REDSTONE™
24OZ WASH

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1. GETTING STARTED

What's In The Box?

- 1 x Redstone™ 240Z Wash
- 1 x Ever-So-Handy Power Cord
- 1 x DMX Signal Cable
- 2 x Mounting Bracket
- 1 x Safety Cable
- This Lovely User Manual

Getting It Out Of The Box

Congratulations on your purchase of the Redstone™ 240Z Wash fixture, you're a go for launch! So now that you've got your 240Z *(or hopefully* 240Zs*)*, 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.blizzardpro.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. blizzardpro.com.

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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.blizzardpro.com/support.

2. MEET REDSTONE™ 240Z WASH

MAIN FEATURES

- 1x 240W OSRAM 4-IN-1 RGBW LED
- 5°-70° smooth and quiet linear motorized zoom
- Highly efficient Fresnel lens, integrated w/light pipe technology
- Built-in Wireless Solutions™ W-DMX receiver
- Even, soft edge and pure color mixing coverage
- Flicker free operation for broadcast TV and film
- 540°/270° PAN and TILT + invert and calibration
- 4x user selectable dimming curves
- 1-25Hz fps strobe + random/pulse effects
- Multiple pre-programmed macro effects with variable speed
- Rotating prism beam shaping effects
- Efficient low noise self-adjusting fan cooling system
- 3-pin DMX In/Out + RJ45 etherCON In/Out (Art-NET)
- PowerCON® compatible AC power In/Out
- 2.4-inch TFT LCD display menu with 4 button control panel
- 18/21/28 DMX channel modes
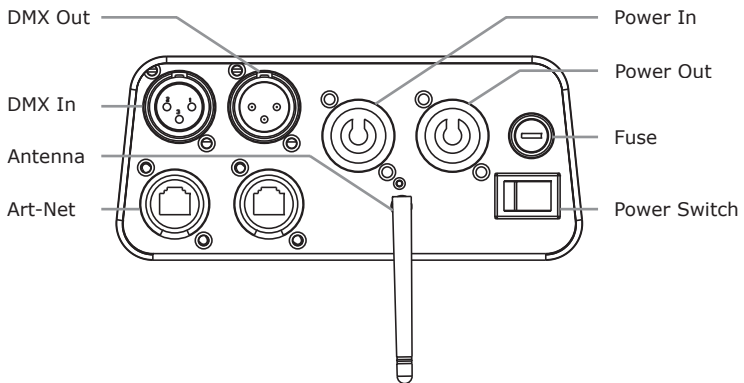- DMX512, Art-Net, RDM, M/S, sound active & auto mode

DMX Quick Reference (21/18/28-Channel Modes)

Ch.	21-Channel	Ch.	18-Channel	Ch.	28-Channel
1	Pan	1	Pan	1	Pan
2	Fine Pan (16-bit)	2	Tilt	2	Fine Pan (16-bit)
3	Tilt	3	Pan/Tilt Speed	3	Tilt
4	Fine Tilt (16-bit)	4	Red Intensity	4	Fine Tilt (16-bit)
5	Pan/Tilt Speed	5	Green Intensity	5	Pan/Tilt Speed
6	Red Intensity	6	Blue Intensity	6	Red Intensity
7	Green Intensity	7	White Intensity	7	Red Intensity Fine
8	Blue Intensity	8	Strobe	8	Green Intensity
9	White Intensity	9	Dimmer	9	Green Intensity Fine
10	Strobe	10	CTO	10	Blue Intensity
11	Dimmer	11	Color Macros	11	Blue Intensity Fine
12	Dimmer Fine	12	Color Presets	12	White Intensity
13	CTO	13	Color Preset Dimmer	13	White Intensity Fine
14	Color Macros	14	Focus	14	Strobe
15	Color Presets	15	Beam Shaper (Prism)	15	Dimmer
16	Color Preset Dimmer	16	Beam Shaper Rotation	16	Dimmer Fine
17	Focus	17	Zoom	17	CTO
18	Beam Shaper (Prism)	18	Special Function	18	Color Macros
19	Beam Shaper Rotation	--	--	19	Color Presets
20	Zoom	--	--	20	Color Preset Dimmer
21	Special Function	--	--	21	Focus
--	--	--	--	22	Focus Fine
--	--	--	--	23	Beam Shaper (Prism)
--	--	--	--	24	Beam Shaper Rotation
--	--	--	--	25	Indexing Fine
--	--	--	--	26	Zoom
--	--	--	--	27	Zoom Fine
--	--	--	--	28	Special Function

Figure 1: Redstone™ 240Z Wash Pin-Up Picture

240W OSRAM
RGBW LED
Light Source

Head/Arms

4-Button
Control Panel
with 2.4" TFT
Color Display

Carry
Handle

Figure 2: The Rear Connections

DMX Out

Power In

DMX In

Power Out

Antenna

Fuse

Art-Net

Power Switch

3. SETUP

Connecting A Bunch of Redstone™ 240Z Wash 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. The cables 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*

Using The Built-in W-DMX™

To use the built-in W-DMX™ receiver, you will first need a W-DMX™ transmitter to broadcast the signal, such as our own LightCaster™ W-DMX™ transceiver. Paired up with a LightCaster™ W-DMX™ transceiver, you can expect an outstanding wireless range of up to 500 meters (line-of-sight).

If you're using an external wireless W-DMX transmitter like our **LightCaster™ W-DMX™** transceiver, power it up and plug it into the "DMX OUT" connector of the controller.

* Please refer to your W-DMX™ transmitter user manual for more product specific instructions.

1. One transceiver with multiple receivers:

    a.) Power on all units, and verify that your transmitter is transmitting a signal.

    b.) On the receiving W-DMX fixtures, use the control panel menu to navigate to **DMX > Connect to**, then highlight **Wireless Only** *(wireless will also work as a secondary connection method under the **XLR Priority** menu selection if an XLR signal is lost.)*

    c.) Press and hold down the **<ENTER>** button to sync the fixtures.

2. Multiple transceivers, multiple receivers; e.g. 3 groups consisting of a transceiver & receiver(s) named A, B, and C:

    1.) Turn power off of all units.
    2.) Group "A" gets powered on, then follow step 1 above.
    3.) Group "B" gets powered on, then follow step 1 above.
   4.) Group "C" gets powered on, then follow step 1 above.

Cable Connectors

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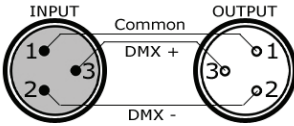
A Word on Termination: DMX is a resilient communication protocol, however errors still occasionally occur. Termination reduces signal errors, and therefore best practices include use of a terminator in all circumstances. If you are experiencing problems with erratic fixture behavior, especially over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

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

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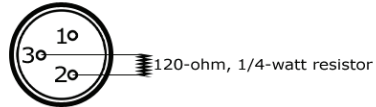
CAUTION: Do not allow contact between the common and the fixture's chassis ground. Grounding the common can cause a ground loop, and your fixture may perform erratically. Test cables with an ohm meter to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or each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

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

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

Conductor	3-Pin Female (Output)	5-Pin Male (Input)
Ground/Shield	Pin 1	Pin 1
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.

First Fixture in Chain

DMX IN   DMX OUT

Next Fixture in Chain

To Next Fixture

DMX IN   DMX OUT

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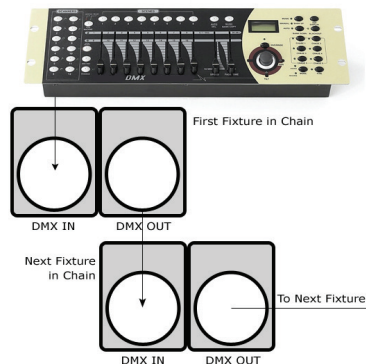
Fixture Linking (Master/Slave Mode)

1. Connect the (male) 3-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.

Clamp Mounting

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

1.) Clamp
2.) Omega Bracket
3.) Safety Cable
4.) ¼ Turn Quick Locks

1/4 Turn   1/4 Turn
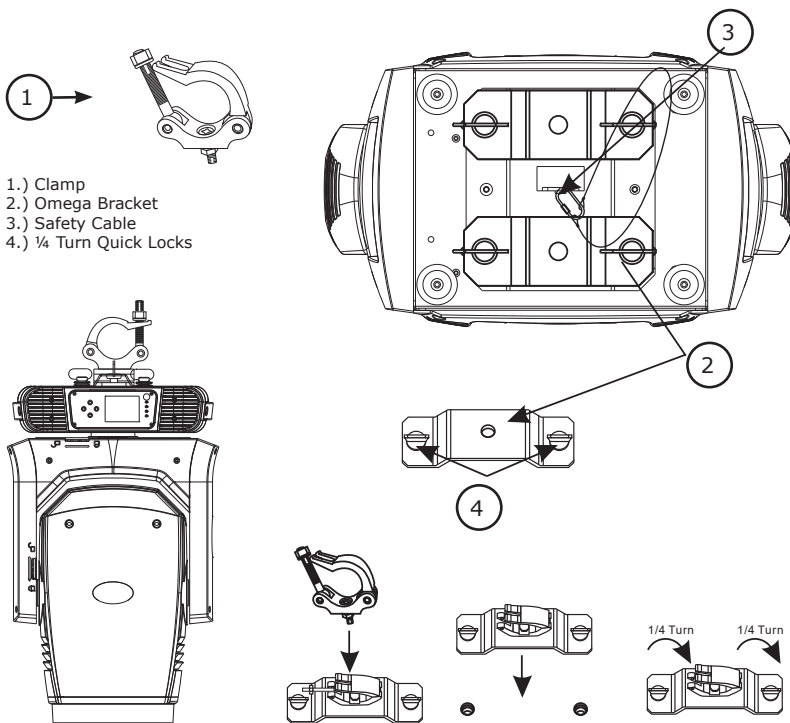
Securing the Fixture

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.

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4. OPERATING ADJUSTMENTS

The Control Panel

All the goodies and different modes possible with the Redstone 240Z Wash 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.
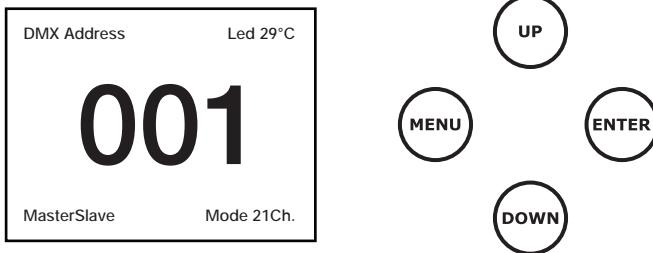
The control panel display shows the menu items you select from the menu map on page #11. When a menu function is selected, the display will show immediately the first available option for the selected menu function. To select a menu item, press **<ENTER>**.

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

DMX	DMX Address	Set the starting address (001-512)
	DMX Channel Mode	Mode 1 (21), 21-channel mode
		Mode 2 (18), 18-channel mode
		Mode 3 (28), 28-channel mode
	Loss of DMX	M/S Mode
		Hold
		Blackout
	Connect to	XLR Priority
		Wireless Priority
		XLR Only
		Wireless Only
		ArtNet Only
	Retransmit	Retransmit DMX output (No/Yes), no = terminate
	Un-Link Wireless	Disconnect existing wireless connection (No/Yes)
	Ethernet IP Settings	IP Address
		Subnet Mask
	Artnet Settings	Universe (000-255)
	View DMX Value	View current DMX values
SHOW	Auto Mode	Auto 1
		Auto 2
		Auto 3
		Auto 4
	Sound Active	Sound Active Mode (Off/On)
	Mic Sensitivity	Adjust the mic sensitivity level from 0-100
SET	Pan Inverse	No/Yes
	Tilt Inverse	No/Yes
	P/T Feedback	No/Yes (pan/tilt autocorrect position)
	White Balance	R/G/B adjustments (000-255)
	Dimmer Curve	Linear
		Square Law
		Inv SQ Law
		S Curve
DISP	Display Inverse	Flip the menu display (Off/On)
	Backlight Switch	Display: On=shuts off after 1m, Off=always on
	Backlight Intensity	Display brightness setting (1-10)
	Language	English
		Chinese
TEST	Auto Test	Auto testing mode
	Manual Test	Manually adjust any individual DMX channel
INFO	Fixture Use Time	Display total runtime hours
	Firmware Version	Display all current firmware versions
REST	Pan/Tilt	Restore default pan/tilt settings
	Effect	Restore default effect settings
	All	Restore default pan/tilt and effect settings
SPEC.	Factory Setting	Reset all factory default settings

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

Set the Starting DMX Address:

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

Select the DMX Channel Mode:

1.) Navigate the menu until you reach **DMX**, and press **<ENTER>**.
2.) Highlight **DMX Channel Mode**, and press **<ENTER>**.
3.) Use the **<UP/DOWN>** buttons to select **21, 18, or 28-channel** mode.
4.) Press the **<ENTER>** button to confirm.

Signal Selection:

1.) Navigate the menu until you reach **DMX**, and press **<ENTER>**.
2.) Highlight **Connect to**, and press **<ENTER>**.
3.) Use the **<UP/DOWN>** buttons to highlight either **XLR Priority**, **Wireless Priority**, **XLR Only**, **Wireless Only**, or **ArtNet Only**, and press **<ENTER>.**

Auto & Sound Active Modes
Allows a single or Master/Slaved units to run factory installed programs at user selectable speeds.

Auto Mode:

1.) Navigate the menu until you reach **SHOW**, and press **<ENTER>**.
2.) Use the **<UP/DOWN>** buttons to highlight any available **Auto** mode.
3.) Press the **<ENTER>** button to confirm your selection.
4.) Ensure that **DMX > Loss of DMX** is set to **M/S Mode**.

Sound Active Mode:

1.) Navigate the menu until you reach **SHOW**, and press **<ENTER>**.
2.) Use the **<UP/DOWN>** buttons to highlight **Sound Active**.
3.) Press **<ENTER>**, highlight **ON**, then press the **<ENTER>** button to confirm.
4.) For mic sensitivity, highlight **Mic Sensitivity**, and press **<ENTER>**.
5.) Adjust the mic sensitivity from **0-100**, and press **<ENTER>**.

Setup Options
The setup menu contains a variety of user configurable fixture settings.

Pan/Tilt Inverse:

1.) Navigate the menu until you reach **SET**, and press **<ENTER>**.
2.) Now highlight **Pan Inverse** or **Tilt Inverse**, and press **<ENTER>**.
3.) To activate, use the **<UP/DOWN>** buttons to highlight **Yes,** and press **<ENTER>.**

PT Feedback: *(pan/tilt autocorrect position)*

1.) Navigate the menu until you reach **SET**, and press **<ENTER>**.
2.) Then navigate to **P/T Feedback** and press **<ENTER>.**
3.) Use the **<UP/DOWN>** buttons to highlight **No** or **Yes,** and press **<ENTER>.**

White Balance:

1.) Navigate the menu until you reach **SET**, and press **<ENTER>**.
2.) Then navigate to **White Balance** and press **<ENTER>.**
3.) From here, you can adjust the individual **R/G/B** levels from **000-255.**

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Dimmer Curves:

1.) Navigate the menu until you reach **SET**, and press **<ENTER>**.
2.) Then navigate to **Dimmer Curve** and press **<ENTER>.**
3.) From here, you can choose a **Linear**, **Square Law**, **Inv SQ Law**, or **S Curve**.
4.) Press the **<ENTER>** button to confirm your selection.

Linear Curve	Square Law	Inverse Square Law	S Curve
Output / DMX%	Output / DMX%	Output / DMX%	Output / DMX%

Display Settings
This fixture offers the following configurable menu display settings.

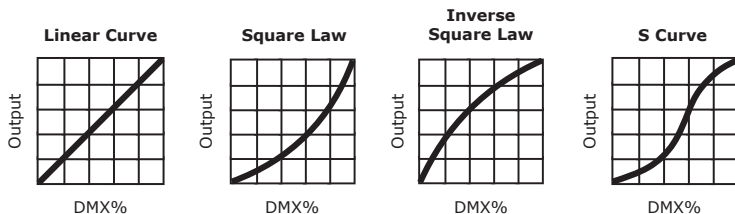### Display Inverse:

1.) Navigate the menu until you reach **DISP**, and press **<ENTER>**.
2.) Then navigate to **Display Inverse**, and press **<ENTER>.**
3.) Use the **<UP/DOWN>** buttons to highlight **Off** or **On**, and press **<ENTER>.**

Backlight Switch:

1.) Navigate the menu until you reach **DISP**, and press **<ENTER>**.
2.) Then navigate to **Backlight Switch**, and press **<ENTER>.**
3.) Highlight **Off** (always on), or **On** (shuts off after 1m), and press **<ENTER>.**

Backlight Intensity:

1.) Navigate the menu until you reach **DISP**, and press **<ENTER>**.
2.) Then navigate to **Backlight Intensity**, and press **<ENTER>.**
3.) Use the **<UP/DOWN>** buttons to highlight a value from **1-10**, and press **<ENTER>.**

Language:

1.) Navigate the menu until you reach **DISP**, and press **<ENTER>**.
2.) Then navigate to **Language**, and press **<ENTER>.**
3.) Highlight either **English** or **Chinese**, and press the **<ENTER>** button to confirm.

Test Options
Here you can quickly test all of the features found in this fixture.

Test Modes:

1.) Navigate the menu until you reach **TEST**, and press **<ENTER>**.
2.) Highlight either **Auto Test** or **Manual Test**, and press **<ENTER>.**
3.) **Auto Test** will run an auto test program, while **Manual Test** will allow you to select any individual feature, and manually test it by altering its values.

Calibration:

1.) Press and hold down the **<ENTER>** button until the calibration options appear.
2.) Use the **<UP/DOWN>** buttons to select any available option, and press **<ENTER>.**
3.) Now use the **<UP/DOWN>** buttons to make any fine adjustments, and press **<ENTER>** to confirm your choice.

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DMX Values In-Depth (21/18/28-Channel Modes)

21ch Mode	18ch Mode	28ch Mode	Value	What it does
1	1	1	000 <-> 255	Pan
2	--	2	000 <-> 255	Fine Pan (16-bit)
3	2	3	000 <-> 255	Tilt
4	--	4	000 <-> 255	Fine Tilt (16-bit)
5	3	5	000 <-> 225 226 <-> 235 236 <-> 255	**Pan/Tilt Speed** Pan & Tilt speed (fast <-> slow) Blackout (pan/tilt movement) No function
6	4	6	000 <-> 255	Red Intensity (0% - 100%)
--	--	7	000 <-> 255	Red Intensity Fine
7	5	8	000 <-> 255	Green Intensity (0% - 100%)
--	--	9	000 <-> 255	Green Intensity Fine
8	6	10	000 <-> 255	Blue Intensity (0% - 100%)
--	--	11	000 <-> 255	Blue Intensity Fine
9	7	12	000 <-> 255	White Intensity (0% - 100%)
		13	000 <-> 255	White Intensity Fine
10	8	14	000 <-> 031 032 <-> 063 064 <-> 095 096 <-> 127 128 <-> 143 144 <-> 159 160 <-> 191 192 <-> 223 224 <-> 255	**Strobe** No Function Open Strobe (slow <-> fast) Open Strobe (slow <-> fast) Strobe (fast <-> slow) Open Random Strobe (slow <-> fast) Open
11	9	15	000 <-> 255	Dimmer (0% - 100%)
12	--	16	000 <-> 255	Dimmer Fine
13	10	17	000 001 <-> 255	**CTO** 8000K <-> 2700K
14	11	18	000 <-> 007 008 <-> 039 040 <-> 071 072 <-> 103 104 <-> 135 136 <-> 167 168 <-> 199 200 <-> 231 232 <-> 255	**Color Macros** No Function Red to Yellow Yellow to Green Green to Cyan Cyan to Blue Blue to Magenta Magenta to Red Red to White Crossfading Colors (slow <-> fast)
15	12	19	000 <-> 004 005 <-> 009 010 <-> 014 015 <-> 019 020 <-> 024 025 <-> 029 030 <-> 034 035 <-> 039 040 <-> 044 045 <-> 049 050 <-> 054 055 <-> 059 060 <-> 064 065 <-> 069 070 <-> 074 075 <-> 079 080 <-> 084 085 <-> 089 090 <-> 094 095 <-> 099 100 <-> 104 105 <-> 109 110 <-> 255	**Color Presets** (priority over ch. above) White 2700K No Function White 3200K White 4200K White 5600K White 6500K White 8000K Yellow Magenta Cyan Salmon Turquoise Light green Steel blue Orange Staw Pale lavander Pink Red Green Blue White Reserved

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DMX Values In-Depth (21/18/28-Channel Modes)

21ch Mode	18ch Mode	28ch Mode	Value	What it does
16	13	20	000 <-> 255	Color Presets Dimmer (0% - 100%)
17	14	21	000 <-> 255	Focus
--	--	22	000 <-> 255	Focus Fine
18	15	23	000 <-> 063 064 <-> 255	**Prism (Beam Shaper)** Open Beamshaper
19	16	24	000 <-> 127 128 <-> 189 190 <-> 193 194 <-> 255	**Prism (Beam Shaper) Rotation** Indexing Forward rotation (fast <-> slow) No rotation Backward rotation (slow <-> fast)
--	--	25	000 <-> 255	Indexing Fine
20	17	26	000 <-> 255	Zoom
--	--	27	000 <-> 255	Zoom Fine
21	18	28	000 <-> 079 080 <-> 083 084 <-> 086 087 <-> 089 090 <-> 091 092 <-> 093 094 <-> 095 096 <-> 097 098 <-> 099 100 <-> 119 120 <-> 139 140 <-> 159 160 <-> 179 180 <-> 199 200 <-> 219 220 <-> 239 240 <-> 255	**Special Functions** Normal All motor reset Scan motor reset All other motor reset Red Shift 1 on Red Shift 2 on Red Shift 3 on Red Shift 4 on Red Shift off Internal program 1 Internal program 2 Internal program 3 Internal program 4 Internal program 5 Internal program 6 Internal program 7 Reserved

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5. APPENDIX

A Quick Lesson On DMX

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

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

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

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

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

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

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

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

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

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

Keeping Your Redstone™ 240Z Wash 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.blizzardpro.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	13.7 inches (346.3 mm)
Depth	10.1 inches (265 mm)
Height	24.1 inches (611.7 mm)
Weight	30.9 lbs. (14 kg)
Power	
Operating Voltage	100V-240VAC, 50-60Hz
Power Consumption	313W, 2.78A, PF: .98
Fuse	5A 250V
Light Source	
LED	240W OSRAM 4-IN-1 RGBW LED
Optical	
Beam Angle	5°- 70° beam angle
Thermal	
Max. Operating Temp.	104 degrees F (40 degrees C) ambient
Movement Range	
Pan	540 degree (8-16 bit resolution)
Tilt	270 degree (8-16 bit resolution)
Control	
Protocol	USITT DMX-512
DMX Channels	21/18/28 DMX channel modes
Data	3-pin DMX In/Out, RJ45 etherCON In/Out (Art-NET)
Other Operating Modes	Standalone, Master/Slave, Auto, Sound Active
Warranty	2-year limited warranty, does not cover malfunction caused by damage to LEDs.

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.
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.
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).

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Dimensional Drawings
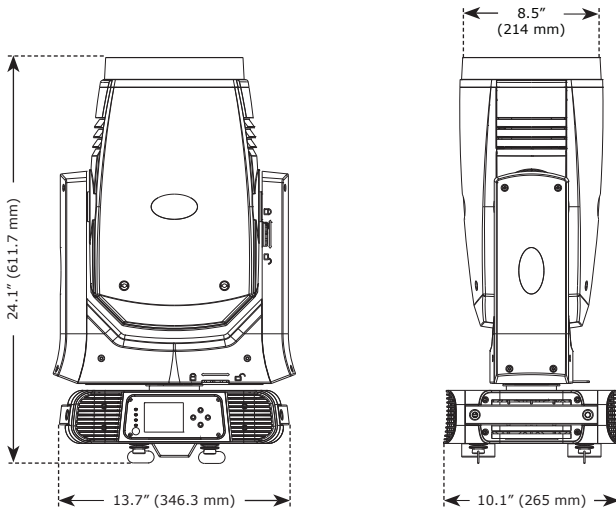
Photometric Data
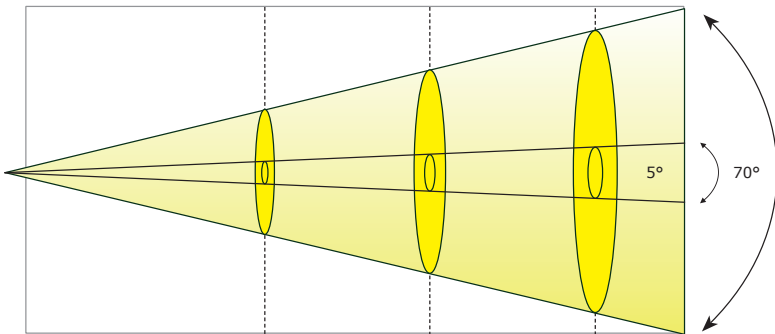
Distance:	5m	7.5m	10m
5° beam diameter	1.5' (45 cm)	2.2' (67.5 cm)	2.9' (90 cm)
70° beam diameter	20.7' (630 cm)	31.0' (945 cm)	41.4' (1260 cm)

Luminous Intensity:

Beam	2.5m lux	2.5m fc	5m lux	5m fc	7.5m lux	7.5m fc	10m lux	10m fc
5°	30,716	2,853.6	7,337	681.6	3,883	360.7	2,134	198.2
70°	2,020	187.7	513	49.3	283	26.3	176	16.4

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