

## 如blizzapd

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## 1. GETTING STARTED

## What's In The Box?

- $1 \times \mathrm{N}$-Trance ${ }^{\text {TM }}$ LED Moving Head Fixture
- $1 \times$ Ever-So-Handy Power Cord
- $1 \times$ Set of Mounting Brackets
- This Lovely User Manual


## Getting It Out Of The Box

Congratulations on your purchase of N -Trance ${ }^{T M}$. It's mesmerizing and bewitching, moodaltering and mind-blowing. It may even take you to another plane of existence. Now that you've got your $N$-Trance ${ }^{\text {TM }}$ (or hopefully $N$-Trances), 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 $\mathbf{0 \%}$ to $\mathbf{1 0 0 \%}$ 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 ${ }^{\text {TM }}$ assumes no responsibility or liability for any errors or omissions that may appear in this user manual. Blizzard Lighting ${ }^{\text {TM }}$ 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.

| Author: | Date: | Last Edited: | Date: |
| :--- | :--- | :--- | :--- |
| J. Thomas | $11 / 5 / 2018$ | J. Thomas | $11 / 5 / 2018$ |

## 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 ( 50 cm ) 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 $104^{\circ} \mathrm{F}\left(40^{\circ} \mathrm{C}\right)$.
- 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 N-TRANCETM

## MAIN FEATURES

- $2^{\circ}$ narrow beam effects via 90W LED
- LED ring with 86pcs RGB 3-in-1 SMD5050 LEDs
- Gobo wheel with 21 gobos + open
- Color wheel with 14 colors + open (split colors and bi-directional rotation)
- 6/8-facet bi-directional rotating prism
- Frost and color filter effects
- Independent DMX control of beam and LED ring effects
- Built-in auto/sound active programs
- Pan: 540/640 ${ }^{\circ}$, Tilt: $270^{\circ}$ (8-16 Bit Resolution)
- $1-25 \mathrm{~Hz}$ fps strobe + variable/random effects
- 4 user-selectable dimming curves
- $2.4^{\prime \prime}$ TFT LCD display with 4 button control
- DMX512, Art-Net, RDM, M/S, sound active \& auto mode
- 3/5-pin DMX In/Out + RJ45 etherCON In/Out (Art-NET)
- PowerCON ${ }^{\text {TM }}$ compatible AC power In/Out

DMX Quick Reference (21/44/128-Channel Modes)

| CH. | Basic (26ch) | CH. | Standard (28ch) | CH. | Extended (70ch) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Pan | 1 | Pan | 1 | Pan |
| 2 | Fine Pan (16-bit) | 2 | Fine Pan (16-bit) | 2 | Fine Pan (16-bit) |
| 3 | Tilt | 3 | Tilt | 3 | Tilt |
| 4 | Fine Tilt (16-bit) | 4 | Fine Tilt (16-bit) | 4 | Fine Tilt (16-bit) |
| 5 | Dimmer | 5 | Dimmer | 5 | Dimmer |
| 6 | Strobe | 6 | Dimmer Fine | 6 | Dimmer Fine |
| 7 | Color Wheel | 7 | Strobe | 7 | Strobe |
| 8 | Gobo Wheel | 8 | Color Wheel | 8 | Color Wheel |
| 9 | Prism 1 (8-facet circular) | 9 | Gobo Wheel | 9 | Gobo Wheel |
| 10 | Prism 1 Rotation | 10 | Prism 1 (8-facet circular) | 10 | Prism 1 (8-facet circular) |
| 11 | Prism 2 (6-facet linear) | 11 | Prism 1 Rotation | 11 | Prism 1 Rotation |
| 12 | Prism 2 Rotation | 12 | Prism 2 (6-facet linear) | 12 | Prism 2 (6-facet linear) |
| 13 | Focus | 13 | Prism 2 Rotation | 13 | Prism 2 Rotation |
| 14 | Colorizer / Frost | 14 | Focus | 14 | Focus |
| 15 | Pan/Tilt Speed | 15 | Focus Fine | 15 | Focus Fine |
| 16 | Reset | 16 | Colorizer / Frost | 16 | Colorizer / Frost |
| 17 | Ring Dimmer | 17 | Pan/Tilt Speed | 17 | Pan/Tilt Speed |
| 18 | Ring Strobe | 18 | Dimmer Curve | 18 | Dimmer Curve |
| 19 | Ring Red | 19 | Device Settings | 19 | Device Settings |
| 20 | Ring Green | 20 | Reset | 20 | Reset |
| 21 | Ring Blue | 21 | Ring Dimmer 1 | 21 | Ring Dimmer 1 |
| -- | -- | 22 | Red 1 - Main FX Color | 22 | Red 1 - Main FX Color |
| -- | -- | 23 | Green 1 - Main FX Color | 23 | Green 1 - Main FX Color |
| -- | -- | 24 | Blue 1- Main FX Color | 24 | Blue 1 - Main FX Color |
| -- | -- | 25 | Red 1 - BG or 2nd FX | 25 | Red 1 - BG or 2nd FX |
| -- | -- | 26 | Green 1- BG or 2nd FX | 26 | Green 1 - BG or 2nd FX |
| -- | -- | 27 | Blue 1-BG or 2nd FX | 27 | Blue 1-BG or 2nd FX |
| -- | -- | 28 | FX Select 1 | 28 | FX Select 1 |
| -- | -- | 29 | FX Rotation 1 | 29 | FX Rotation 1 |
| -- | -- | 30 | FX Repeat 1 | 30 | FX Repeat 1 |
| -- | -- | 31 | FX Direction 1 | 31 | FX Direction 1 |
| -- | -- | 32 | FX Rotation Offset 1 | 32 | FX Rotation Offset 1 |
| -- | -- | 33 | Ring Dimmer 2 | 33 | Ring Dimmer 2 |
| -- | -- | 34 | Red 2 - Main FX Color | 34 | Red 2 - Main FX Color |
| -- | -- | 35 | Green 2 - Main FX Color | 35 | Green 2 - Main FX Color |
| -- | -- | 36 | Blue 2 - Main FX Color | 36 | Blue 2 - Main FX Color |
| -- | -- | 37 | Red 2-BG or 2nd FX | 37 | Red 2 - BG or 2nd FX |
| -- | -- | 38 | Green 2 - BG or 2nd FX | 38 | Green 2 - BG or 2nd FX |
| -- | -- | 39 | Blue 2 - BG or 2nd FX | 39 | Blue 2 - BG or 2nd FX |
| -- | -- | 40 | FX Select 2 | 40 | FX Select 2 |
| -- | -- | 41 | FX Rotation 2 | 41 | FX Rotation 2 |
| -- | -- | 42 | FX Repeat 2 | 42 | FX Repeat 2 |
| -- | -- | 43 | FX Direction 2 | 43 | FX Direction 2 |
| -- | -- | 44 | FX Rotation Offset 2 | 44 | FX Rotation Offset 2 |
| -- | -- | -- | -- | 45-128 | R/G/B Pixels 1-28 |

Figure 1: $\mathbf{N}$-Trance ${ }^{\text {TM }}$ Pin-Up Picture


Figure 2: The Rear Connections


## 3. SETUP



## Fuse Replacement

Remove the fuse holder from of its housing. Then take out the damaged fuse from its holder and replace with exact same type of fuse. Reattach the fuse holder, and then reconnect power.

## Connecting A Bunch of $\mathbf{N}$-Trance ${ }^{\text {TM }}$ 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 datagrade cables that can carry a high quality signal and are less prone to electromagnetic interference.

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

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

## Cable Connectors

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


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

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


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

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

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

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

## Take It To The Next Level: Setting Up DMX Control

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

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

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


## Installation

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

- Choose a suitable place to put or hang the equipment when installing. When hanging the fixture, use the included clamp mounting brackets with suitable clamps to properly support the weight of the fixture.
- When installing the equipment, ensure that no flammable or explosive materials are within $1 / 2$ meter distance.
- Please ask professionals to install the equipment. Any improper installation can cause personal injury or material damage.
- The equipment must be placed in a ventilated area, at least 50 cm from the ground, and always ensure that the vents are not clogged.
- Mount the fixture using suitable type clamps. The clamp should be rated to hold at least 10x the fixture's weight to ensure structural stability. Do not mount to surfaces with unknown strength, and ensure properly "rated" rigging is used when mounting fixtures overhead.

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


## 4. OPERATING ADJUSTMENTS

## The Control Panel

All the goodies and different modes possible with the N-Trance ${ }^{T M}$ 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.

## <MODE>

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 <MODE> button.

Control Panel Menu Structure

| DMX Address | Set DMX Address | 001-512 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| MODE | DMX Signal <br> Select <br> DMX Mode | DMX |  |  |  |
|  |  | Artnet |  |  |  |
|  |  | DMX 21Ch |  |  |  |
|  |  | DMX 44Ch |  |  |  |
|  |  | DMX 128Ch |  |  |  |
|  | Slave | <ENTER> |  |  |  |
|  | Auto | Auto Program |  |  |  |
|  |  | Auto Speed | 000-255 |  |  |
|  |  | Sensitivity | 000-255 |  |  |
|  |  | Pan | 000-255 | Layer1 Green1 | 000-255 |
|  | Static | Pan Fine | 000-255 | Layer1 Blue1 | 000-255 |
|  |  | Tilt | 000-255 | Layer1 Red2 | 000-255 |
|  |  | Tilt Fine | 000-255 | Layer1 Green2 | 000-255 |
|  |  | Dimmer | 000-255 | Layer1 Blue2 | 000-255 |
|  |  | Dimmer Fine | 000-255 | Layer1 FX | 000-255 |
|  |  | Strobe | 000-255 | Layer1 Rotate | 000-255 |
|  |  | Color Wheel | 000-255 | Layer1 Repeat | 000-255 |
|  |  | Gobo Wheel | 000-255 | Layer1 Direction | 000-255 |
|  |  | Prism | 000-255 | Layer1 Rot Offest | 000-255 |
|  |  | Prism Rot | 000-255 | Layer2 Dimmer | 000-255 |
|  |  | 6 Line Prism | 000-255 | Layer2 Red1 | 000-255 |
|  |  | 6 Line Prism Rot | 000-255 | Layer2 Green1 | 000-255 |
|  |  | Focus | 000-255 | Layer2 Blue1 | 000-255 |
|  |  | Focus Fine | 000-255 | Layer2 Red2 | 000-255 |
|  |  | Frost | 000-255 | Layer2 Green2 | 000-255 |
|  |  | Pan/Tilt Speed | 000-255 | Layer2 Blue2 | 000-255 |
|  |  | Dimmer Curve | 000-255 | Layer2 FX | 000-255 |
|  |  | Device Settings | 000-255 | Layer2 Rotate | 000-255 |
|  |  | Reset | 000-255 | Layer2 Repeat | 000-255 |
|  |  | Layer1 Dimmer | 000-255 | Layer2 Direction | 000-255 |
|  |  | Layer1 Red1 | 000-255 | Layer2 Rot Offest | 000-255 |
| Settings | Display Rev | OFF/ON |  |  |  |
|  | Display | OFF/ON |  |  |  |
|  | DMX Fail | Blackout |  |  |  |
|  |  | Hold |  |  |  |
|  | Dimmer Curve | Linear |  |  |  |
|  |  | EXP |  |  |  |
|  |  | Log |  |  |  |
|  |  | S Curve |  |  |  |
|  | Dimmer | Halogen |  |  |  |
|  | Response | LED |  |  |  |
|  | Pan Rev | OFF/ON |  |  |  |
|  | Tilt Rev | OFF/ON |  |  |  |
|  | Pan Angle | 540 |  |  |  |
|  |  | 630 |  |  |  |
|  | Feedback | OFF/ON (Automatic Pan/Tilt position correction) |  |  |  |
|  | Calibrate | Pan | 000-255 | 6 Line Prism | 000-255 |
|  |  | Tilt | 000-255 | 6 Line Prism Rot | 000-255 |
|  |  | Color Wheel | 000-255 | Focus | 000-255 |
|  |  | Gobo Wheel | 000-255 | Frost | 000-255 |
|  |  | Prism | 000-255 |  |  |
|  | FanSet | Regular/Silent |  |  |  |
|  | Mov Blackout | OFF/ON (blackout while moving) |  |  |  |
|  | Test | Function Test |  |  |  |
|  | Reset | Pan\& Tilt |  |  |  |
|  |  | Head |  |  |  |
|  |  | All |  |  |  |
|  | Factory Reset | NO/YES |  |  |  |
| Network Settings | IP Address | xxx.xxx.xxx.xxx |  |  |  |
|  | Subnet Mask | xxx.xxX.xxx.xxx |  |  |  |
|  | Universe | 000-255 |  |  |  |
| System Info | Firmware | Vx.xx |  |  |  |
|  | Time Info | Power on |  |  |  |
|  |  | Last Run |  |  |  |
|  | Temp | LED Temp |  |  |  |
|  |  | Temp Unit |  |  |  |

## Set the Starting DMX Address:

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

## DMX512 and Art-Net Modes:

1.) Navigate the main menu to reach MODE, press <ENTER>.
2.) Highlight DMX Signal Select, press <ENTER>.
3.) Highlight DMX or Artnet, press <ENTER>.
4.) When DMX is selected, signal can be sent/received through the 3-pin DMX connections, and when Artnet is selected, signals can be sent/received through the RJ45 connections.

## Select the DMX Channel Mode:

1.) Navigate the main menu to reach MODE, press <ENTER>.
2.) Highlight DMX Mode, and press <ENTER>.
3.) Use the <UP/DOWN> buttons to select DMX 21Ch, DMX 44Ch or DMX 128Ch, and press the <ENTER> button to confirm.

Network Setup: (Artnet)
1.) Navigate the main menu to reach Network Settings, press <ENTER>.
2.) Use the <UP/DOWN> buttons to navigate through the network setup options.

| IP Address | $=$ | Set the IP address xxx.xxx.xxx.xxx | Press the <ENTER> button repeatedly to cycle through each set of 3 digits 1-4. Use the <UP/DOWN> buttons to change the value of each from 000-255. |
| :---: | :---: | :---: | :---: |
| Subnet Mask | $=$ | Set the subnet mask xxx.xxx.xxx.xxx | Press the <ENTER> button repeatedly to cycle through each set of 3 digits 1-4. Use the <UP/DOWN> buttons to change the value of each from 000-255. |
| Universe | $=$ | Set the universe | Choose from 000-255. |

## Slave Mode:

1.) Navigate the main menu to reach DMX Address, press <ENTER>.
2.) Use the <UP/DOWN> buttons to highlight Slave, press <ENTER>.
3.) Press the <ENTER> button to confirm.
4.) If a control signal is not present the display will flash, otherwise it will not flash.

Auto, Sound Active, \& Manual Adjustments:
Allows a single or Master/Slaved units to run factory installed programs.

## Auto Mode:

1.) Navigate the main menu until you reach MODE, press <ENTER>.
2.) Use the <UP/DOWN> buttons to highlight Auto, then press <ENTER>.
3.) Choose Auto Program (to run) or Auto Speed, and press <ENTER>.
4.) You can adjust the Auto Speed anywhere ranging from 000-255 (slow <--> fast).

## Sound Active Mode:

1.) Navigate the main menu until you reach MODE, press <ENTER>.
2.) Highlight Sound, then press <ENTER> to confirm.
3.) Adjust the mic sensitivity using the <UP/DOWN> buttons to adjust the mic Sensitivity (0-255), and press <ENTER>.

## Static Mode:

1.) Navigate the main menu until you reach MODE, press <ENTER>.
2.) Highlight Static, then press <ENTER> to confirm.
3.) Select and adjust any function from 000-255. Use the same DMX values that start on p.14.

## Display Reverse:

1.) Navigate the main menu to reach Settings, and then press the <ENTER> button.
2.) Highlight Display Rev. and then press <ENTER>.
3.) Choose from ON (inverted $180^{\circ}$ ) or OFF, and press <ENTER> to confirm.

## Display OFF/OFF:

1.) Navigate the main menu to Settings, and then press <ENTER>.
2.) Highlight Display and then press <ENTER>.
3.) Choose from Hold (continuous), or OFF (after 1 minute of inactivity). Press <ENTER> to confirm.

## DMX Fail Settings:

1.) Navigate the main menu to Settings, and then press <ENTER>.
2.) Highlight DMX Fail and then press <ENTER>.
3.) Choose either Hold (holds last received signal), or Blackout. Press <ENTER> to confirm.

## Dimming Mode Settings:

Use any 1 of 4 dimming curve settings for smoother (and slower) dimming capabilities.

1.) Navigate the main menu until you reach Settings, press <ENTER>.
2.) Use the <UP/DOWN> buttons to highlight Dimmer Curve, and press <ENTER>.
3.) Now you can use the <UP/DOWN> buttons to highlight Linear, Exp (exponential), Log (logarithmic), or $\mathbf{S}$ Curve. Press the $<E N T E R>$ button to confirm your selection.

## Dimmer Response:

1.) Navigate the main menu until you reach Settings, press <ENTER>.
2.) Use the <UP/DOWN> buttons to highlight Dimmer Response, and press <ENTER>.
3.) Now use the <UP/DOWN $>$ buttons to highlight LED which the dimming responds abruptly to DMX changes, or Halogen which is similar to that of a halogen lamp, with more gentle changes in brightness. 4.) Press <ENTER> to confirm your selection.

## Pan/Tilt Reverse:

1.) Navigate the main menu until you reach Settings, press <ENTER>.
2.) Use the <UP/DOWN> buttons to highlight Pan Rev or Tilt Rev, and press <ENTER>.
3.) Now use the <UP/DOWN> buttons to highlight OFF or ON, and press <ENTER> to confirm.

## Pan Angle:

1.) Navigate the main menu until you reach Settings, press <ENTER>. Then use the <UP/DOWN> buttons to highlight Pan Angle > $\mathbf{5 4 0}$ or $\mathbf{6 3 0}$ degrees, and press <ENTER> to confirm.

## Calibrate:

1.) For fine calibration adjustments, navigate the main menu until you reach Settings, then press <ENTER>. Now use the <UP/DOWN> buttons to highlight Calibrate then <ENTER>, and choose an effect to adjust anywhere ranging from 0-255. When finished press <ENTER> to confirm.

## Factory Reset:

1.) Navigate the main menu until you reach Settings, press <ENTER>. Then use the <UP/DOWN> buttons to highlight Factory Reset > YES or NO (to cancel), and press <ENTER>.

DMX Values In-Depth (21/44/128-Channel Modes)

| Basic Mode 21CH | Standard 44CH | $\begin{aligned} & \text { Extended } \\ & 128 \mathrm{CH} \end{aligned}$ | Value | What it does |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 1 | $000<->255$ | Pan |
| 2 | 2 | 2 | $000<->255$ | Fine Pan (16-bit) |
| 3 | 3 | 3 | $000<->255$ | Tilt |
| 4 | 4 | 4 | $000<->255$ | Fine Tilt (16-bit) |
| 5 | 5 | 5 | $000<->255$ | Dimmer (0\% - 100\%) |
| -- | 6 | 6 | $000<->255$ | Dimmer Fine (0\% - 100\%) |
| 6 | 7 | 7 | $\left\lvert\, \begin{array}{ll} 000<-> & 005 \\ 006<-> & 010 \\ 011<-> & 033 \\ 034<-> & 056 \\ 057<-> & 079 \\ 080<-> & 102 \\ 103<-> & 127 \\ 128<-> & 250 \\ 251<-> & 255 \end{array}\right.$ | Strobe <br> Open <br> Closed <br> Pulse Random, (slow <-> fast) <br> Ramp Up Random(slow <-> fast) <br> Ramp Down Random (slow <-> fast) <br> Random (slow <-> fast) <br> Strobe Break Effect <br> Linear Strobe, Slow (1Hz) <-> Fast (20Hz) <br> Open |
| 7 | 8 | 8 | $000<->005$ $006<->011$ $012<->017$ $018<->023$ $024<->029$ $030<->035$ $036<->041$ $042<->047$ $048<->053$ $054<->059$ $060<->065$ $066<->071$ $072<->077$ $078<->083$ $084<->089$ $090<->095$ $096<->101$ $102<->107$ $108<->113$ $114<->119$ $120<->125$ $126<->131$ $132<->137$ $138<->143$ $144<->149$ $150<->155$ $156<->161$ $162<->167$ $168<->173$ $174<->179$ $180<->185$ $186<->218$ $219<->222$ $223<->255$ | Color Wheel <br> Open <br> Open/Congo (Split) <br> Congo <br> Congo/Red (Split) <br> Red <br> Red/Fluorescent Green (Split) <br> Fluorescent Green <br> Fluorescent Green/Blue (Split) <br> Blue <br> Blue/Orange (Split) <br> Orange <br> Orange/Light Green (Split) <br> Light Green <br> Light Green/Pink (Split) <br> Pink <br> Pink/CTB (Split) <br> CTB <br> CTB/Lavender (Split) <br> Lavender <br> Lavender/Green (Split) <br> Green <br> Green/Purple (Split) <br> Purple <br> Purple/Cyan (Split) <br> Cyan <br> Cyan/Yellow (Split) <br> Yellow <br> Yellow/CTO (3000K) (Split) <br> CTO (3000K) <br> CTO (3000K)/Open (Split) <br> Open <br> Color Wheel Rotation CW (Fast <-> Slow) <br> Stop <br> Color Wheel Rotation CCW (Slow <-> Fast) |
| 8 | 9 | 9 | $\begin{aligned} & 000<->003 \\ & 004<->007 \\ & 008<->011 \\ & 012<->015 \\ & 016<->019 \\ & 020<->023 \\ & 024<->027 \\ & 028<->031 \\ & 032<->035 \\ & 036<->039 \\ & 040<->043 \\ & 044<->047 \\ & 048<->051 \\ & 052<->055 \\ & 056<->059 \\ & \hline \end{aligned}$ | Gobo Wheel <br> Open <br> Reducer 1 (Smallest) <br> Reducer 2 <br> Reducer 3 <br> Reducer 4 <br> Reducer 5 <br> Reducer 6 (Biggest) <br> Gobo 1 <br> Gobo 2 <br> Gobo 3 <br> Gobo 4 <br> Gobo 5 <br> Gobo 6 <br> Gobo 7 <br> Gobo 8 |

DMX Values In-Depth (21/44/128-Channel Modes)

| $\begin{aligned} & \text { Basic Mode } \\ & 21 \mathrm{CH} \end{aligned}$ | Standard 44CH | $\begin{aligned} & \text { Extended } \\ & 128 \mathrm{CH} \\ & \hline \end{aligned}$ | Value | What it does |
| :---: | :---: | :---: | :---: | :---: |
| 8 | 9 | 9 | $060<->063$ <br> $064<->067$ <br> $068<->071$ <br> $072<->075$ <br> $076<->079$ <br> $080<->083$ <br> $084<->087$ <br> $088<->091$ <br> $092<->095$ <br> $096<->099$ <br> $100<->103$ <br> $104<->107$ <br> $108<->111$ <br> $112<->115$ <br> $116<->$ <br> 119 <br> $120<->123$ <br> $124<->127$ <br> $128<->131$ <br> $132<->135$ <br> $136<->139$ <br> $140<->143$ <br> $144<->147$ <br> $148<->151$ <br> $152<->155$ <br> $156<->159$ <br> $160<->163$ <br> $164<->167$ <br> $168<->171$ <br> $172<->175$ <br> $176<->187$ <br> $188<->199$ <br> $200<->211$ <br> $212<->223$ <br> $224<->239$ <br> $240<->255$ | ```Gobo Wheel Gobo } Gobo 10 Gobo 11 Gobo 12 Gobo }1 Gobo }1 Gobo 15 Open Shake (slow <-> fast) Reducer }1\mathrm{ Shake (slow <-> fast) Reducer 2 Shake (slow <-> fast) Reducer 3 Shake (slow <-> fast) Reducer 4 Shake (slow <-> fast) Reducer 5 Shake (slow <-> fast) Reducer 6 Shake (slow <-> fast) Gobo 1 Shake (slow <-> fast) Gobo 2 Shake (slow <-> fast) Gobo 3 Shake (slow <-> fast) Gobo 4 Shake (slow <-> fast) Gobo 5 Shake (slow <-> fast) Gobo 6 Shake (slow <-> fast) Gobo 7 Shake (slow <-> fast) Gobo 8 Shake (slow <-> fast) Gobo 9 Shake (slow <-> fast) Gobo }10\mathrm{ Shake (slow <-> fast) Gobo }11\mathrm{ Shake (slow <-> fast) Gobo }12\mathrm{ Shake (slow <-> fast) Gobo }13\mathrm{ Shake (slow <-> fast) Gobo }14\mathrm{ Shake (slow <-> fast) Gobo }15\mathrm{ Shake (slow <-> fast) Effect Wheel #1 Manual Position Effect Wheel #2 Manual Position Effect Wheel #1 Oscillate (fast <-> slow <-> stop) Effect Wheel #2 Oscillate (fast <-> slow <-> stop) Gobo Wheel Spin CW (slow <-> fast) Gobo Wheel Spin CCW (fast <-> slow)``` |
| 9 | 10 | 10 | $\begin{aligned} & 000<->127 \\ & 128<->255 \end{aligned}$ | Prism 1 (8-facet circular) <br> Prism 1 Out <br> Prism 1 In |
| 10 | 11 | 11 | $\begin{aligned} & 000<->127 \\ & 128<->128 \\ & 129<->191 \\ & 192<->254 \\ & 255<->255 \end{aligned}$ | Prism 1 Rotation <br> Prism Indexing <br> Prism Stop <br> Prism Rotation CW (slow <-> fast) <br> Prism Rotation CCW (fast <-> slow) <br> Prism Stop |
| 11 | 12 | 12 | $\begin{aligned} & 000<->127 \\ & 128<->255 \end{aligned}$ | $\begin{aligned} & \text { Prism } 2 \text { (6-facet linear) } \\ & \text { Prism } 1 \text { Out } \\ & \text { Prism 1 In } \\ & \hline \end{aligned}$ |
| 12 | 13 | 13 | $\begin{aligned} & 000<->127 \\ & 128<->128 \\ & 129<->191 \\ & 192<->254 \\ & 255<->255 \end{aligned}$ | Prism 2 Rotation <br> Prism Indexing <br> Prism Stop <br> Prism Rotation CW (slow <-> fast) <br> Prism Rotation CCW (fast <-> slow) <br> Prism Stop |
| 13 | 14 | 14 | $000<->255$ | Focus (0 <-> 100\%) |
| -- | 15 | 15 | $000<->255$ | Focus Fine (0 <-> 100\%) |
| 14 | 16 | 16 | $\begin{aligned} & 000<->005 \\ & 006<->130 \\ & 131<->255 \end{aligned}$ | Colorizer / Frost Colorizer \& Frost Out Colorizer In Frost In |
| 15 | 17 | 17 | $000<->255$ | Pan/Tilt Speed (fast <-> slow) |
| -- | 18 | 18 | $\begin{aligned} & 000<->005 \\ & 006<->063 \\ & 064<->127 \\ & 128<->191 \\ & 192<->255 \end{aligned}$ | Dimmer Curve <br> No Function <br> Linear Curve <br> Exponential Curve Logarithmic Curve S-Curve |

DMX Values In-Depth (21/44/128-Channel Modes)

| Basic Mode $21 \mathrm{CH}$ | Standard $44 \mathrm{CH}$ | $\begin{aligned} & \text { Extended } \\ & \text { 128CH } \end{aligned}$ | Value | What it does |
| :---: | :---: | :---: | :---: | :---: |
| - | 19 | 19 | $\begin{array}{lll} 000<-> & 005 \\ 006<-> & 030 \\ 031<-> & 055 \\ 056<-> & 080 \\ 081<-> & 105 \\ 106<-> & 130 \\ 131<-> & 155 \\ 156<-> & 180 \\ 181<-> & 205 \\ 206<-> & 230 \\ 231<-> & 255 \end{array}$ | Device Settings (hold for 5 seconds) <br> No Function <br> Move-In-Black On <br> Move-In-Black Off <br> Invert Pan <br> Normal Pan <br> Invert Tilt <br> Normal Tilt <br> Dimmer Response: LED <br> Dimmer Response: Mimic Halogen <br> Fan Speed Max <br> Fan Speed Auto |
| 16 | 20 | 20 | $\begin{array}{\|l\|l\|} \hline 000<-> & 005 \\ 006<-> & 127 \\ 128<-> & 191 \\ 192<-> & 255 \end{array}$ | ```Reset (hold for 5 seconds) No Function Reset Pan/Tilt Reset Effects (Prism, Colors, Gobos, Etc.) Reset All``` |

Ring Layer 1

| 17 | -- | -- | 000 <-> 255 | Ring Dimmer (0 <-> 100\%) |
| :---: | :---: | :---: | :---: | :---: |
| 18 | -- | -- | $\begin{array}{\|l\|l} 000<-> & 005 \\ 006<-> & 255 \\ \hline \end{array}$ | Ring Strobe <br> Open <br> Strobe Slow ( 1 Hz ) <--> Fast $(20 \mathrm{~Hz})$ |
| 19 | -- | -- | $000<->255$ | Ring Red (0 <-> 100\%) |
| 20 | -- | -- | $000<->255$ | Ring Green (0 <-> 100\%) |
| 21 | -- | -- | $000<->255$ | Ring Blue (0 <-> 100\%) |
| -- | 21 | 21 | 000 <-> 255 | Ring Dimmer 1 <br> Layer 1 Ring Dimmer (0 <-> 100\%) |
| -- | 22 | 22 | $000<->255$ | Red - Main FX Color <br> Layer 1 Main FX Color ( 0 <-> 100\%) |
| -- | 23 | 23 | 000 <-> 255 | Green - Main FX Color <br> Layer 1 Main FX Color ( 0 <-> 100\%) |
| -- | 24 | 24 | $000<->255$ | Blue - Main FX Color <br> Layer 1 Main FX Color ( 0 <-> 100\%) |
| -- | 25 | 25 | $000<->255$ | Red - BG or 2nd FX Color <br> Layer 1 Background/2nd FX Color ( $0<->100 \%$ ) |
| -- | 26 | 26 | $000<->255$ | Green - BG or 2nd FX Color <br> Layer 1 Background/2nd FX Color ( 0 <-> 100\%) |
| -- | 27 | 27 | $000<->255$ | Blue - BG or 2nd FX Color <br> Layer 1 Background/2nd FX Color ( 0 <-> 100\%) |
| -- | 28 | 28 | 000 <-> 255 | FX Select <br> See FX table on pages 18-20 |
| -- | 29 | 29 | $\begin{array}{\|l\|l\|} 000<->127 \\ 128<->128 \\ 129<-> & 255 \\ \hline \end{array}$ | FX Rotation <br> Forward FX Rotation (fast <-> slow) <br> FX Rotation stop <br> Reverse FX Rotation (slow <-> fast) |
| -- | 30 | 30 | $\begin{array}{\|l} 000<-> \\ 064<->127 \\ 128<->191 \\ 192<-> \end{array} 255$ | FX Repeat <br> $\times 2$ <br> $\times 4$ <br> $\times 8$ <br> Full |
| -- | 31 | 31 | $\begin{array}{\|l\|l} 000<-> & 663 \\ 064<->127 \\ 128<-> & 191 \\ 192<-> & 255 \\ \hline \end{array}$ | FX Direction Forward FX Reverse FX Mirror Out Mirror In |
| -- | 32 | 32 | 000 <-> 255 | FX Rotation Offset FX start point adjustment |

DMX Values In-Depth (21/44/128-Channel Modes)

## Ring Layer 2

| $\begin{array}{\|l\|} \hline \text { Basic Mode } \\ 21 \mathrm{CH} \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { Standard } \\ & 44 \mathrm{CH} \end{aligned}$ | $\begin{aligned} & \text { Extended } \\ & 128 \mathrm{CH} \\ & \hline \end{aligned}$ | Value | What it does |
| :---: | :---: | :---: | :---: | :---: |
| -- | 33 | 33 | 000 <-> 255 | Ring Dimmer 2 <br> Layer 2 Ring Dimmer ( 0 <-> 100\%) |
| -- | 34 | 34 | 000 <-> 255 | Red - Main FX Color <br> Layer 2 Main FX Color ( 0 <-> 100\%) |
| -- | 35 | 35 | 000 <-> 255 | Green - Main FX Color <br> Layer 2 Main FX Color ( 0 <-> 100\%) |
| -- | 36 | 36 | 000 <-> 255 | Blue - Main FX Color <br> Layer 2 Main FX Color ( 0 <-> 100\%) |
| -- | 37 | 37 | 000 <-> 255 | Red - BG or 2nd FX Color <br> Layer 2 Background/2nd FX Color ( 0 <-> 100\%) |
| -- | 38 | 38 | $000<->255$ | Green - BG or 2nd FX Color <br> Layer 2 Background/2nd FX Color (0 <-> 100\%) |
| -- | 39 | 39 | 000 <-> 255 | Blue - BG or 2nd FX Color <br> Layer 2 Background/2nd FX Color (0 <-> 100\%) |
| -- | 40 | 40 | $000<->255$ | FX Select <br> See FX table on pages 18-20 |
| -- | 41 | 41 | $\left\lvert\, \begin{aligned} & 000<->127 \\ & 128<->128 \\ & 129<->~ \end{aligned}\right.$ | FX Rotation <br> Forward FX Rotation (fast <-> slow) <br> FX Rotation stop <br> Reverse FX Rotation (slow <-> fast) |
| -- | 42 | 42 | $\begin{aligned} & 000<->063 \\ & 064<->127 \\ & 128<->191 \\ & 192<->255 \end{aligned}$ | FX Repeat <br> $\times 2$ <br> $\times 4$ <br> $\times 8$ <br> Full |
| -- | 43 | 43 | $\begin{array}{\|l\|l} 000<-> & 663 \\ 064<->127 \\ 128<->191 \\ 192<-> & 255 \\ \hline \end{array}$ | FX Rotation Offset Forward FX Reverse FX Mirror Out Mirror In |
| -- | 44 | 44 | 000 <-> 255 | FX Rotation Offset <br> FX start point adjustment |

## 128 Channel Mode, continued

| 45 | R1 | 59 | B5 | 73 | G10 | 87 | R15 | 101 | B19 | 115 | G24 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 46 | G1 | 60 | R6 | 74 | B10 | 88 | G15 | 102 | R20 | 116 | B24 |
| 47 | B1 | 61 | G6 | 75 | R11 | 89 | B15 | 103 | G20 | 117 | R25 |
| 48 | R2 | 62 | B6 | 76 | G11 | 90 | R16 | 104 | B20 | 118 | G25 |
| 49 | G2 | 63 | R7 | 77 | B11 | 91 | G16 | 105 | R21 | 119 | B25 |
| 50 | B2 | 64 | G7 | 78 | R12 | 92 | B16 | 106 | G21 | 120 | R26 |
| 51 | R3 | 65 | B7 | 79 | G12 | 93 | R17 | 107 | B21 | 121 | G26 |
| 52 | G3 | 66 | R8 | 80 | B12 | 94 | G17 | 108 | R22 | 122 | B26 |
| 53 | B3 | 67 | G8 | 81 | R13 | 95 | B17 | 109 | G22 | 123 | R27 |
| 54 | R4 | 68 | B8 | 82 | G13 | 96 | R18 | 110 | B22 | 124 | G27 |
| 55 | G4 | 69 | R9 | 83 | B13 | 97 | G18 | 111 | R23 | 125 | B27 |
| 56 | B4 | 70 | G9 | 84 | R14 | 98 | B18 | 112 | G23 | 126 | R28 |
| 57 | R5 | 71 | B9 | 85 | G14 | 99 | R19 | 113 | B23 | 127 | G28 |
| 58 | G5 | 72 | R10 | 86 | B14 | 100 | G19 | 114 | R24 | 128 | B28 |

## Note:

*For 128 channels, to use the pixel mapping function you must select the DMX value 241255 on the $\boldsymbol{F X}$ Select channel to enable it.

FX Channel Chart

| DMX | Function | Type |
| :---: | :---: | :---: |
| 0 | No Function | -- |
| One Color "Paparazzi" Snap |  |  |
| 1 | Preprogrammed FX | Step |
| 2 | Slow/Low Density | Step |
| 3 | Slow/Medium Density | Step |
| 4 | Slow/High Density | Step |
| 5 | Slow/Linear | Step |
| 6 | Medium/Low Density | Step |
| 7 | Medium/Medium Density | Step |
| 8 | Medium/High Density | Step |
| 9 | Medium/Linear | Step |
| 10 | Fast/Low Density | Step |
| 11 | Fast/Medium Density | Step |
| 12 | Fast/High Density | Step |
| 13 | Fast/Linear | Step |
| One Color "Paparazzi" Fade |  |  |
| 14 | Preprogrammed FX | Step |
| 15 | Slow/Low Density | Step |
| 16 | Slow/Medium Density | Step |
| 17 | Slow/High Density | Step |
| 18 | Slow/Linear | Step |
| 19 | Medium/Low Density | Step |
| 20 | Medium/Medium Density | Step |
| 21 | Medium/High Density | Step |
| 22 | Medium/Linear | Step |
| 23 | Fast/Low Density | Step |
| 24 | Fast/Medium Density | Step |
| 25 | Fast/High Density | Step |
| 26 | Fast/Linear | Step |
| Two Color "Paparazzi" Snap |  |  |
| 27 | Preprogrammed FX | Step |
| 28 | Slow/Low Density | Step |
| 29 | Slow/Medium Density | Step |
| 30 | Slow/High Density | Step |
| 31 | Slow/Linear | Step |
| 32 | Medium/Low Density | Step |
| 33 | Medium/Medium Density | Step |
| 34 | Medium/High Density | Step |
| 35 | Medium/Linear | Step |
| 36 | Fast/Low Density | Step |
| 37 | Fast/Medium Density | Step |
| 38 | Fast/High Density | Step |
| 39 | Fast/Linear | Step |
| Two Color "Paparazzi" Fade |  |  |
| 40 | Preprogrammed FX | Step |
| 41 | Slow/Low Density | Step |
| 42 | Slow/Medium Density | Step |
| 43 | Slow/High Density | Step |
| 44 | Slow/Linear | Step |
| 45 | Medium/Low Density | Step |
| 46 | Medium/Medium Density | Step |
| 47 | Medium/High Density | Step |
| 48 | Medium/Linear | Step |
| 49 | Fast/Low Density | Step |
| 50 | Fast/Medium Density | Step |
| 51 | Fast/High Density | Step |
| 52 | Fast/Linear | Step |

## FX Channel Chart

| 53 | Preprogrammed FX | Step |
| :---: | :---: | :---: |
| 54 | Slow/Short Tail | Step |
| 55 | Slow/Medium Tail | Step |
| 56 | Slow/Long Tail | Step |
| 57 | Medium/Short Tail | Step |
| 58 | Medium/Medium Tail | Step |
| 59 | Medium/Long Tail | Step |
| 60 | Fast/Short Tail | Step |
| 61 | Fast/Medium Tail | Step |
| 62 | Fast/Long Tail | Step |
| Trace \#2-Uniform Decay, Color Mix |  |  |
| 63 | Preprogrammed FX | Step |
| 64 | Slow/Short Tail | Step |
| 65 | Slow/Medium Tail | Step |
| 66 | Slow/Long Tail | Step |
| 67 | Medium/Short Tail | Step |
| 68 | Medium/Medium Tail | Step |
| 69 | Medium/Long Tail | Step |
| 70 | Fast/Short Tail | Step |
| 71 | Fast/Medium Tail | Step |
| 72 | Fast/Long Tail | Step |
| Trace \#3 - Uniform Color |  |  |
| 73 | Preprogrammed FX | Step |
| 74 | Slow/Short Tail | Step |
| 75 | Slow/Medium Tail | Step |
| 76 | Slow/Long Tail | Step |
| 77 | Medium/Short Tail | Step |
| 78 | Medium/Medium Tail | Step |
| 79 | Medium/Long Tail | Step |
| 80 | Fast/Short Tail | Step |
| 81 | Fast/Medium Tail | Step |
| 82 | Fast/Long Tail | Step |
| Trace \#4 - Uniform Color, Color Mix w/Base Color |  |  |
| 83 | Preprogrammed FX | Step |
| 84 | Slow/Short Tail | Step |
| 85 | Slow/Medium Tail | Step |
| 86 | Slow/Long Tail | Step |
| 87 | Medium/Short Tail | Step |
| 88 | Medium/Medium Tail | Step |
| 89 | Medium/Long Tail | Step |
| 90 | Fast/Short Tail | Step |
| 91 | Fast/Medium Tail | Step |
| 92 | Fast/Long Tail | Step |
| Jockey Chase |  |  |
| 93 | Preprogrammed FX | Step |
| 94 | Smallest | Step |
| 95 | ... | Step |
| 96 | ... | Step |
| 97 | ... | Step |
| 98 | $\ldots$ | Step |
| 99 | $\ldots$ | Step |
| 100 |  | Step |
| 101 |  | Step |
| 102 | Biggest | Step |

FX Channel Chart

| Pie Piece Chase |  |  |
| :---: | :---: | :---: |
| 103 | Preprogrammed FX | Step |
| 104 | 1/2 Ring | Step |
| 105 | 1/4 Ring | Step |
| 106 | 1/8 Ring | Step |
| 107 | 1/16 Ring | Step |
| 108 | 1/32 Ring | Step |
| 109 | 1/64 Ring | Step |
| 110 | Rotating 1/4 Ring | Step |
| 111 | Rotating 1/16 Ring | Step |
| 112 | Rotating 1/32 Ring | Step |
| Color Merge |  |  |
| 113 | Preprogrammed FX | Step |
| 114 | Full Ring | Step |
| 115 | 3/4 Ring | Step |
| 116 | 1/2 Ring | Step |
| 117 | 1/4 Ring | Step |
| Color Wave |  |  |
| 118 | Preprogrammed FX | Step |
| 119 | Small | Step |
| 120 | Medium | Step |
| 121 | Large | Step |
| 122 | XL | Step |
| Color Wave w/Color Mix |  |  |
| 123 | Preprogrammed FX | Step |
| 124 | Small | Step |
| 125 | Medium | Step |
| 126 | Large | Step |
| 127 | XL | Step |
| Sweep |  |  |
| 128 | Preprogrammed FX | Step |
| 129 | Slow | Step |
| 130 | Medium | Step |
| 131 | Fast | Step |
| 132 | Soopafast | Step |
| 137 <--> 240 | No Function | Step |
| Random Sweep |  |  |
| 133 | Slow | Step |
| 134 | Medium | Step |
| 135 | Fast | Step |
| 136 | Soopafast | Step |
| 137 <--> 240 | No Function | Step |
| Enable Pixel Mapping |  |  |
| 241 <--> 245 | Mix Layers | Proportional |
| $246<-->250$ | Below Other Layer | Proportional |
| $251<-->255$ | Above Other Layer | Proportional |

## 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 $\mathbf{N}$-Trance ${ }^{\text {TM }}$ 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 | 12.4 inches ( 315.3 mm ) |
| Depth | 8 inches (202 mm) |
| Height | 19.8 inches ( 502.5 mm ) |
| Weight | $31.3 \mathrm{lbs} .(14.2 \mathrm{~kg})$ |
| Power |  |
| Operating Voltage | 100V-240VAC, 50-60Hz |
| Power Consumption | 136W, 1.81A, PF: . 62 |
| Light Source |  |
| LED | 1x 90W LED (beam) <br> 86x RGB 3-in-1 SMD5050 LEDs (ring) |
| Optical |  |
| Beam Angle | 2 degree |
| Thermal |  |
| Max. Operating Temp. | 104 degrees F (40 degrees C) ambient |
| Control |  |
| Protocol | USITT DMX-512, Art-NET |
| DMX Channels | 21/44/128-channel DMX modes |
| Input | 3/5-pin XLR Male, RJ45 Input |
| Output | 3/5-pin XLR Female, RJ45 Output |
| Other Operating Modes | Standalone, Master/Slave, Sound Active, Color Preset |
| Warranty | 2-year limited warranty, does not cover malfunction caused by damage to LEDs. |

Photometric Data


Luminous Intensity:

| Beam | 5 m lux | 5 m fc | 7.5 m lux | 7.5 m fc | 10 m lux | 10 m fc |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2^{\circ}$ | 49,450 | $4,594.0$ | 25,804 | $2,397.3$ | 12,721 | $1,181.8$ |

## Dimensional Drawings



## DISCLAIMER:

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## Gobo Wheel



Color Wheel


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

