blockhead™

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1. GETTING STARTED

What's In The Box?

- 1 x BlockHead™ Moving Head Fixture
- 2 x Omega 1/4 Turn Mounting Brackets
- A Sweet Safety Cable & Set of Mounting Brackets
- An Ever-So-Handy Power Cord
- This Lovely User Manual

Getting It Out Of The Box

Congratulations! You have just purchased a the coolest quad-color RGBW 5x5 pixel matrix moving head fixture on the market with infinite pan, infinite tilt, and infinite awesomeness! So now that you're the proud owner of a BlockHead™ (or hopefully, BlockHeads!), 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, just give us a call or send an email. 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 cord. 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 contact Blizzard Lighting at support@blizzardlighting.com.

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2. MEET THE BLOCKHEAD MOVING HEAD™

MAIN FEATURES:

- 5x5 pixel matrix moving head w/25x CREE® 12w RGBW LEDs
- Infinite pan and tilt
- 3-phase pan/tilt motors with 16-bit resolution
- User selectable 16/20/116-channel DMX modes
- Individually controllable 4-in-1 LED pixels via 116ch DMX
- Full RGBW color in standalone & DMX mode
- Display built-in numbers, letters, and graphic effects
- 3 degree beam, 5 degree field angle
- Built-in sound active programs
- Built-in automated programs via master/slave
- Built-in sound activated programs via master/slave
- 3-pin male input and 3-pin female output
- PowerCon™ compatible AC power In/Out connectors

CONTROL:

- USITT DMX-512 (16/20/116 channels)
- 3-pin Input/Output
- 4-button menu with LCD display

DMX Quick Reference (16-Channel Mode)

Channel	What is does
1	Pan
2	Tilt
3	Pan Fine
4	Tilt Fine
5	Pan/Tilt Speed (slow <--> fast)
6	Built-in Programs (images)
7	Built-in Programs (numbers & symbols)
8	Built-in Programs (letters)
9	Built-in Program Speed (slow <--> fast)
10	Strobe (slow <--> fast)
11	Dimmer (0% <--> 100%)
12	Global Red Intensty (0% <--> 100%)
13	Global Green Intensty (0% <--> 100%)
14	Global Blue Intensty (0% <--> 100%)
15	Global White Intensty (0% <--> 100%)
16	Motor Reset (253-255)

DMX Quick Reference (20/116-Channel Modes)

20-CH	What is does	116-CH	What is does
1	Pan	1	Pan
2	Tilt	2	Tilt
3	Pan Fine	3	Pan Fine
4	Tilt Fine	4	Tilt Fine
5	Pan/Tilt Speed (slow <--> fast)	5	Pan/Tilt Speed (slow <--> fast)
6	Built-in Programs (images)	6	Built-in Programs (images)
7	Built-in Programs (numbers & symbols)	7	Built-in Programs (numbers & symbols)
8	Built-in Programs (letters)	8	Built-in Programs (letters)
9	Built-in Program Speed (slow <--> fast)	9	Built-in Program Speed (slow <--> fast)
10	Strobe (slow <--> fast)	10	Strobe (slow <--> fast)
11	Dimmer (0% <--> 100%)	11	Dimmer (0% <--> 100%)
12	Global Red Intensty (0% <--> 100%)	12	Global Red Intensty (0% <--> 100%)
13	Global Green Intensty (0% <--> 100%)	13	Global Green Intensty (0% <--> 100%)
14	Global Blue Intensty (0% <--> 100%)	14	Global Blue Intensty (0% <--> 100%)
15	Global White Intensty (0% <--> 100%)	15	Global White Intensty (0% <--> 100%)
16	LED Row 1 Pixel Control	16	LED 1 - Red Intensity
17	LED Row 2 Pixel Control	17	LED 1 - Green Intensity (0% <--> 100%)
18	LED Row 3 Pixel Control	18	LED 1 - Blue Intensity (0% <--> 100%)
19	LED Row 4 Pixel Control	19	LED 1 - White Intensity (0% <--> 100%)
20	LED Row 5 Pixel Control	20	LED 2 - Red Intensity (0% <--> 100%)
21	---	21	LED 2 - Green Intensity (0% <--> 100%)
22	---	22	LED 2 - Blue Intensity (0% <--> 100%)
23	---	23	LED 2 - White Intensity (0% <--> 100%)
24	---	24	LED 3 - Red Intensity (0% <--> 100%)
25	---	25	LED 3 - Green Intensity (0% <--> 100%)
26	---	---	---
27	---	111	LED 24 - White Intensity (0% <--> 100%)
28	---	112	LED 25 - Red Intensity (0% <--> 100%)
29	---	113	LED 25 - Green Intensity (0% <--> 100%)
30	---	114	LED 25 - Blue Intensity (0% <--> 100%)
31	---	115	LED 25 - White Intensity (0% <--> 100%)
32	---	116	Motor Reset (253-255)

Figure 1: The BlockHead™ Pin-Up Picture

Head/Arms

25x CREE® 12w
RGBW LEDs

Carry Handle

4-Button Control
Panel Menu with
LCD Display

Figure 2: The Rear Connections

DMX In

DMX Out

Power In

Power Switch

Fuse Cover

Power Out

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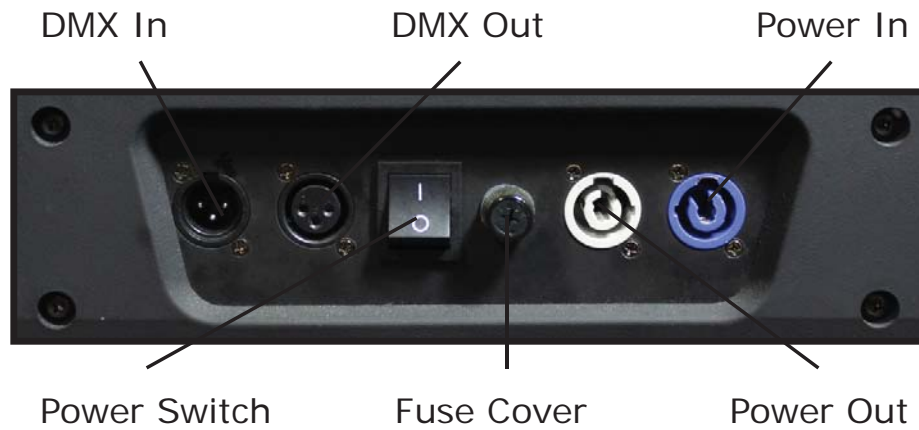
3. SETUP

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

Fuse Replacement

With a Philips screwdriver, unscrew the fuse holder out of its housing and remove the blown fuse from its holder. Replace the blown fuse with a fuse of the exact same type and rating, then screw the fuse holder back into place and reconnect power.

Connecting A Bunch of BlockHead™ 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*
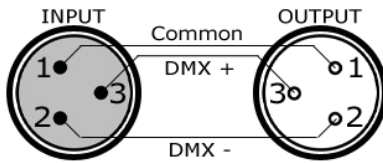> *Maximum capacitance between conductors – 30 pF/ft.*
> *Maximum capacitance between conductor & shield – 55 pF/ft.*
> *Maximum resistance of 20 ohms / 1000 ft.*
> *Nominal impedance 100 – 140 ohms*

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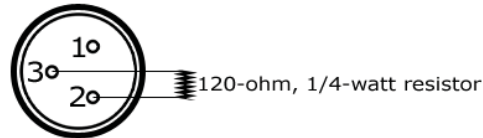
CAUTION: Do not allow contact between the common and the fixture's chassis ground. Grounding the common can cause a ground loop, and your fixture may perform erratically. Test cables with an ohm meter to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or each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

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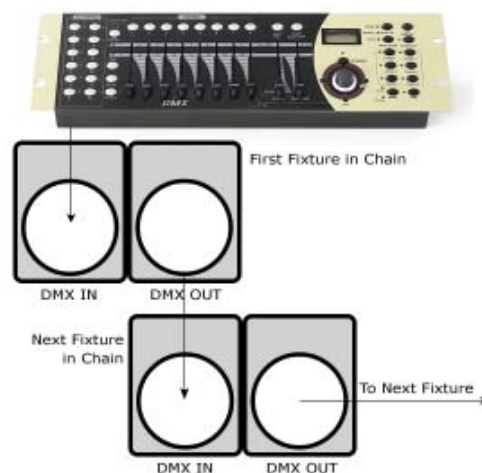
Fixture Linking (Master/Slave Mode)

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.

First Fixture in Chain

DMX IN   DMX OUT

Next Fixture in Chain

To Next Fixture

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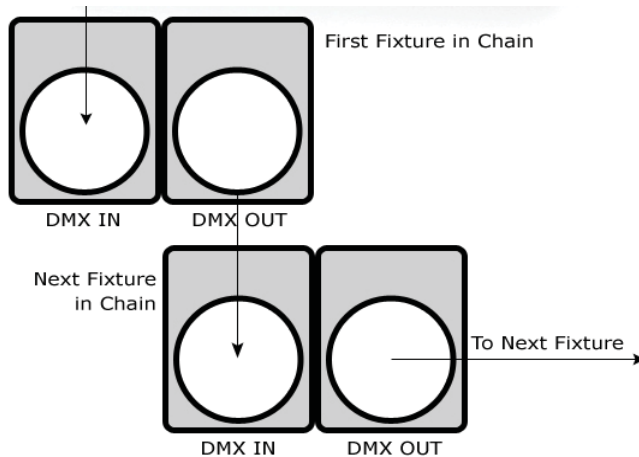
A quick note: Often, the setup for Master-Slave and Standalone operation requires that the first fixture in the chain be initialized for this purpose via either settings in the control panel or DIP-switches. Secondarily, the fixtures that follow may also require a slave setting.

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.

4. OPERATING ADJUSTMENTS

The Control Panel

All the goodies and different modes possible with the BlockHead™ 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.

```
Address
001
```

◯ ◯ ◯ ◯

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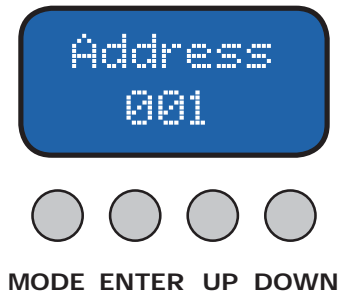
Button	Function
<MODE>	Used to access the menu or to return to a previous menu option.
<ENTER>	Used to select and store the current menu or option within a menu.
<UP>	Scrolls through menu options in ascending order.
<DOWN>	Scrolls through menu options in descending order.

To navigate through the LCD control panel main menu, use the **<MODE>** button to scroll through the various top level menu options. Then to scroll through sub-menu options, use the **<UP/DOWN>** buttons. Push the **<ENTER>** button to save any changes made.

Control Panel Menu Structure

Set DMX Address	→	001-512	Sets the DMX address 001-512 **<MODE>**
	→	16/20/116	Sets DMX Channel Mode to 16/20/116
Set Run AUTO XY	→	P [01-10]	Auto X/Y movement programs 1-10
Set Run AUTO LED	→	P [01-12]	Auto pixel program 1-12 **<ENTER>**
	→	SP [01-12]	Auto program speed 1-10 (slow <--> fast)
Set Run SOUND	→	P [01-10]	Sound active programs 1-10
Set Run MANUAL	→	R [000-255]	Red Intensity Level (0-255)
	→	G [000-255]	Green Intensity Level (0-255)
	→	B [000-255]	Blue Intensity Level (0-255)
	→	W [000-255]	White Intensity Level (0-255)
System Reset	→	**<ENTER>**	To reset the fixture motors

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DMX Mode

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

Set The DMX Starting Address

To assign a DMX staring address to the fixture, use the **<MODE>** button to scroll to **Set DMX Address,** and press the **<ENTER>** button. Then use the **<UP/DOWN>** buttons to display any value within the range of **001-512**, then push the **<MODE>** button. You will now be presented with the option to choose the DMX channel mode.

DMX Mode Selection

After selecting the starting DMX address as described above, now use the **<UP/DOWN>** buttons to display either **16, 20, or 116** channel mode. Then push the **<ENTER>** button to confirm your choice, and the **<MODE>** button to return to the main menu.

Slave Mode

1.) Disconnect fixture(s) from any DMX signal source.

2.) Set each fixture to matching DMX modes (**16, 20, or 116**).

3.) Connect all fixtures together via DMX. The first fixture in the DMX chain will be the master fixture, followed by the slave fixtures.

4.) Connect DMX controller to the master unit for DMX control.

Auto, Stand-Alone, Sound Active Modes:

Allows a single or Master/Slaved units to run factory installed programs at user selectable speeds.

Auto Movement

1.) Use the **<MODE>** button to scroll to **Set Run AUTO XY,** then press the **<ENTER>** button. You can now use the **<UP/DOWN>** buttons to select one of its 10 built-in movement programs. Highlight within the range of **P[01] to P[10]** and then press the **<ENTER>** button to confirm your choice.

Built-in Programs

1.) Use the **<MODE>** button to scroll to **Set Run AUTO LED,** then press the **<ENTER>** button. You can now use the **<UP/DOWN>** buttons to select one of its 10 built-in lighting programs. Highlight within the range of **P[01] to P[12]** and then press the **<ENTER>** button to confirm your choice.

2.) You now are presented with the option to choose the speed program. Use the **<UP/DOWN>** buttons to select one of its 10 speed settings. Choose a value from **P[01] (fast) to P[12] (slow),** then press the **<ENTER>** button to confirm your choice.

Sound Active Mode

1.) Use the **<MODE>** button to scroll to **Set Run SOUND,** then press the **<ENTER>** button. You can now use the **<UP/DOWN>** buttons to select one of its 10 built-in sound active programs. Highlight within the range of **P[01] to P[10]** and then press the **<ENTER>** button to confirm your choice.

Manual Color Adjustment

Allows you to mix your own global custom color.

1.) Use the **<MODE>** button to scroll to **Set Run MANUAL,** then use the **<UP/DOWN>** buttons to display any of Red, Green, Blue, or White settings. Push the **<ENTER>** button while highlighting any to display the color intensity range settings from **000 (off) to 255 (100%)**. Use the **<UP/DOWN>** buttons to adjust the intensity, then push **<ENTER>** to confirm your choice.

System Reset

To automatically reset the X/Y motors to automatically realign the moving head position, use the **<MENU>** button to scroll to **RESET,** then push **<ENTER>**.

DMX Values In-Depth (16/20/116-Channel Mode)

16CH	20CH	116CH	Channel Value	What it does
CH1	CH1	CH1	000 <--> 020 021 <--> 127 128 <--> 191 192 <--> 255 043	**Pan** No function Pan Position Pan Rotate CW Slow <--> Fast Pan Rotate CCW Slow <--> Fast Center Default
CH2	CH2	CH2	000 <--> 127 128 <--> 191 192 <--> 255 053	**Tilt** Tilt Position Tilt Rotate CW Slow <--> Fast Tilt Rotate CCW Slow <--> Fast Center Default
CH3	CH3	CH3	000 <--> 255	Pan Fine
CH4	CH4	CH4	000 <--> 255	Tilt Fine
CH5	CH5	CH5	000 <--> 255	**Pan, Tilt Speed Adjustment** Track (Fast) <--> Slow
CH6	CH6	CH6	000 <--> 047 048 <--> 063 064 <--> 079 080 <--> 095 096 <--> 111 112 <--> 127 128 <--> 143 144 <--> 159 160 <--> 175 176 <--> 191 192 <--> 207 208 <--> 223 224 <--> 239 240 <--> 245 246 <--> 255	**Built-in Programs (images)** No function 1 LED Chase Pattern #1 1 LED Chase Pattern #2 1 LED Chase Pattern #3 2 LED Chase Pattern 3 LED Chase Pattern 4 LED Chase Pattern Image 1 - Group Pattern - Bars Image 2 - Group Pattern - Snake Image 3 - Group Pattern - Square Image 4 - Group Pattern - Diagonal Image 5 - Group Pattern - Random Dots Sound Mode Sound Mode with Movement All Programs (ch9 controls speed)

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DMX Values In-Depth (16/20/116-Channel Modes, continued)

16CH	20CH	116CH	Channel Value	What it does
CH7	CH7	CH7		**Built-in Programs (numbers & symbols)** **(Must have Dimmer and RGBW color chosen)**
			000 <--> 008	No function
			009 <--> 017	0
			018 <--> 026	1
			027 <--> 035	2
			036 <--> 044	3
			045 <--> 053	4
			054 <--> 062	5
			063 <--> 071	6
			072 <--> 080	7
			081 <--> 089	8
			090 <--> 098	9
			099 <--> 107	+
			108 <--> 116	-
			117 <--> 125	x
			126 <--> 134	÷
			135 <--> 143	/
			144 <--> 152	<
			153 <--> 161	>
			162 <--> 170	?
			171 <--> 179	!
			180 <--> 188	*
			189 <--> 197	Ó
			198 <--> 206	#
			207 <--> 215	Á
			216 <--> 224	Ç
			225 <--> 233	(
			234 <--> 242	)
			243 <--> 255	All Symbols (ch 9 controls speed)
CH8	CH8	CH8		**Built-in Programs (letters)**
			000 <--> 008	No Function
			009 <--> 017	A
			018 <--> 026	B
			027 <--> 035	C
			036 <--> 044	D
			045 <--> 053	E
			054 <--> 062	F
			063 <--> 071	G
			072 <--> 080	H
			081 <--> 089	I
			090 <--> 098	J
			099 <--> 107	K
			108 <--> 116	L
			117 <--> 125	M
			126 <--> 134	N
			135 <--> 143	O
			144 <--> 152	P
			153 <--> 161	Q
			162 <--> 170	R
			171 <--> 179	S
			180 <--> 188	T
			189 <--> 197	U
			198 <--> 206	V
			207 <--> 215	W
			216 <--> 224	X
			225 <--> 233	Y
			234 <--> 242	Z
			243 <--> 255	All Letters (ch 9 controls speed)
CH9	CH9	CH9		**Built-in Program Speed**
			000 <--> 255	(Track (Fast) <--> Slow)
CH10	CH10	CH10		**Strobe**
			000 <--> 004	Open
			005 <--> 019	Fast <--> Slow
			020 <--> 026	Fast <--> Slow
			027 <--> 030	Open
			031 <--> 052	Pulse Fast <--> Slow
			053 <--> 056	Open
			057 <--> 078	Ramp Snap Fast <--> Slow
			079 <--> 082	Open
			083 <--> 103	Ramp Ramp Fast <--> Slow
			104 <--> 107	Open
			108 <--> 128	Burst Fast <--> Slow
			129 <--> 133	Open
			134 <--> 152	Glow Burst Fast <--> Slow
			153 <--> 157	Open
			158 <--> 177	Snap Fast <--> Slow
			178 <--> 182	Open
			183 <--> 203	Random Pattern Fast <--> Slow
			204 <--> 255	Open

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DMX Values In-Depth (16/20/116-Channel Mode, continued)

16CH	20CH	116CH	Channel Value	What it does
CH11	CH11	CH11	000 <--> 255	**Dimmer (0% <--> 100%)**
CH12	CH12	CH12	000 <--> 255	**Global Red Intensity (0% <--> 100%)**
CH13	CH13	CH13	000 <--> 255	**Global Green Intensity (0% <--> 100%)**
CH14	CH14	CH14	000 <--> 255	**Global Blue Intensity (0% <--> 100%)**
CH15	CH15	CH15	000 <--> 255	**Global White Intensity (0% <--> 100%)**
---	CH16 LED Row 1 CH17 LED Row 2 CH18 LED Row 3 CH19 LED Row 4 CH20 LED Row 5	---	 000 <--> 007 008 <--> 015 016 <--> 023 024 <--> 031 032 <--> 039 040 <--> 047 048 <--> 055 056 <--> 063 064 <--> 071 072 <--> 079 080 <--> 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 <--> 191 192 <--> 199 200 <--> 207 208 <--> 215 216 <--> 223 224 <--> 231 232 <--> 239 240 <--> 247 248 <--> 255	**LED Row Pixel Control** LED 1 + 2 + 3 + 4 + 5 ON LED 1 ON LED 2 ON LED 1 + 2 ON LED 3 ON LED 1 + 3 ON LED 2 + 3 ON LED 1 + 2 + 3 ON LED 4 ON LED 1 + 4 ON LED 2 + 4 ON LED 1 + 2 + 4 ON LED 3 + 4 ON LED 1 + 3 + 4 ON LED 2 + 3 + 4 ON LED 1 + 2 + 3 + 4 ON LED 5 ON LED 1 + 5 ON LED 2 + 5 ON LED 1 + 2 + 5 ON LED 3 + 5 ON LED 1 + 3 + 5 ON LED 2 + 3 + 5 ON LED 1 + 2 + 3 + 5 ON LED 4 + 5 ON LED 1 + 4 + 5 ON LED 2 + 4 + 5 ON LED 1 + 2 + 4 + 5 ON LED 3 + 4 + 5 ON LED 1 + 3 + 4 + 5 ON LED 2 + 3 + 4 + 5 ON ROW - ALL OFF
CH16	---	See Table Below	000 <--> 252 253 <--> 255	**No Function** **Fixture Motor Reset**

116-Channel Mode, Channels 16-116

Channels 16-115 in 116 channel mode allows you to adjust the R/G/B/W intensity level from 0-100% for

each individual LED. Pan and tilt motor reset is activated on channel 116, between values 253-255.

CH.	LED	CH.	LED	CH.	LED	CH.	LED	CH.	LED	CH.	LED	CH.	LED	CH.	LED	CH.	LED
16	1R	**28**	4R	**40**	7R	**52**	10R	**64**	13R	**76**	16R	**88**	19R	**100**	22R	**112**	25R
17	1G	**29**	4G	**41**	7G	**53**	10G	**65**	13G	**77**	16G	**89**	19G	**101**	22G	**113**	25G
18	1B	**30**	4B	**42**	7B	**54**	10B	**66**	13B	**78**	16B	**90**	19B	**102**	22B	**114**	25B
19	1W	**31**	4W	**43**	7W	**55**	10W	**67**	13W	**79**	16W	**91**	19W	**103**	22W	**115**	25W
20	2R	**32**	5R	**44**	8R	**56**	11R	**68**	14R	**80**	17R	**92**	20R	**104**	23R		
21	2G	**33**	5G	**45**	8G	**57**	11G	**69**	14G	**81**	17G	**93**	20G	**105**	23G		
22	2B	**34**	5B	**46**	8B	**58**	11B	**70**	14B	**82**	17B	**94**	20B	**106**	23B	**Ch. 116**	
23	2W	**35**	5W	**47**	8W	**59**	11W	**71**	14W	**83**	17W	**95**	20W	**107**	23W		
24	3R	**36**	6R	**48**	9R	**60**	12R	**72**	15R	**84**	18R	**96**	21R	**108**	24R	**Reset**	
25	3G	**37**	6G	**49**	9G	**61**	12G	**73**	15G	**85**	18G	**97**	21G	**109**	24G	**Motor**	
26	3B	**38**	6B	**50**	9B	**62**	12B	**74**	15B	**86**	18B	**98**	21B	**110**	24B	**(253-255)**	
27	3W	**39**	6W	**51**	9W	**63**	12W	**75**	15W	**87**	18W	**99**	21W	**111**	24W		

5. APPENDIX

A Quick Lesson On DMX

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.

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. Contact service for more information.
Chase Speed Too Fast/Slow	Check to ensure proper setup of speed adjustment.
No Power	Check fuse, AC cord and circuit for malfunction.
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).

Keeping Your BlockHead™ 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 send an email to support@blizzardlighting.com, 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	
Length	15.25 inches (38.74 cm)
Height	19 inches (48.26 cm)
Depth	15.25 inches (38.74 cm)
Weight	32.6 lbs (14.8 kg)
Power	
Operating Voltage	AC 110-240VAC, 50-60 Hertz
Power Consumption	250w, 2.1A
Power Factor	.98
Light Source	
LED	25x CREE® 12w RGBW LEDs
Optical	
Beam Angle	3° beam, 5° field angle
Thermal	
Max. Operating Temp.	104 degrees F (40 degrees C) ambient
Control	
Protocol	USITT DMX-512
DMX Channels	16/20/116 Channels
Input	3-pin XLR Male
Output	3-pin XLR Female
Other Operating Modes	Standalone, Master/Slave, Auto, Sound Active
Other Information	
If you have a lip ring try hanging some tiny keys from it. This will make you look even more interesting.	
Warranty	2-year limited warranty, does not cover mal-function caused by damage to LED's.

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, how-ever 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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Luminous Intensity

Lux/Meter	1 Meter	2 Meter
Red	27,700 Lux	10,200 Lux
Green	30,100 Lux	13,100 Lux
Blue	37,300 Lux	12,700 Lux
White	41,700 Lux	15,500 Lux
All	120,600 Lux	45,600 Lux

Dimensional Drawing

19 in (48.26 cm)

15.25 in (38.74 cm)

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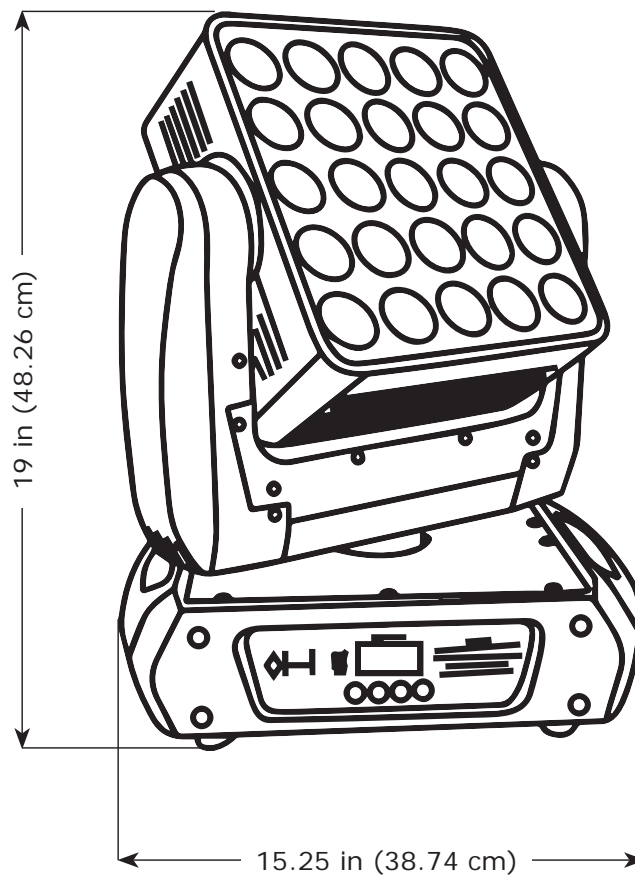
Enjoy your product!
Our sincerest thanks for your purchase!
--The team @ Blizzard Lighting