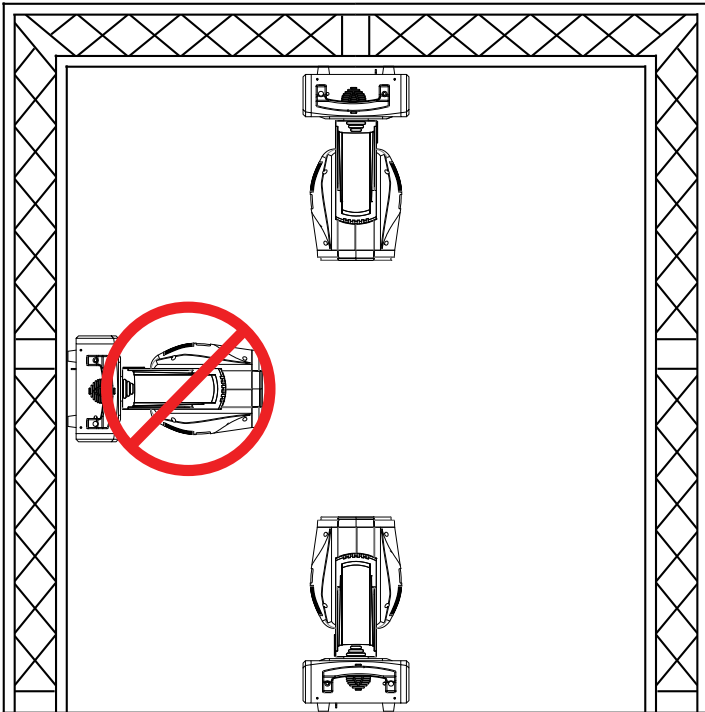
It is important never to obstruct the fan or vents pathway. Mount the fixture using a suitable "C" or "O" type clamp. The clamp should be rated to hold at least 10x the fixture's weight to ensure structural stability. Do not mount to surfaces with unknown strength, and ensure properly "rated" rigging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

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.



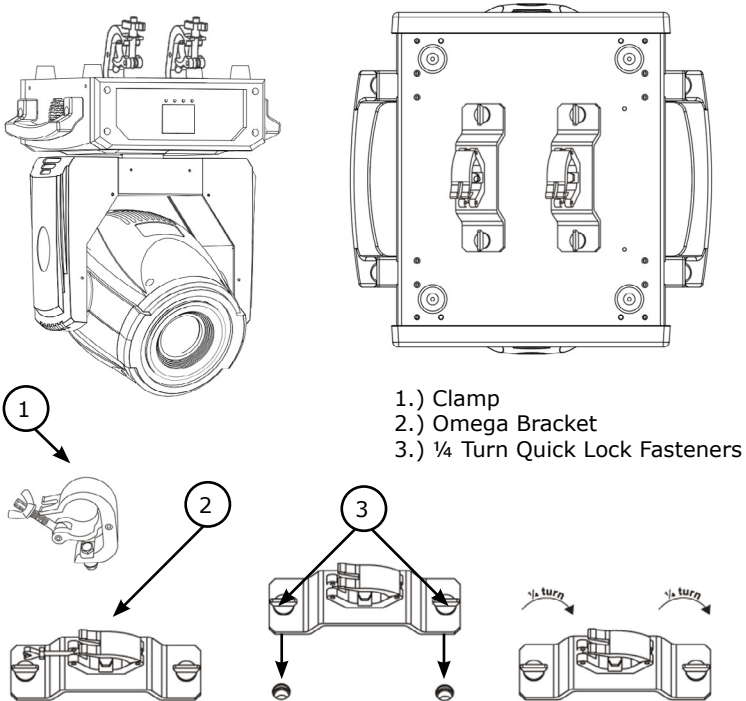
Caution!

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".



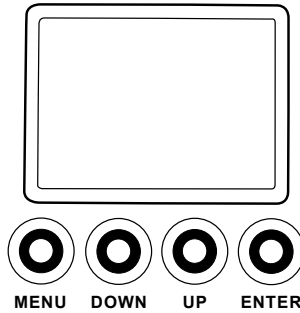
Securing the Fixture

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.

4. OPERATING ADJUSTMENTS

The Control Panel

All the goodies and different modes possible with the G-Max™ 150 are accessed by using the control panel on the front of the fixture. There are 4 control buttons below the LCD display which allow you to navigate through the various control panel menus.



Button	Function
<MENU>	Used to access the menu or to return to a previous menu option.
<UP>	Scrolls through menu options in ascending order.
<DOWN>	Scrolls through menu options in descending order.
<ENTER>	Used to select and store the current menu or option within a menu.

Access control panel functions using the four panel buttons located directly underneath the LCD Display.

The Control Panel LCD Display shows the menu items you select from the menu map on page #13. When a menu function is selected, the display will show immediately the first available option for the selected menu function. To select a menu item, press **<ENTER>**.

Use the **<UP>** and **<DOWN>** buttons to navigate the menu map and menu options. Press the **<ENTER>** button to access the menu function currently displayed or to enable a menu option. To return to the previous option or menu without changing the value, press the **<MENU>** button.

Control Panel Menu Structure

Main Function	Sub Function	Selection	What It Does...
Address	N/A	001 <-> 512	Sets the DMX address
System	Channel Mode	Reduced	21-channel DMX mode
		Standard	23-channel DMX mode
		Extended	24-channel DMX mode
	Backlight	Auto	Backlight turns off after 20s of inactivity
		Keep On	Backlight is on continually
	Reset	Head Reset	Reset the color & gobo wheels
		Pan/Tilt	Reset the pan & tilt motors
		All Reset	Full fixture reset
	Channel	Pan	Pan Adjustment (000-255)
		Tilt	Tilt Adjustment (000-255)
		Strobe	Strobe Rate (slow <-> fast)
		Dimmer	Dimmer (0% <-> 100%)
		Color	Color Wheel (000-255)
		Gobo1	Gobo Wheel 1 (000-255)
		Gobo1_Rot	Gobo 1 Rotation (slow <-> fast)
		Gobo2	Gobo Wheel 2 (000-255)
		Effect	Prism Effect (000-255)
		Effect_Rot	Prism Rotate (000-255)
		Focus	Focus (near <-> far)
		Iris	Iris Adjustment (000-255)
Run Mode---	Auto Program 1	OK / Cancel	Set the fixture to run Auto 1
	Auto Program 2	OK / Cancel	Set the fixture to run Auto 2
	Auto Program 3	OK / Cancel	Set the fixture to run Auto 3
	Sound Control	OK / Cancel	Set the fixture to run in Sound Active Mode
	DMX512 Mode	OK / Cancel	Set the fixture to run in DMX Mode
Option	Pan/Tilt	Invert Pan	Invert pan
		Invert Tilt	Invert tilt
		Swap Pan-Tilt	Invert the pan and tilt
	Curve	Curve 1	Dimming Curve 1
		Curve 2	Dimming Curve 2
		Curve 3	Dimming Curve 3
	Display	Normal	Normal LCD display
		Turn Over	Flip the LCD display

DMX Channel Values In-Depth

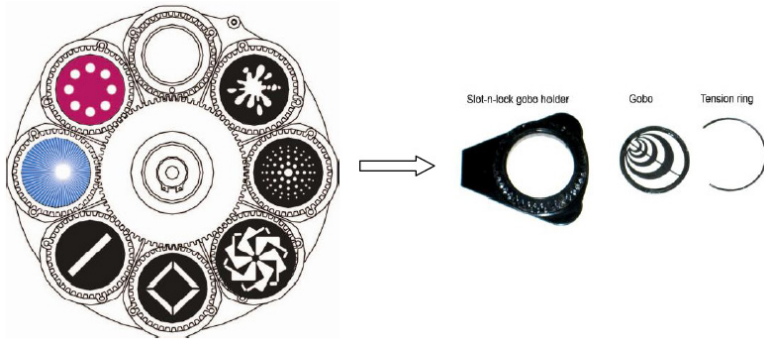
Reduced Mode	Standard Mode	Extended Mode	Channel Value	What it does
1	1	1	000 <-> 255	Pan
--	2	2	000 <-> 255	Pan Fine (16-Bit Pan)
2	3	3	000 <-> 255	Tilt
--	4	4	000 <-> 255	Tilt Fine (16-Bit Tilt)
3	5	5	000 <-> 255	Movement Speed (fast <-> slow)
--	--	6	000 <-> 015 016 <-> 031 032 <-> 255	Pan/Tilt Channel Function Normal Function Blackout During Pan/Tilt Normal Function
4	6	7	000 <-> 015 016 <-> 031 032 <-> 047 048 <-> 063 064 <-> 255	Shutter/Strobe Channel Functions Normal Strobe (strobe speed channel increases speed) Ramp Up (strobe speed channel decreases speed) Ramp Down (strobe speed channel decreases speed) Random strobe (strobe speed channel increases speed) No Function
5	7	8	000 <-> 031 032 <-> 223 224 <-> 255	Shutter/Strobe Closed Strobe speed Open
6	8	9	000 <-> 255	Dimmer (0% <-> 100%)
7	9	10	000 <-> 015 016 <-> 031 032 <-> 047 048 <-> 063 064 <-> 255	Color Wheel Channel Functions Normal Color Change Blackout Between Color Changes Forward Rainbow Effect (0-255, slow <-> fast) Backward Rainbow Effect (0-255, slow <-> fast) Manual Rotation (0-360 degree rotation)
8	10	11	000 <-> 013 014 <-> 027 028 <-> 041 042 <-> 055 056 <-> 069 070 <-> 083 084 <-> 097 098 <-> 111 112 <-> 125 126 <-> 139 140 <-> 153 154 <-> 167 168 <-> 181 182 <-> 195 196 <-> 209 210 <-> 223 224 <-> 237 233 <-> 255	Color Wheel Open/White Half Color 1 - White/Red Full Color 1 - Red Half Color 2 - Red/Orange Full Color 2 - Orange Half Color 3 - Orange/Yellow Full Color 3 - Yellow Half Color 4 - Yellow/Green Full Color 4 - Green Half Color 5 - Green/Blue Full Color 5 - Blue Half Color 6 - Blue/Magenta Full Color 6 - Magenta Half Color 7 - Magenta/Lt. Blue Full Color 7 - Light Blue Half Color 8 - Light Blue/Pink Full Color 8 - Pink Half Color 9 - Pink/Open
9	11	12	000 <-> 015 016 <-> 031 032 <-> 047 048 <-> 063 064 <-> 079 080 <-> 255	Gobo Wheel 1 Channel Functions Normal Gobo Change Blackout Between Gobo Changes Forward Wheel Rotation (slow <-> fast) Backward Wheel Rotation (slow <-> fast) Manual Wheel Rotation (0-360 degree rotation) Gobo-Shake (slow <-> fast)
10	12	13	000 <-> 031 032 <-> 063 064 <-> 095 096 <-> 127 128 <-> 159 160 <-> 191 192 <-> 223 224 <-> 255	Gobo Wheel 1 (Rotating Wheel) Open Gobo 1 Gobo 2 Gobo 3 Gobo 4 Gobo 5 Gobo 6 Gobo 7
11	13	14	000 <-> 015 016 <-> 031 032 <-> 047 048 <-> 063 064 <-> 079 080 <-> 095 096 <-> 111 112 <-> 255	Gobo Wheel 1 Rotation Channel Functions Gobo Indexing Clockwise Gobo Rotation Counterclockwise Gobo Rotation Motion Macro Forward Motion Macro Forward with Blackout Motion Macro Backward Motion Macro Backward with Blackout

DMX Channel Values In-Depth (continued)

Reduced Mode	Standard Mode	Extended Mode	Channel Value	What it does
12	14	15	000 <-> 255	Gobo 1 Indexing Positioning from 0-360 degrees (0-15 set in previous function channel)
			000 <-> 007 008 <-> 255	Gobo 1 Forward Rotation Speed Stop Increases speed (16-31 set in previous function channel)
			000 <-> 007 008 <-> 255	Gobo 1 Backward Rotation Speed Stop Increases speed (32-47 set in previous function channel)
			000 <-> 255	Gobo 1 Motion Macro Forward/Forward with Blackout Speed Increases speed (64-79 set in previous function channel)
			000 <-> 255	Gobo 1 Motion Macro Backward/Backward with Blackout Speed Increases speed (80-111 set in previous function channel)
13	15	16	000 <-> 015 016 <-> 031 032 <-> 047 048 <-> 063 064 <-> 079 080 <-> 255	Gobo Wheel 2 Channel Functions Normal Gobo Change Blackout Between Gobo Changes Forward Wheel Rotation (<i>slow <-> fast</i>) Backward Wheel Rotation (<i>slow <-> fast</i>) Manual Wheel Rotation (<i>0-360 degree rotation</i>) Gobo-Shake (<i>slow <-> fast</i>)
			000 <-> 031 032 <-> 063 064 <-> 095 096 <-> 127 128 <-> 159 160 <-> 191 192 <-> 223 224 <-> 255	Gobo Wheel 2 (Static Wheel) Open Gobo 1 Gobo 2 Gobo 3 Gobo 4 Gobo 5 Gobo 6 Gobo 7
			000 <-> 063 064 <-> 127 128 <-> 191 192 <-> 255	Prism Open 8-Facet Prism 3-Facet Prism Frost
			000 <-> 063 064 <-> 127 128 <-> 191 192 <-> 255	Prism Rotation Prism Position Rotate Prism Forward (<i>fast <-> slow</i>) Rotate Prism Backward (<i>slow <-> fast</i>) Rotate Prism Forward/Backwards (<i>slow <-> fast</i>)
			000 <-> 015 016 <-> 031 032 <-> 047 048 <-> 063 064 <-> 095 096 <-> 255	Focus Functions Linear Focus (<i>near to far</i>) 5M (16.4 ft.) Auto Focus (<i>gobos and iris</i>) 7.5M (24.6 ft.) Auto Focus (<i>gobos and iris</i>) 10M (32.8 ft.) Auto Focus (<i>gobos and iris</i>) 15M (49.2 ft.) Auto Focus (<i>gobos and iris</i>) 20M (65.6 ft.) Auto Focus (<i>gobos and iris</i>)
			000 <-> 255	Focus Linear Focus (<i>near to far</i>), Auto Focus (<i>fine near to far</i>)
19	21	22	000 <-> 015 016 <-> 031 032 <-> 047 048 <-> 063 064 <-> 255	Iris Functions Iris Indexing Iris Effect 1 Iris Effect 1 Iris Effect 2 Iris Effect 2
			000 <-> 255	Iris Indexing (<i>Dia: max. to min.</i>), Pulse effect, open/close (<i>slow <-> fast</i>)
			000 <-> 007 008 <-> 015 016 <-> 023 024 <-> 039 040 <-> 055 056 <-> 063 064 <-> 071 072 <-> 079 080 <-> 087 088 <-> 095 096 <-> 255	Reset/Display Control No Function All Motors Reset Pan/Tilt Reset + Lamp Off Function Reset (<i>color/gobo/iris</i>) No Function Display Off Display ON No function No function Hibernation No function

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/tickets.

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.

Keeping Your G-Max™ 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/tickets, 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.

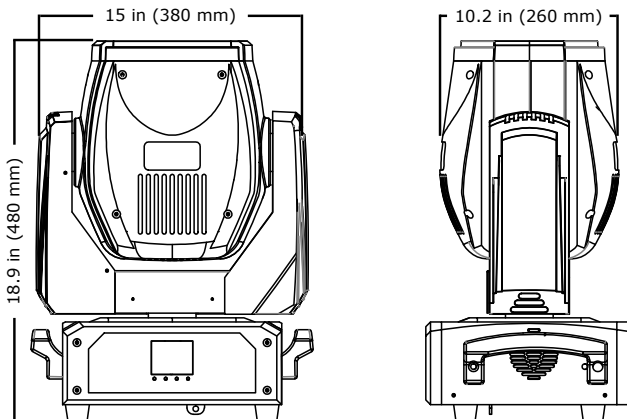
When returning your fixture for service, be sure to include the following:

- 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

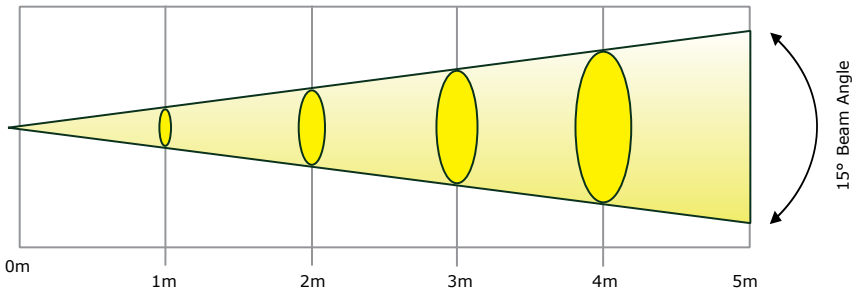
Damage incurred in shipping is the responsibility of the shipper, and must be reported to the carrier immediately upon receipt of the items. Claims must be made within seven (7) days of receipt.



Tech Specs!

Weight & Dimensions	
Width	15 inches (380 mm)
Depth	10.2 inches (260 mm)
Height	18.9 inches (480 mm)
Weight	33 lbs. (15 kg)
Power	
Operating Voltage	90-250VAC, 50-60 Hz
Power Consumption	266W, 2.28A, PF: .99
Light Source	
LED	150w white LED, 60,000 hours.
Optical	
Beam Angle	15 degree beam
Thermal	
Max. Operating Temp.	104 degrees F (40 degrees C) ambient
Control	
Protocol	USITT DMX-512
DMX Channels	21/23 or 24-channel DMX modes
Input/Output	3/5-pin XLR Male/Female
Other Operating Modes	Standalone, Master/Slave, Auto, Sound Active
Other Information	
If watermelon exists why doesn't earthmelon, firemelon and airmelon? The elemelons.	
Warranty	2-year limited warranty, does not cover malfunction caused by damage to LEDs.

Photometric Data: 15° Beam Angle LUX



129,313 @ 1m	45,760 @ 2m	21,577 @ 3m	12,158 @ 4m	7,926 @ 5m
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**Enjoy your product!
Our sincerest thanks for your purchase!
--The team @ Blizzard Lighting**