THE PUCK Pro™

ZOOM

Blizzard Lighting, LLC
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1. GETTING STARTED

What's In The Box?

- 1 x Puck Pro Zoom™ Professional LED PAR Fixture
- A totally rockin' DMX Cable
- This Lovely User Manual

Getting It Out Of The Box

Congratulations on purchasing one of the coolest professional LED Par fixtures anywhere! Now that you're the proud owner of a Puck Pro Zoom™ (or hopefully, MORE!), 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.

2. MEET THE PUCK PRO ZOOM™ FLAT LED PAR

MAIN FEATURES:

- User selectable DMX personality modes
- Fixture ID address assignment and operation
- Built-in automated programs via master/slave
- User defined programs/scenes and upload feature
- Fixture temperature display and protection settings
- Preset or user adjustable white balance settings
- Menu key protection settings
- Easy to use LED digital control panel
- 3-pin male input and 3-pin female output
- Dual mounting yoke allows flexibility in positioning
- Rugged extruded aluminum housing

OPTICAL:

- Motorized beam zooming 25°-45°
- Light Source: 14* 10-watt Quad-color LEDs, 100,000 hours

Luminous Intensity:

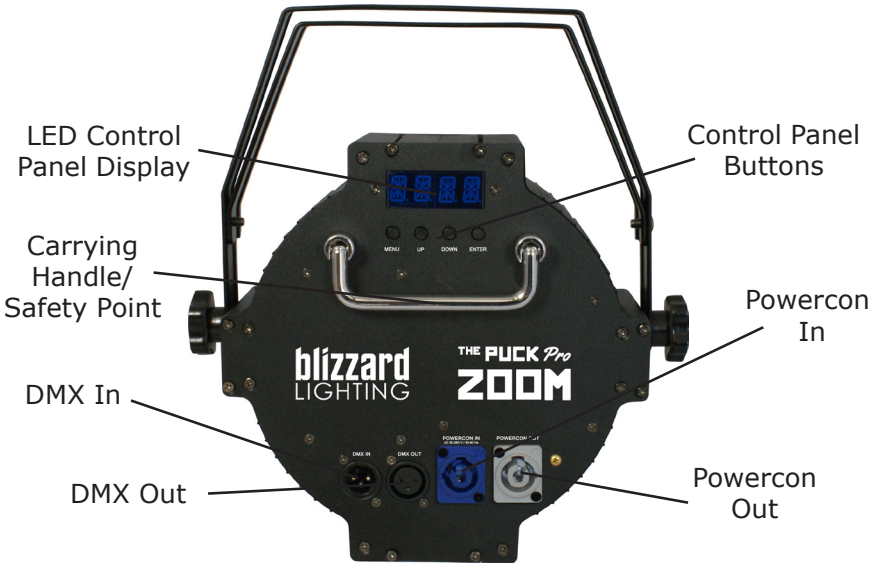
	1m Narrow	1m Wide	2m Narrow	2m Wide
ALL	8600 Lux	3700 Lux	2900 Lux	1040 Lux
Red	2130 Lux	900 Lux	720 Lux	265 Lux
Green	2120 Lux	910 Lux	720 Lux	235 Lux
Blue	2200 Lux	1090 Lux	900 Lux	317 Lux
White	2200 Lux	1010 Lux	790 Lux	282 Lux

CONTROL:

- USITT DMX-512 (5/6/7/8/13 Channels)
- 3-pin Input/Output
- LED 4-button control panel

Figure 1: Puck Pro Zoom™ Pin-Up Picture

Figure 2: The Rear Connections



3. SETUP

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

Fuse Replacement

CAUTION! The Puck Pro Zoom™ utilizes a high-output switch-mode power supply with an internal fuse. Under normal operating conditions, the fuse should not require replacement. The fuse is field replaceable, however it is an advanced procedure suited to qualified individuals. Should your Puck Pro Zoom™ fuse require replacement, please contact Blizzard Lighting for instructions, or to return your unit for service.

Connecting A Bunch of Puck Pro Zoom™ Fixtures

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

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

Data/DMX Cabling

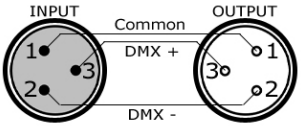
To link fixtures together you'll need data cables. You should use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

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

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

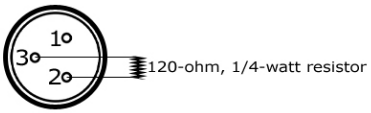
Cable Connectors

Cables must have a male XLR connector on one end and a female XLR connector on the other end. (Duh!)



A Word on Termination: DMX is a resilient communication protocol, however errors still occasionally occur. Termination reduces signal errors, and therefore best practices include use of a terminator in all circumstances. If you are experiencing problems with erratic fixture behavior, especially over long signal cable runs, a terminator may help improve performance.

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



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

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

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

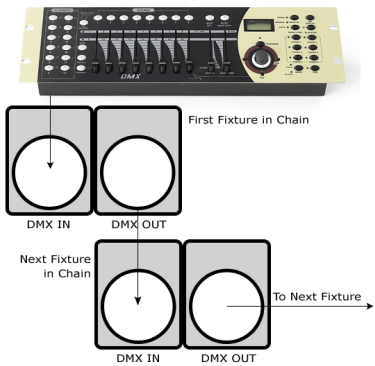
Conductor	3-Pin Female (Output)	5-Pin Male (Input)
Ground/Shield	Pin 1	Pin 1
DMX Data (-)	Pin 2	Pin 2
DMX Data (+)	Pin 3	Pin 3
Not Used.	No Connection.	No Connection.
Not Used.	No Connection.	No Connection.

Take It To The Next Level: Setting Up DMX Control

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

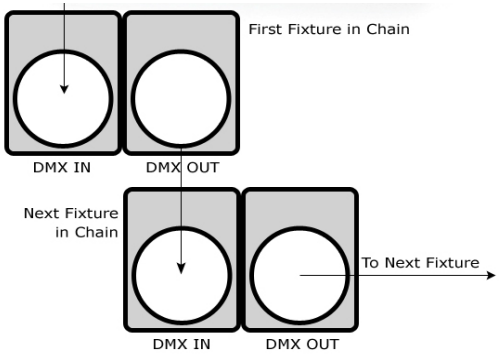
Step 2: Connect the female connector of the DMX cable to the first fixture's male connector (input). *Note:* It doesn't matter which fixture address is the first one connected. We recommend connecting the fixtures in terms of their proximity to the controller, rather than connecting the lowest fixture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

Step 3: Connect other fixtures in the chain from output to input as above. Place a DMX terminator on the output of the final fixture to ensure best communication.



Fixture Linking (Master/Slave Mode)

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



A quick note: Often, the setup for Master-Slave and Standalone operation requires that the first fixture in the chain be initialized for this purpose via either settings in the control panel or DIP-switches. 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 Puck Pro Zoom™ are accessed by using the control panel on the rear of the fixture. There are 4 control buttons below the LED display which allow you to navigate through the various control panel menus.

<MENU>

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

<UP>

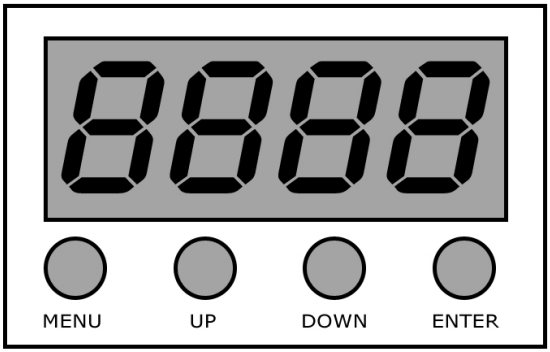
Scrolls through menu items and numbers in ascending order.

<DOWN>

Scrolls through menu items and numbers in descending order.

<ENTER>

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



The Control Panel LED 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>**.

Press the **<MENU>** button repeatedly until you reach the desired menu function. 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	1 - 512	To choose the DMX address
PERS	STAG	Stage Mode (Gives full control over all functions)
	ARC. 1	Architectural 1 (RGB)
	AR1.d	Architectural 1 w/Dimming (RGB)
	ARC.2	Architectural 2 (RGBW)
	AR2.d	Architectural 2 w/Dimming (RGBW)
	AR2.S	Architectural 2 w/Strobe (RGBW)
	HSV	Hue, Saturation, Value Control
Id	Id.01 - Id.66	Fixture ID (Stage mode)
TEMP	CURR	Display current fixture temperature
	TOP	Sets max temperature before cutoff
EDIT	PRO1 - PR10	Edit a program (Each program holds up to 30 scenes)
	SC01 - SC30	Edit a scene
SET	UPLd	Upload/transfer program function
	REST	Factory reset
	ID	Enable/disable ID address operation
	RGBW	Enable/disable RGBW color correction
	POW	Power level settings, normal or high
	dIM	8-bit dimming, 1 thru 4 = 16-bit dimming
CAL 1	WT01 - WT11	Color temperature presets
	000 - 255	Individual RGBW settings
CAL2	000 - 255	RGBW-based white balance
KEY	ON - OFF	Menu key protection setting
AUTO	AT.01-AT. 10	Factory program playback
	PR.01-PR. 10	User program playback
RUN	DMX	Sets the fixture to master/DMX mode
	SLAV	Sets the fixture as slave

DMX

Allows the unit to be controlled by a universal DMX controller. To select a different DMX address, hit the **<ENTER>** button and use the **<UP/DOWN>** buttons to select the correct address. Hit **<MENU>** to return to the previous menu option.

PERS

This section allows you to select from the fixture's 7 DMX personalities which govern operation & channel structure in DMX mode.

1.) STAG - Stage Mode (13-Ch.)

Channel	Value	What It Does
1	000 <--> 255	Master dimmer (0% <--> 100%)
2	000 <--> 255	Red Intensity (0% <--> 100%)
3	000 <--> 255	Green Intensity (0% <--> 100%)
4	000 <--> 255	Blue Intensity (0% <--> 100%)
5	000 <--> 255	White Intensity (0% <--> 100%)
6	000 <--> 005	No Function
	006 <--> 020	High power (when in normal mode)
	021 <--> 030	No Function
	031 <--> 255	Color change ***(See Color Selection Table Below)***
7	000 <--> 010	No Function
	011 <--> 255	Strobe speed (fastest 255)
8	000 <--> 020	No Function
	021 <--> 120	Built-in programs (1 per each 10 increments)
	121 <--> 220	User programs (1 per each 10 increments)
	221 <--> 255	No Function
9	000 <--> 255	Master speed control
10	000 <--> 009	Dimming speed
	010 <--> 049	No Function
	050 <--> 099	Speed 1 (fastest)
	100 <--> 149	Speed 2
	150 <--> 199	Speed 3
	200 <--> 255	Speed 4 (slowest)
11	000 <--> 009	No Function
	010 <--> 209	1 ID per each 10, ex. 010 <--> 019 = ID1
	210 <--> 255	1 ID per each 1, ex. 210 = ID21, 211=ID22
12	000 <--> 255	Zoom
13	000 <--> 255	Zoom speed (0 slowest, 255 fastest)

Color Selection Table (Stage Mode, Channel 6)

CH Value	Function
031<-->050	R 100% / G Increment / B 0% / W 0%
051<-->070	R decreasing / G 100% / B 0% / W 0%
071<-->090	R 0% / G 100% / B increment/ W 0%
091<-->110	R 0% / G decreasing / B 100% / W 0%
111<-->130	R increment / G 0% / B 100% / W 0%
131<-->150	R 100% / G 0% / B decreasing / W 0%
151<-->170	R 100% / G increment / B increment / W 0%
171<-->190	R decreasing / G decreasing / B 100% / W 0%
191<-->200	R 100% / G 100% / B 100% / W 100%
201<-->255	Color temperature (also adjustable through the [CAL1] menu): 201~205: 3200K 206~210: 3400K 211~215: 4200K 216~220: 4900K 221~225: 5600K 226~230: 5900K 231~235: 6500K 236~240: 7200K 241~245: 8000K 246~250: 8500K 251~255: 10000K

2.) ARC.1 - Architectural Mode 1 (RGB, 5-Ch.)

Channel	Value	What It Does
1	000 <--> 255	Red Intensity (0% <--> 100%)
2	000 <--> 255	Green Intensity (0% <--> 100%)
3	000 <--> 255	Blue Intensity (0% <--> 100%)
4	000 <--> 255	Zoom
5	000 <--> 255	Zoom speed (0 slowest, 255 fastest)

3.) AR1.d - Architectural Mode #1 w/dimming (RGB, 6-Ch.)

Channel	Value	What It Does
1	000 <--> 255	Master Dimmer (0% <--> 100%)
2	000 <--> 255	Red Intensity (0% <--> 100%)
3	000 <--> 255	Green Intensity (0% <--> 100%)
4	000 <--> 255	Blue Intensity (0% <--> 100%)
5	000 <--> 255	Zoom
6	000 <--> 255	Zoom speed (0 slowest, 255 fastest)

4.) ARC.2 - Architectural Mode 2 (RGBW 6-Ch.)

Channel	Value	What It Does
1	000 <--> 255	Red Intensity (0% <--> 100%)
2	000 <--> 255	Green Intensity (0% <--> 100%)
3	000 <--> 255	Blue Intensity (0% <--> 100%)
4	000 <--> 255	White Intensity (0% <--> 100%)
5	000 <--> 255	Zoom
6	000 <--> 255	Zoom speed (0 slowest, 255 fastest)

5.) AR2.d - Architectural Mode #2 w/dimming (RGB, 7-Ch.)

Channel	Value	What It Does
1	000 <--> 255	Master Dimmer (0% <--> 100%)
2	000 <--> 255	Red Intensity (0% <--> 100%)
3	000 <--> 255	Green Intensity (0% <--> 100%)
4	000 <--> 255	Blue Intensity (0% <--> 100%)
5	000 <--> 255	White Intensity (0% <--> 100%)
6	000 <--> 255	Zoom
7	000 <--> 255	Zoom speed (0 slowest, 255 fastest)

6.) AR2.5 - Architectural Mode #2 w/strobe (RGB, 8-Ch.)

Channel	Value	What It Does
1	000 <--> 255	Master Dimmer (0% <--> 100%)
2	000 <--> 255	Red Intensity (0% <--> 100%)
3	000 <--> 255	Green Intensity (0% <--> 100%)
4	000 <--> 255	Blue Intensity (0% <--> 100%)
5	000 <--> 255	White Intensity (0% <--> 100%)
6	000 <--> 255	Strobe speed (0 slowest, 255 fastest)
7	000 <--> 255	Zoom
8	000 <--> 255	Zoom speed (0 slowest, 255 fastest)

7.) HSV - Hue, Saturation, Value + Zoom Mode (5-Ch.)

Channel	Value	What It Does
1	000 <--> 255	Hue (0% <--> 100%)
2	000 <--> 255	Saturation (0% <--> 100%)
3	000 <--> 255	Brightness (0% <--> 100%)
4	000 <--> 255	Zoom
5	000 <--> 255	Zoom speed (0 slowest, 255 fastest)

ID

ID Address Selection

ID Address mode allows you to utilize up to 2,574 fixtures on only 1 DMX universe while maintaining full individual control over each fixture. You can enable or disable ID address operation within the SET menu. Control settings are found in STAG mode, channel 11. *(see stage mode table on page 12)*.

- Id.01 - Id.66 - Sets the ID# for the fixture.

TEMP

Temperature Functions

Allows the user to set a temperature protection cutoff (default is 85 degrees Celsius), and displays the current fixture temperature.

- CURR - Displays current temperature.
- TOP - Sets the max temperature before shutoff (0-150, 85=default).

EdIT

Edit Scenes & Programs

Create/edit up to 10 programs of up to 30 scenes for playback in standalone mode, (from the "Auto" menu).

- PRO1-PR10 - Program numbers 1-10
- SCO1-SC30 - Scene numbers 1-30

To edit these programs and scenes:

- R000-R255 - Red Intensity (0% <--> 100%)
- G000-G255 - Green Intensity (0% <--> 100%)
- B000-B255 - Blue Intensity (0% <--> 100%)
- W000-W255 - White Intensity (0% <--> 100%)
- ST00-ST20 - Strobe Speed (Slow <--> Fast)
- T000-T255 - Scene Time (0% <--> 100%)
- F000-F255 - Fade Time (0% <--> 100%)
- M000-M255 - Zoom Position (Wide <--> Narrow)

SET

Advanced Setup Functions

The following options sets the fixture's advanced functions:

- UPLd

  This allows you to upload you own user-created custom programs to other Puck Pro Zoom™ fixtures. You must set any fixtures which will receive the new programming to SLAVE mode, then on the master unit, enter the lock password **(UP/DOWN/UP/DOWN/ENTER)**, then press enter to confirm. The fixtures will display yellow while uploading is in progress, and will turn green once uploading is complete.

- REST

  Factory reset. Use this to reset the Puck Pro Zoom fixture back to its original factory installed settings.

- Id

  Enables/disables ID address operation.

- RGBW

Enables/disables RGBW color correction.

- POW

Sets the fixture in “Normal” (Low Power, 33% output) or “High” power mode.

- DIM

Sets the 16-bit dimming curve (OFF=8-bit (standard) dimming, 1-4 are 16-bit dimming profiles, fastest to slowest).

CAL 1

Color Temperature-Based White Values

This menu option allows the user to set the fixture’s white output to one of 11 preset or user adjustable color temperatures.

Setting	Color Temp	Setting	Color Temp	Setting	Color Temp
WT01	3200K	WT05	5600K	WT09	8000K
WT02	3400K	WT06	5900K	WT10	8500K
WT03	4200K	WT07	6500K	WT11	10000K
WT04	4900K	WT08	7200K		

To adjust the RGBW settings of any of these preset color temperatures, hit **<ENTER>** and then use the **<UP>** and **<DOWN>** buttons to select the desired R/G/B/W value you want to edit. Hit **<ENTER>**. Use the **<UP>** and **<DOWN>** buttons to change the desired value. Then push the **<MENU>** button to confirm your choice and return to the previous menu option. Each color has the adjustable values of 000 <--> 255 (0% <--> 100%).

CAL2

RGBW Based Values

This is used to setup a custom white balance using R/G/B/W values. Hit **<ENTER>** and then use the **<UP>** and **<DOWN>** buttons to select the desired R/G/B/W value you want to edit. Hit **<ENTER>**. Use the **<UP>** and **<DOWN>** buttons to change the desired value. Then push the **<MENU>** button to confirm your choice and return to the previous menu option. Each color has the adjustable values of 000 <--> 255 (0% <--> 100%).

KEY

Menu Key Protection

To enable the menu key protection, the menu setting must be set to ON. This feature allows you to protect the control panel from unauthorized access using a security key which is: **(Up, Down, Up, Down, Enter)**. To disable, simply set the value to OFF.

STAT

Static Color Display

Allows you to display a static custom color using RGBW color values.

Hit **<ENTER>** and then use the **<UP>** and **<DOWN>** buttons to select the desired R/G/B/W value you want to edit. Hit **<ENTER>**. Use the **<UP>** and **<DOWN>** buttons to change the desired value. Then push the **<MENU>** button to confirm your choice and return to the previous menu option. Each color has the adjustable values of 000 <--> 255 (0% <--> 100%).

AUTO

Automatic Programs (Built-In and Custom)

This feature allows you to select from one of 10 built-in programs, or to select one of 10 user-defined programs of up to 30 steps.

- AT.01-AT.10 - Built-In Programs
- PR.01-PR.10 - User-Defined Programs

RUN

Run Mode

This is where you set the fixture to either DMX/Master or Slave Mode

- DMX - Set the fixture as the master
- SLAV - Set the fixture as a slave

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.
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	Verify that 220V/110V switch is in the correct position, if applicable. Also check that speed channels are set appropriately.
Fixture Not Responding / Responding Erraticly	Make sure all connectors are seated properly and securely. Use Only DMX Cables. Install a Terminator. Check all cables for defects. Reset fixture(s).
Fixture Moving On Its Own	Verify proper mode of operation. Is the fixture in "Auto" mode?

If your problem isn't listed, or if problems persist, please contact support: support@blizzardlighting.com.

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 indispensible tool for any lighting designer or lighting performer.

Keeping Your Puck Pro Zoom™ 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	11.5 inches (290.95 mm)
Width	11.25 inches (284.63 mm)
Weight	5.8 pounds (2.63 kg)
Power	
Operating Voltage	90-240VAC, 50-60 Hertz
Power Factor	0.65
Power Consumption	85W
Current	1.1A (.1A inrush)
Light Source	
LED	14* 10-watt Quad-Color LEDs, 100,000 hours
Optical	
Beam Angle	25°-45°
Luminous Intensity	8,600 LUX @ 1m, 2,900 LUX @ 2m
Thermal	
Max. Operating Temp.	104 degrees F (40 degrees C) ambient
Control	
Protocol	USITT DMX-512
DMX Channels	5/6/7/8/13 Channels
Input	3-pin XLR Male
Output	3-pin XLR Female
Other Operating Modes	Standalone, Master/Slave, Color Preset
Coolness Factor	
Leventy Billion Percent	
Warranty	2-year limited warranty, does not cover mal-function caused by damage to LED's.

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