Loop™

blizzard LIGHTING

Blizzard Lighting, LLC
www.blizzardlighting.com
Waukesha, WI USA

TABLE OF CONTENTS

1. GETTING STARTED

What's In The Box?

- 1 x LOOP™ LED Moving Head Fixture
- 1 x Ever-So-Handy Power Cord
- 1 x Set of Mounting Brackets
- This Lovely User Manual

Getting It Out Of The Box

Congratulations on your purchase of LOOP™, the LED moving head packed with tons of beamy, loopy goodness! Now that you've got your LOOP™ *(or hopefully LOOPs)*, 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.

Disclaimer: The information and specifications contained in this document are subject to change without notice. Blizzard Lighting™ assumes no responsibility or liability for any errors or omissions that may appear in this user manual. Blizzard Lighting™ reserves the right to update the existing document or to create a new document to correct any errors or omissions at any time. You can download the latest version of this document from www.blizzardlighting.com.

Author:	Date:	Last Edited:	Date:
J. Thomas	6/16/2017	J. Thomas	6/16/2017

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/support.

2. MEET LOOP™

MAIN FEATURES

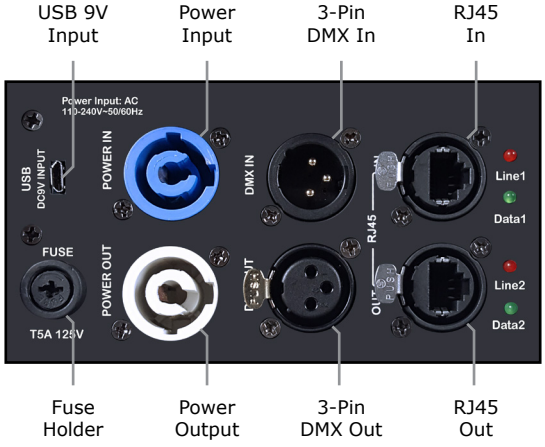
- 7* 40W RGBW high power 4-in-1 LEDs
- 7* RGB colored rings (84* 0.2W RGB 3-in-1 LEDs total)
- Individual pixel and LED ring control
- Narrow 5° beam angle (x7)
- Blazing fast 540°/270° tilt + infinite pan and tilt
- 3-phase pan/tilt motors with 16-bit resolution
- Built-in auto and sound active programs
- Multiple static color presets and rainbow effect macros
- Variable electronic dimming & strobe effects (1-20Hz)
- Flicker-free constant-current LED driver
- Art-NET (DMX over Ethernet) support
- 3-pin male input and 3-pin female output
- PowerCON™ compatible AC power In/Out connectors
- Protocol: USITT DMX-512, Art-NET
- 26/28/70-channel DMX modes
- 2.4 inch TFT color LCD display panel with 4x touch sensitive buttons

DMX Quick Reference (26/28/70-Channel Modes)

CH.	Basic (26ch)	CH.	Standard (28ch)	CH.	Extended (70ch)
1	Pan (0-540°)	1	Pan (0-540°)	1	Pan (0-540°)
2	Tilt (0-270°)	2	Fine Pan (16-bit)	2	Fine Pan (16-bit)
3	Pan & Tilt Speed	3	Tilt (0-270°)	3	Tilt (0-270°)
4	Infinite Pan	4	Fine Tilt (16-bit)	4	Fine Tilt (16-bit)
5	Infinite Tilt	5	Pan & Tilt Speed	5	Pan & Tilt Speed
6	Red (0-100%)	6	Infinite Pan	6	Infinite Pan
7	Green (0-100%)	7	Infinite Tilt	7	Infinite Tilt
8	Blue (0-100%)	8	Red (0-100%)	8	Strobe
9	White (0-100%)	9	Green (0-100%)	9	Dimmer
10	Strobe	10	Blue (0-100%)	10	Virtual Color Wheel
11	Dimmer	11	White (0-100%)	11	Color Presets
12	Virtual Color Wheel	12	Strobe	12	Chase Patterns
13	Color Presets	13	Dimmer	13	Chase Speed
14	Chase Patterns	14	Virtual Color Wheel	14	Chase Fade
15	Chase Speed	15	Color Presets	15	Color Presets Dimmer
16	Chase Fade	16	Chase Patterns	16	Reset
17	Color Presets Dimmer	17	Chase Speed	17	LED 1 - Red
18	Reset	18	Chase Fade	18	LED 1 - Green
19	Ring Red (0-100%)	19	Color Presets Dimmer	19	LED 1 - Blue
20	Ring Green (0-100%)	20	Reset	20	LED 1 - White
21	Ring Blue (0-100%)	21	Ring Red (0-100%)	--	--
22	Ring Strobe (0-20Hz)	22	Ring Green (0-100%)	21-40	LEDs 2 thru 6 (R/G/B/W)
23	Ring Dimmer	23	Ring Blue (0-100%)	--	--
24	Ring Chase Patterns	24	Ring Strobe (0-20Hz)	41	LED 7 - Red
25	Ring Chase Speed	25	Ring Dimmer	42	LED 7 - Green
26	Ring Chase Fade	26	Ring Chase Patterns	43	LED 7 - Blue
--	--	27	Ring Chase Speed	44	LED 7 - White
--	--	28	Ring Chase Fade	45	Ring Strobe (0-20Hz)
--	--	--	--	46	Ring Dimmer
--	--	--	--	47	Ring Chase Patterns
--	--	--	--	48	Ring Chase Speed
--	--	--	--	49	Ring Chase Fade
--	--	--	--	--	--
--	--	--	--	50	Ring 1 - Red
--	--	--	--	51	Ring 1 - Green
--	--	--	--	52	Ring 1 - Blue
--	--	--	--	--	--
--	--	--	--	53-67	Rings 2 thru 6 (R/G/B)
--	--	--	--	--	--
--	--	--	--	68	Ring 7 - Red
--	--	--	--	69	Ring 7 - Green
--	--	--	--	70	Ring 7 - Blue

Figure 1: LOOP™ Pin-Up Picture

Figure 2: The Rear Connections



3. SETUP

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

Fuse Replacement

Remove the fuse holder from of its housing. Then take out 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 LOOP™ 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

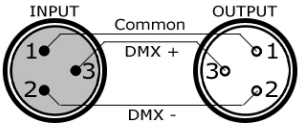
To link fixtures together you'll need data cables. You should use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

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

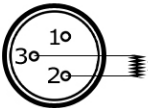
Cable Connectors

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, it's no problem! you can simply use the installed 5-pin DMX input and/or output connections found on the back of your fixture(s).

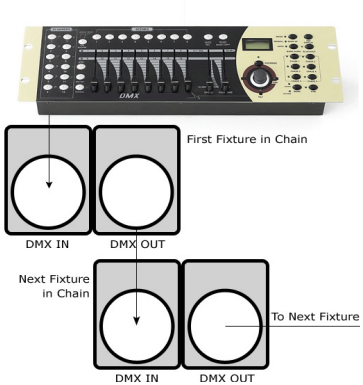
Conductor	3-Pin Female (Output)	5-Pin Male (Input)
Ground/Shield	Pin 1	Pin 1
Data 1- (Primary Data Link)	Pin 2	Pin 2
Data 1+ (Primary Data Link)	Pin 3	Pin 3
Data 2- (Optional Secondary Data Link)	Pin 4	Pin 4
Data 2+ (Optional Secondary Data Link)	Pin 5	Pin 5

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.

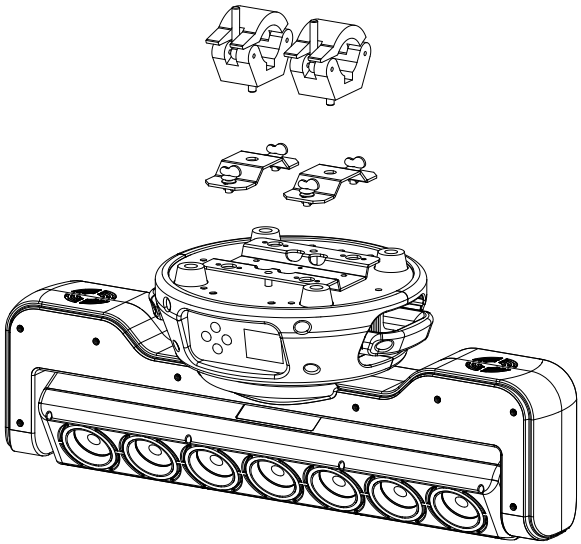


Installation

The fixture can be installed on the floor resting on its rubber feet, or mounted on truss.

• Choose a suitable place to put or hang the equipment when installing. When hanging the fixture, use the included clamp mounting brackets with suitable clamps to properly support the weight of the fixture.
• When installing the equipment, ensure that no flammable or explosive materials are within 1/2 meter distance.
• Please ask professionals to install the equipment. Any improper installation can cause personal injury or material damage.
• The equipment must be placed in a ventilated area, at least 50 cm from the ground, and always ensure that the vents are not clogged.
• Mount the fixture using suitable type clamps. 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.

WARNING: With the exception of when the fixture is positioned on the floor, a safety cable must always be used. It must be securely fixed to the support structure of the projector and then connected to the fixing point at the center of the base.



4. OPERATING ADJUSTMENTS

The Control Panel

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

<MENU>

Is used to navigate to the previous higher-level menu item.

<ENTER>

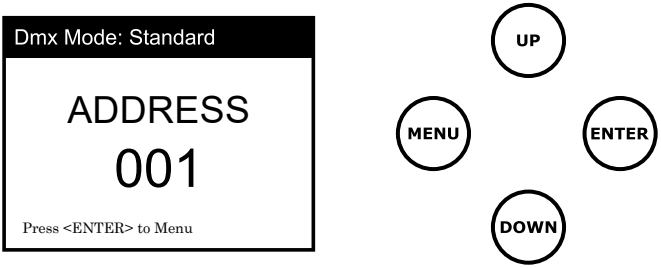
Is used to select and confirm/store the current selection.

<UP>

Scrolls through menu items and numbers in ascending order.

<DOWN>

Scrolls through menu items and numbers in descending order.



The control panel display shows the menu items you select from the menu map on page #11. 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 options. Press the **<ENTER>** button to select 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

IP/DMX Settings	Set DMX Address	001-512	
	Channel Mode	Extended	70-channel mode
		Standard	28-channel mode
		Basic	26-channel mode
	Network Setup	ArtNetDHCP	ON/OFF
		ArtNetIP	xxx.xxx.xxx.xxx
		ArtNetSubMask	xxx.xxx.xxx.xxx
		Universe	001-512
Run Mode	DMX512	DMX mode	
	Art-Net	Art-Net mode	
	Auto Program 1	Auto mode 1	
	Auto Program 2	Auto mode 2	
	Sound Active 1	Sound active mode 1	
	Sound Active 2	Sound active mode 2	
	Slave	Slave mode	
	Static Setup	Pan	000-255
		Pan 16bit	000-255
		Tilt	000-255
		Tilt 16bit	000-255
		Pan & Tilt Speed	000-255
		Pan Rot	000-255
		Tilt Rot	000-255
		Red	000-255
		Green	000-255
		Blue	000-255
		White	000-255
		Strobe	000-255
		Dimmer	000-255
		Macro	000-255
		Color Presets	000-255
		Color Chase	000-255
		Chase Speed	000-255
		Chase Fade	000-255
		Color Presets Dim	000-255
		Reset	000-255
		Ring Red	000-255
		Ring Green	000-255
		Ring Blue	000-255
		Ring Strobe	000-255
		Ring Dimmer	000-255
		Ring Color Chase	000-255
		Ring Chase Speed	000-255
		Ring Chase Fade	000-255
Utilities	Disp. Setting	Display Timeout	0-60 minutes
		Display Invert	Normal
			Invert
		Key Lock Push **<ENTER>** 5s to unlock.	Unlocked
			Locked
	Pan Invert	Normal	
		Invert	
	Tilt Invert	Normal	
		Invert	
	Calibration	Password	000-255 (password:169)
		Pan	000-255
		Tilt	000-255
	Encoders	ON	
		OFF	
	Fixture Test	All	
		Pan & Tilt	
		LED	
		Ring LED	
	Motor Rest	YES/NO	
	Factory Reset	YES/NO	
	Time Info	Power on	xxx (hours)
		Total Life Hours	xxx (hours)
		Last Run Hours	xxx (hours)
	Software	Version	Vx.x

DMX / Art-Net Modes

Allows the unit to be controlled by any universal DMX controller.

Set the Starting DMX Address:

1.) Navigate the main menu to reach **IP/DMX Settings,** press **<ENTER>**.
2.) Highlight **Set DMX Address**, and press **<ENTER>**.
3.) Use the **<UP/DOWN>** buttons to select a DMX channel from **001-512**.
4.) Press the **<ENTER>** button to confirm.

Select the DMX Channel Mode:

1.) Navigate the main menu to reach **IP/DMX Settings,** press **<ENTER>**.
2.) Highlight **Channel Mode**, and press **<ENTER>**.
3.) Use the **<UP/DOWN>** buttons to select **Extended (70CH), Standard (28CH)** or **Basic (26CH).**
4.) Press the **<ENTER>** button to confirm your selection.

DMX512 and Art-Net Mode:

1.) Navigate the main menu until you reach **Run Mode,** press **<ENTER>**.
2.) Highlight **DMX512** or **Art-Net,** press **<ENTER>**.
3.) When **DMX512** is selected, signal can be sent/received through the 3-pin DMX connections, and when **Art-Net** is selected, signals can be sent/received through the RJ45 connections.

Network Setup: *(Art-Net)*

1.) Navigate the main menu to reach **IP/DMX Settings,** press **<ENTER>**.
2.) Use the **<UP/DOWN>** buttons to select **Network Setup**.
3.) See the table below for an explanation of the available network settings.

ArtNet DHCP	=	Automatically obtain IP address, On/Off.	ON	Allow automatic IP address assignment.
			OFF	Turn off automatic IP address assignment.
ArtNet IP	=	Set the IP address	Use the **<ENTER>** button to navigate and **<UP/DOWN>** to change the IP address values.	
ArtNet Sub Mask	=	Set the subnet mask	Use the **<ENTER>** button to navigate and **<UP/DOWN>** to change the subnet mask address values.	
Universe	=	Set the universe	Choose from 000-255.	

Slave Mode:

1.) Navigate the main menu until you reach **Run Mode,** press **<ENTER>**.
2.) Use the **<UP/DOWN>** buttons to highlight **Slave,** press **<ENTER>**.
3.) Press the **<ENTER>** button to confirm.
4.) If the control signal is not present, the display will flash. If the control signal is present, the display will not flash.

Auto, Sound Active, & Manual Adjustments:

Allows a single or Master/Slaved units to run factory installed programs.

Auto Mode:

1.) Navigate the main menu until you reach **Run Mode,** press **<ENTER>**.
2.) Use the **<UP/DOWN>** buttons to highlight **Auto Program 1** or **2.**
3.) Press the **<ENTER>** button to confirm your selection.

Sound Active Mode:

1.) Navigate the main menu until you reach **Run Mode,** press **<ENTER>**.
2.) Use the **<UP/DOWN>** buttons to highlight **Sound Active 1** or **2.**
3.) Press the **<ENTER>** button to confirm your selection.

Static Mode:

1.) Navigate the main menu until you reach **Intro,** press **<ENTER>**.
2.) Use the **<UP/DOWN>** buttons to select **Static Setup**.
3.) Manual adjustments ranging from **0-255** can be made to any available static mode submenu option.

System Utilities

Other utilities found within the control panel menu.

Display Timeout:

1.) Navigate the main menu until you reach **Utilities,** press **<ENTER>**.
2.) Highlight **Disp. Setting <ENTER>**, then **Display Timeout <ENTER>.**
3.) Set the timer to shut off the display after 0-60 minutes of inactivity.

Display Invert:

1.) Navigate to **Utilities <ENTER>**, then **Disp. Setting <ENTER>.**
2.) Use the **<UP/DOWN>** buttons to select **Display Invert,** press **<ENTER>**.
3.) From here, you can select **Normal** or **Invert** to flip the display.

Pan/Tilt Invert:

1.) Navigate to **Utilities <ENTER>**, then **Pan Invert** or **Tilt Invert <ENTER>.**
2.) Use the **<UP/DOWN>** buttons to highlight **Normal,** or **Invert.**
3.) Press the **<ENTER>** button to confirm.

Calibration Settings:

1.) Navigate to **Utilities <ENTER>**, then **Calibration <ENTER>.**
2.) Use the password 169 to enable editing Pan and Tilt values from 0-255**.**
3.) Press the **<ENTER>** button to confirm.

Encode (Pan/Tilt Error Correction):

1.) Navigate to **Utilities <ENTER>**, then **Encoders <ENTER>.**
2.) Use the **<UP/DOWN>** buttons to highlight **On** or **Off.**
3.) Press the **<ENTER>** button to confirm.

Fixture Test:

1.) Navigate the main menu until you reach **Utilities,** press **<ENTER>**.
2.) Use the **<UP/DOWN>** buttons to select **All** (motors and LEDs), **Pan & Tilt** (motors), **LED** (LEDs only), or **Ring LED** (ring LEDs only.)
3.) Press the **<ENTER>** button to confirm your selection.

Motor/Factory Reset:

1.) Navigate to **Utilities <ENTER>**, then **Motor** or **Factory Reset <ENTER>.**
2.) Use the **<UP/DOWN>** buttons to highlight **Yes** or **No.**
3.) Press the **<ENTER>** button to confirm.

Runtime Info

1.) Navigate to **Utilities <ENTER>**, then **Time Info <ENTER>.**
2.) Here you can view current **Power On** time, **Total Life**, and **Last Run** hours.

DMX Values In-Depth (26/28/70-Channel Modes)

Basic Mode 26CH	Standard 28CH	Extended 70CH	Value	What it does
1	1	1	000 <-> 255	Pan (0-540°)
--	2	2	000 <-> 255	Fine Pan (16-bit)
2	3	3	000 <-> 255	Tilt (0-270°)
--	4	4	000 <-> 255	Fine Tilt (16-bit)
3	5	5		**Pan & Tilt Speed**
			000 <-> 225	Speed (fast <--> slow)
			226 <-> 235	LEDs Blackout By Movement
			236 <-> 255	No Function
4	6	6		**Infinite Pan**
			000 <-> 127	No Function
			128 <-> 189	Forward Pan (fast <--> slow)
			190 <-> 193	Stop
			194 <-> 255	Backward Pan (slow <--> fast)
5	7	7		**Infinite Tilt**
			000 <-> 127	No Function
			128 <-> 189	Forward Tilt (fast <--> slow)
			190 <-> 193	Stop
			194 <-> 255	Backward Tilt (slow <--> fast)
6	8	--	000 <-> 255	Red Intensity (0% - 100%)
7	9	--	000 <-> 255	Green Intensity (0% - 100%)
8	10	--	000 <-> 255	Blue Intensity (0% - 100%)
9	11	--	000 <-> 255	White Intensity (0% - 100%)
10	12	8		**Strobe**
			000 <-> 031	LEDs Off
			032 <-> 063	LEDs On
			064 <-> 095	Strobe (slow <--> fast)
			096 <-> 127	LEDs On
			128 <-> 159	Pulse Strobe In Sequences
			160 <-> 191	LEDs On
			192 <-> 223	Random Strobe (slow <--> fast)
			224 <-> 255	LEDs On
11	13	9	000 <-> 255	Dimmer (0% - 100%)
12	14	10		**Virtual Color Wheel**
			000 <-> 007	No function
			008 <-> 039	Red to Yellow
			040 <-> 071	Yellow to Green
			072 <-> 103	Green to Cyan
			104 <-> 135	Cyan to Blue
			136 <-> 167	Blue to Magenta
			168 <-> 199	Magenta to Red
			200 <-> 231	Red to White
			232 <-> 255	Crossfading Colors (slow <--> fast)
13	15	11		**Color Presets**
			000 <-> 004	No function
			005 <-> 009	White 2700k
			010 <-> 014	White 3200k
			015 <-> 019	White 4200k
			020 <-> 024	White 5600k
			025 <-> 029	White 6500k
			030 <-> 034	White 8000k
			035 <-> 039	Yellow
			040 <-> 044	Magenta
			045 <-> 049	Cyan
			050 <-> 054	Salmon
			055 <-> 059	Turquoise
			060 <-> 064	Light Green
			065 <-> 069	Steel Blue
			070 <-> 074	Orange
			075 <-> 079	Straw
			080 <-> 084	Pale Lavender
			085 <-> 089	Pink
			090 <-> 094	Red
			095 <-> 099	Green
			100 <-> 104	Blue

DMX Values In-Depth (26/28/70-Channel Modes), *continued*

Basic Mode 26CH	Standard 28CH	Extended 70CH	Value	What it does
13	15	11	105 <-> 109 110 <-> 114 115 <-> 119 120 <-> 124 125 <-> 129 130 <-> 134 135 <-> 139 140 <-> 144 145 <-> 149 150 <-> 154 155 <-> 159 160 <-> 164 165 <-> 169 170 <-> 174 175 <-> 179 180 <-> 184 185 <-> 189 190 <-> 194 195 <-> 199 200 <-> 255	Rainbow 1 Rainbow 2 Rainbow 3 Rainbow 4 Rainbow 5 Rainbow 6 Rainbow 7 Rainbow 8 Rainbow 9 Rainbow 10 Rainbow 11 Rainbow 12 Rainbow 13 Rainbow 14 Rainbow 15 Rainbow 16 Rainbow 17 Rainbow 18 Rainbow 19 Reserved
14	16	12	 001 <-> 014 015 <-> 030 031 <-> 046 047 <-> 062 063 <-> 078 079 <-> 094 095 <-> 110 111 <-> 126 127 <-> 142 143 <-> 158 159 <-> 174 175 <-> 190 191 <-> 206 207 <-> 222 223 <-> 238 239 <-> 255	**Chase Patterns** LEDs Off Chase 1 Chase 2 Chase 3 Chase 4 Chase 5 Chase 6 Chase 7 Chase 8 Chase 9 Chase 10 Chase 11 Chase 12 Chase 13 Chase 14 Chase 15
15	17	13	 000 <-> 125 126 <-> 130 131 <-> 255	**Chase Speed** Backward (fast <--> slow) Stop Forward (slow <--> fast)
16	18	14	000 <-> 255	Chase Fade
17	19	15	000 <-> 255	Color Preset Dimmer
18	20	16	 000 <-> 079 080 <-> 084 085 <-> 087 088 <-> 255	**Reset** No function All Motor Reset Scan motor Reset No function
--	--	17	000 <-> 255	LED 1 Red Intensity (0% - 100%)
--	--	18	000 <-> 255	LED 1 Green Intensity (0% - 100%)
--	--	19	000 <-> 255	LED 1 Blue Intensity (0% - 100%)
--	--	20	000 <-> 255	LED 1 White Intensity (0% - 100%)
--	--	21	000 <-> 255	LED 2 Red Intensity (0% - 100%)
--	--	22	000 <-> 255	LED 2 Green Intensity (0% - 100%)
--	--	23	000 <-> 255	LED 2 Blue Intensity (0% - 100%)
--	--	24	000 <-> 255	LED 2 White Intensity (0% - 100%)
--	--	25	000 <-> 255	LED 3 Red Intensity (0% - 100%)
--	--	26	000 <-> 255	LED 3 Green Intensity (0% - 100%)
--	--	27	000 <-> 255	LED 3 Blue Intensity (0% - 100%)
--	--	28	000 <-> 255	LED 3 White Intensity (0% - 100%)
--	--	29	000 <-> 255	LED 4 Red Intensity (0% - 100%)
--	--	30	000 <-> 255	LED 4 Green Intensity (0% - 100%)
--	--	31	000 <-> 255	LED 4 Blue Intensity (0% - 100%)
--	--	32	000 <-> 255	LED 4 White Intensity (0% - 100%)

DMX Values In-Depth (26/28/70-Channel Modes), *continued*

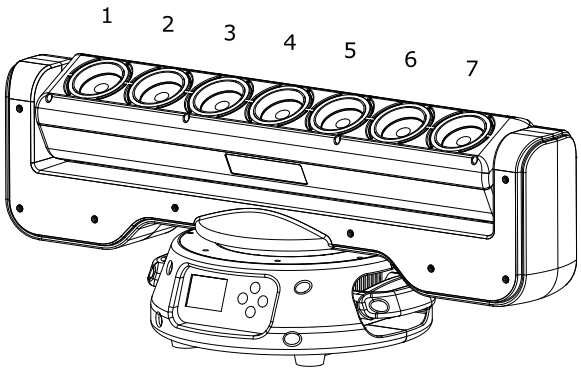
Basic Mode 26CH	Standard 28CH	Extended 70CH	Value	What it does
--	--	33	000 <-> 255	LED 5 Red Intensity (0% - 100%)
--	--	34	000 <-> 255	LED 5 Green Intensity (0% - 100%)
--	--	35	000 <-> 255	LED 5 Blue Intensity (0% - 100%)
--	--	36	000 <-> 255	LED 5 White Intensity (0% - 100%)
--	--	37	000 <-> 255	LED 6 Red Intensity (0% - 100%)
--	--	38	000 <-> 255	LED 6 Green Intensity (0% - 100%)
--	--	39	000 <-> 255	LED 6 Blue Intensity (0% - 100%)
--	--	40	000 <-> 255	LED 6 White Intensity (0% - 100%)
--	--	41	000 <-> 255	LED 7 Red Intensity (0% - 100%)
--	--	42	000 <-> 255	LED 7 Green Intensity (0% - 100%)
--	--	43	000 <-> 255	LED 7 Blue Intensity (0% - 100%)
--	--	44	000 <-> 255	LED 7 White Intensity (0% - 100%)
19	21	--	000 <-> 255	Color Ring Red
20	22	--	000 <-> 255	Color Ring Green
21	23	--	000 <-> 255	Color Ring Blue
22	24	45	000 <-> 255	Color Ring Strobe (slow <--> fast)
23	25	46	000 <-> 255	Color Ring Dimmer (0% - 100%)
24	26	47		**Color Ring Chase Patterns**
			001 <-> 014	No function
			015 <-> 021	Color Ring Chase 1
			022 <-> 028	Color Ring Chase 2
			029 <-> 035	Color Ring Chase 3
			036 <-> 042	Color Ring Chase 4
			043 <-> 049	Color Ring Chase 5
			050 <-> 056	Color Ring Chase 6
			057 <-> 063	Color Ring Chase 7
			064 <-> 070	Color Ring Chase 8
			071 <-> 077	Color Ring Chase 9
			078 <-> 084	Color Ring Chase 10
			085 <-> 091	Color Ring Chase 11
			092 <-> 098	Color Ring Chase 12
			099 <-> 105	Color Ring Chase 13
			106 <-> 112	Color Ring Chase 14
			113 <-> 119	Color Ring Chase 15
			120 <-> 126	Ring Rainbow 1
			127 <-> 133	Ring Rainbow 2
			134 <-> 140	Ring Rainbow 3
			141 <-> 147	Ring Rainbow 4
			148 <-> 154	Ring Rainbow 5
			155 <-> 161	Ring Rainbow 6
			162 <-> 168	Ring Rainbow 7
			169 <-> 175	Ring Rainbow 8
			176 <-> 182	Ring Rainbow 9
			183 <-> 189	Ring Rainbow 10
			190 <-> 196	Ring Rainbow 11
			197 <-> 203	Ring Rainbow 12
			204 <-> 210	Ring Rainbow 13
			211 <-> 217	Ring Rainbow 14
			218 <-> 224	Ring Rainbow 15
			225 <-> 231	Ring Rainbow 16
			232 <-> 238	Ring Rainbow 17
			239 <-> 245	Ring Rainbow 18
			246 <-> 255	Ring Rainbow 19
25	27	48		**Color Ring Chase Speed**
			000 <-> 125	Backward (fast <--> slow)
			126 <-> 130	Stop
			131 <-> 255	Forward (slow <--> fast)
26	28	49	000 <-> 255	Color Ring Chase Fade

DMX Values In-Depth (26/28/70-Channel Modes), *continued*

Basic Mode 26CH	Standard 28CH	Extended 70CH	Value	What it does
--	--	50	000 <-> 255	Color Ring 1 Red
--	--	51	000 <-> 255	Color Ring 2 Green
--	--	52	000 <-> 255	Color Ring 3 Blue
--	--	53	000 <-> 255	Color Ring 2 Red
--	--	54	000 <-> 255	Color Ring 2 Green
--	--	55	000 <-> 255	Color Ring 2 Blue
--	--	56	000 <-> 255	Color Ring 3 Red
--	--	57	000 <-> 255	Color Ring 3 Green
--	--	58	000 <-> 255	Color Ring 3 Blue
--	--	59	000 <-> 255	Color Ring 4 Red
--	--	60	000 <-> 255	Color Ring 4 Green
--	--	61	000 <-> 255	Color Ring 4 Blue
--	--	62	000 <-> 255	Color Ring 5 Red
--	--	63	000 <-> 255	Color Ring 5 Green
--	--	64	000 <-> 255	Color Ring 5 Blue
--	--	65	000 <-> 255	Color Ring 6 Red
--	--	66	000 <-> 255	Color Ring 6 Green
--	--	67	000 <-> 255	Color Ring 6 Blue
--	--	68	000 <-> 255	Color Ring 7 Red
--	--	69	000 <-> 255	Color Ring 7 Green
--	--	70	000 <-> 255	Color Ring 7 Blue

LED Identification

1.) The drawing below illustrates each LEDs assigned ID number for pixel mapping:



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 LOOP™ 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

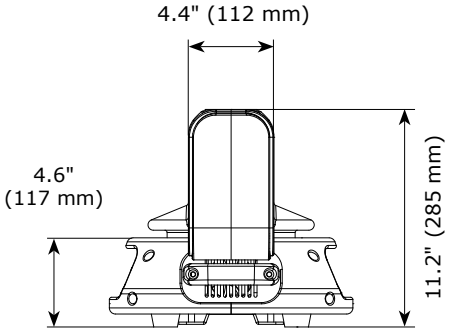
Damage incurred in shipping is the responsibility of the shipper, and must be reported to the carrier immediately upon receipt of the items. Claims must be made within seven (7) days of receipt.

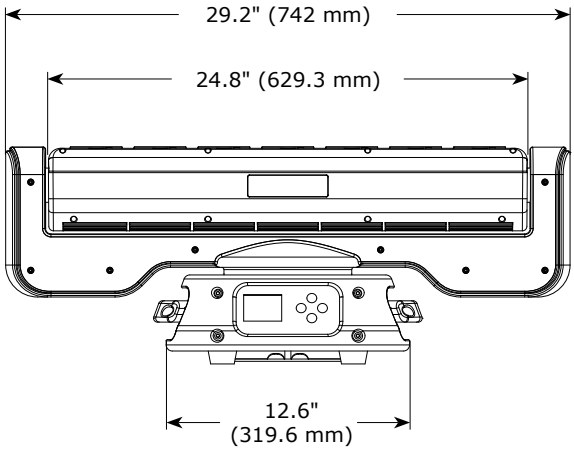
Tech Specs!

Weight & Dimensions						
Width	29.2 inches (742 mm)					
Depth	12.6 inches (319.6 mm)					
Height	11.2 inches (285 mm)					
Weight	37.5 lbs. (17 kg)					
Power						
Operating Voltage	100V-240VAC, 50-60Hz					
Power Consumption	410W, 3.5A, PF: .99					
Light Source						
LED	7x 40W RGBW 4-in-1 LEDs 7* RGB colored rings (84* 0.2W RGB 3-in-1 LEDs total)					
Optical						
Beam Angle	5 degrees					
Luminous Intensity	Lux/m	Red	Green	Blue	White	All
	2m	5,040	4,600	6,880	9,620	20,420
	3m	2,843	2,766	4,120	5,920	11,760
	5m	1,317	1,308	1,871	2,419	6,610
Thermal						
Max. Operating Temp.	104 degrees F (40 degrees C) ambient					
Control						
Protocol	USITT DMX-512, Art-NET					
DMX Channels	26/28 or 70-channel DMX modes					
Input	3-pin XLR Male, RJ45 Input					
Output	3-pin XLR Female, RJ45 Output					
Other Operating Modes	Standalone, Master/Slave, Sound Active, Color Preset					
Other Information						
Circular logic has no point, because there's no point to circular logic.						
Warranty	2-year limited warranty, does not cover malfunction caused by damage to LEDs.					

DISCLAIMER:
The power connectors 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 power-CON® are registered trademarks of Neutrik AG.

Dimensional Drawings





This page is intentionally left blank.

This page is intentionally left blank.

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