



# HYDRO SPOT 2



User Manual

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### **Europe Energy Saving Notice**

Energy Saving Matters (EuP 2009/125/EC)

Saving electric energy is a key to help protecting the environment. Please turn off all electrical products when they are not in use. To avoid power consumption in idle mode, disconnect all electrical equipment from power when not in use. Thank you!

### **DOCUMENT VERSION**



Due to additional product features and/or enhancements, an updated version of this document may be available online.

Please check [www.adj.com](http://www.adj.com) for the latest revision/update of this manual before beginning installation and/or programming.

| Date       | Document Version | Software Version | DMX Channels     | Notes                       |
|------------|------------------|------------------|------------------|-----------------------------|
| 06/30/2022 | 1.0              | 1.01             | 24 / 29 / 36 ch. | Initial Release             |
| 07/21/2022 | 1.1              | N/C              | No Change        | Updated RDM and System Menu |
| 07/28/2022 | 1.2              | N/C              | No Change        | Corrected Specifications    |
| 10/20/2022 | 1.3              | N/C              | No Change        | Updated Dimensions          |
| 12/22/2023 | 1.4              | N/C              | No Change        | Updated Specifications      |
| 08/19/2024 | 1.5              | N/C              | No Change        | Updated System Menu         |

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# GENERAL INFORMATION

## INTRODUCTION

Please read and understand the instructions in this manual carefully and thoroughly before attempting to operate this device. These instructions contain important safety and use information.

**This product is intended for use by professionally trained personnel only, and is not suitable for private use.**

## Unpacking

Every device has been thoroughly tested and has been shipped in perfect operating condition. Carefully check the shipping carton for damage that may have occurred during shipping. If the carton is damaged, carefully inspect the device for damage, and be sure all accessories necessary to install and operate the device have arrived intact. In the event damage has been found or parts are missing, please contact our customer support team for further instructions. Please do not return this device to your dealer without first contacting customer support. Please do not discard the shipping carton in the trash. Please recycle whenever possible.

## BOX CONTENTS

Omega Brackets  
1.83M locking power cable

## CUSTOMER SUPPORT

Contact ADJ Service for any product related service and support needs.  
Also visit [forums.adj.com](https://forums.adj.com) with questions, comments or suggestions.

**ADJ SERVICE USA** - Monday - Friday 8:00am to 4:30pm PST  
323-582-2650 | Fax: 323-832-2941 | [support@adj.com](mailto:support@adj.com)

**ADJ SERVICE EUROPE** - Monday - Friday 08:30 to 17:00 CET  
+31 45 546 85 60 | Fax: +31 45 546 85 96 | [support@adj.eu](mailto:support@adj.eu)

**REPLACEMENT PARTS** please visit [parts.adj.com](https://parts.adj.com)



## IMPORTANT NOTICE!

**THERE ARE NO USER SERVICEABLE PARTS INSIDE THIS UNIT.  
DO NOT ATTEMPT ANY REPAIRS YOURSELF; DOING SO WILL VOID YOUR MANUFACTURER'S WARRANTY. DAMAGES RESULTING FROM MODIFICATIONS TO THIS FIXTURE AND/OR THE DISREGARD OF SAFETY INSTRUCTIONS AND GUIDELINES IN THIS MANUAL VOID THE MANUFACTURER'S WARRANTY AND ARE NOT SUBJECT TO WARRANTY CLAIMS AND/OR REPAIRS.**

# LIMITED WARRANTY (USA ONLY)

- A. ADJ Products, LLC hereby warrants, to the original purchaser, ADJ Products, LLC products to be free of manufacturing defects in material and workmanship for a prescribed period from the date of purchase (see specific warranty period on reverse). This warranty shall be valid only if the product is purchased within the United States of America, including possessions and territories. It is the owner's responsibility to establish the date and place of purchase by acceptable evidence, at the time service is sought.
- B. For warranty service, you must obtain a Return Authorization number (RA#) before sending back the product-please contact ADJ Products, LLC Service Department at 800-322-6337. Send the product only to the ADJ Products, LLC factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, ADJ Products, LLC will pay return shipping charges only to a designated point within the United States. If the entire instrument is sent, it must be shipped in its original package. No accessories should be shipped with the product. If any accessories are shipped with the product, ADJ Products, LLC shall have no liability whatsoever for loss of or damage to any such accessories, or for the safe return thereof.
- C. This warranty is void if the serial number has been altered or removed; if the product is modified in any manner which ADJ Products, LLC concludes, after inspection, affects the reliability of the product, if the product has been repaired or service by anyone other than ADJ Products, LLC factory unless prior written authorization was issued to purchaser by ADJ Products, LLC; if the product is damaged because not properly maintained as set forth in the instruction manual.
- D. This is not a service contract, and this warranty does not include maintenance, cleaning or periodic check up. During the period specified above, ADJ Products, LLC will replace defective parts at its expense with new or refurbished parts, and will absorb all expenses for warrant service and repair labor by reason of defects in material or workmanship. The sole responsibility of ADJ Products, LLC under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of ADJ Products, LLC. All products covered by this warranty were manufactured after August 15, 2012, and bear identifying marks to that effect.
- E. ADJ Products, LLC reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products theretofore manufactured.
- F. No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with products described above. Except to the extent prohibited by applicable law, all implied warranties made by ADJ Products, LLC in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty period set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said period has expired. The consumer's and/or Dealer's sole remedy shall be such repair or replacement as is expressly provided above; and under no circumstances shall ADJ Products, LLC be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product.
- G. This warranty is the only written warranty applicable to ADJ Products, LLC Products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

## LIMITED WARRANTY PERIODS

- **Non L.E.D. Lighting Products = 1-year (365 days) Limited Warranty** (Such as: Special Effect Lighting, Intelligent Lighting, UV lighting, Strobes, Fog Machines, Bubble Machines, Mirror Balls, Par Cans, Trussing, Lighting Stands etc. excluding LED and lamps)
- **Laser Products = 1 Year (365 Days) Limited Warranty** (excludes laser diodes which have 6 month limited warranty)
- **L.E.D. Products = 2-year (730 days) Limited Warranty** (excluding batteries which have a 180 day limited warranty)  
Note: 2 Year Warranty only applies to purchases within the United States.
- **StarTec Series = 1 Year Limited Warranty** (excluding batteries which have a 180 day limited warranty)
- **ADJ DMX Controllers = 2 Year (730 Days) Limited Warranty**

# WARRANTY REGISTRATION

Please fill out the enclosed warranty card to validate your purchase. All returned service items, whether under warranty or not, must be freight pre-paid and accompanied by a return authorization (R.A.) number. The R.A. number must be clearly written on the outside of the return package. A brief description of the problem as well as the R.A. number must also be written down on a piece of paper included in the shipping carton. If the unit is under warranty, you must provide a copy of your proof of purchase invoice. You may obtain an R.A. number by contacting our customer support team. All packages returned to the service department not displaying an R.A. number on the outside of the package will be returned to the shipper.

## FEATURES

- Motorized Focus
- 2 Frost Filters
- Motorized Zoom: 8° ~ 41°
- Animation Wheel
- 2 Prism FX: Rotating 5-facet Linear & rotating 6-facet Circular
- 0-100% smooth dimming
- Various strobe speeds
- 2 cooling fans

## INCLUDED ITEMS

- Omega Bracket (x1)
- Locking Power Cable (x1)

## IP RATING

An IP rated lighting fixture is commonly installed in outdoor environments and has been designed with an enclosure that effectively protects the ingress (entry) of external foreign objects such as dust and water. The Ingress Protection (IP) rating system is commonly expressed as “IP” followed by two numbers (i.e. IP65), where the numbers define the degree of protection. The first digit (Foreign Bodies Protection) indicates the extent of protection against particles entering the fixture and the second digit (Water Protection) indicates the extent of protection against water entering the fixture. **An IP65 rated lighting fixture, such as this one, has been designed and tested to protect against the ingress of dust (6) and low-pressure water jets from any direction (5). INTENDED FOR TEMPORARY OUTDOOR USE ONLY!**

# SAFETY PRECAUTIONS



**PROTECTION CLASS 1 - FIXTURE MUST BE PROPERLY GROUNDED.**



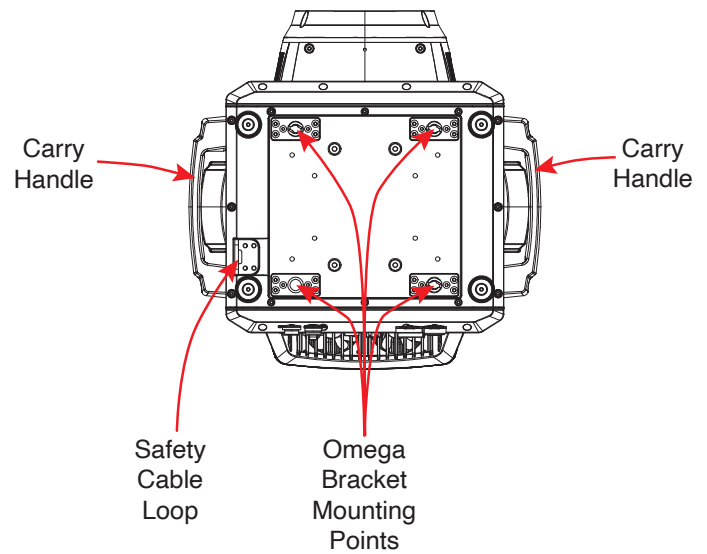
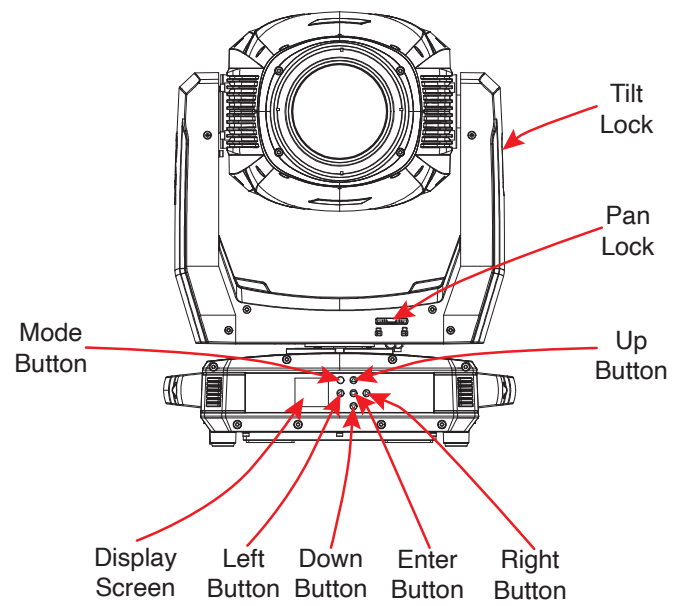
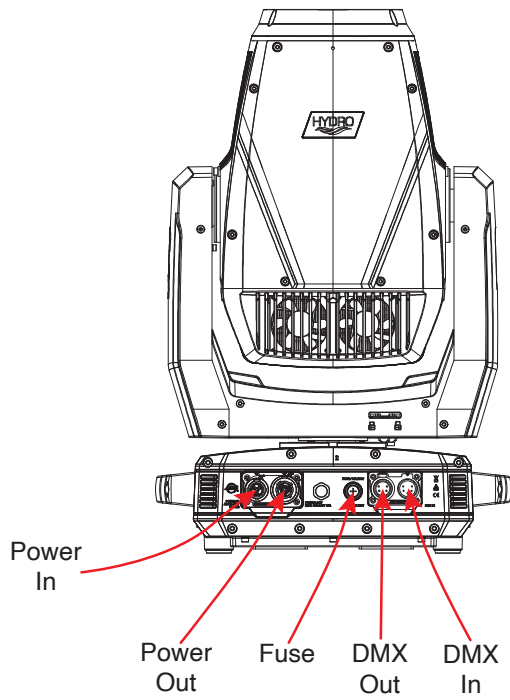
**THERE ARE NO USER SERVICEABLE PARTS INSIDE THIS UNIT. DO NOT ATTEMPT ANY REPAIRS YOURSELF, AS DOING SO WILL VOID YOUR MANUFACTURER'S WARRANTY. DAMAGES RESULTING FROM MODIFICATIONS TO THIS FIXTURE AND/OR THE DISREGARD OF SAFETY INSTRUCTIONS AND GUIDELINES IN THIS MANUAL VOID THE MANUFACTURER'S WARRANTY AND ARE NOT SUBJECT TO ANY WARRANTY CLAIMS AND/OR REPAIRS.**



**NEVER LOOK DIRECTLY INTO THE LIGHT SOURCE!  
RETINA INJURY RISK - MAY INDUCE BLINDNESS!  
SENSITIVE PERSONS MAY SUFFER AN EPILEPTIC SHOCK!**

- **Maximum ambient operating temperature is -4° F to 113° F (-20° C to 45° C)!**
- DO NOT TOUCH the fixture housing during operation. Disconnect the power and allow approximately 15 minutes for the fixture to cool down before servicing.
- DO NOT shake the fixture, and avoid brute force when installing and/or operating the fixture.
- DO NOT operate the fixture if the power cord has become frayed, crimped and/or damaged. If the power cord is damaged, replace immediately with a new one of the same power rating.
- DO NOT attempt to remove or break off the ground prong from the electrical cord. This prong is used to reduce the risk of electrical shock and fire in case of an internal short.
- DO NOT attempt to operate this unit if it has been damaged in any way.
- DO NOT spill water or other liquids into or on to your unit.
- Disconnect from main power before making any type of connection.
- DO NOT block any air ventilation slots. All fan and air inlets must remain clean and never blocked. Allow approx. 6" (15cm) between fixture and other devices or a wall for proper cooling.
- Always be sure to mount this unit in an area that will allow proper ventilation.
- DO NOT remove the cover under for any reason.
- When installing fixture in a suspended environment, always use mounting hardware that is no less than M10 x 25mm, and always install fixture with an appropriately rated safety cable.
- Never plug this unit in to a dimmer pack.
- During long periods of non-use, disconnect the unit's main power.
- Always mount this unit in safe and stable matter.
- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to the point where they exit from the unit.
- Cleaning - The fixture should be cleaned only as recommended by the manufacturer.
- Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
- The fixture should be serviced by qualified service personnel when:
  - A. The power-supply cord or the plug have been damaged.
  - B. Objects have fallen onto, or liquid has been spilled into, the fixture.
  - C. The fixture does not appear to operate normally or exhibits a marked change in performance.
  - D. The fixture has fallen and/or has been subjected to extreme handling.

# OVERVIEW



# INSTALLATION



**DO NOT INSTALL THE FIXTURE IF YOU ARE NOT QUALIFIED TO DO SO!**

Fixture **MUST** be installed following all local, national, and country commercial electrical and construction codes and regulations.

When installing the unit, the trussing or area of installation must be able to support at least 10 times the weight of the unit and any attached accessories without any deformation. The unit must be secured with a secondary safety attachment, e.g. an appropriately-rated safety cable.

Before rigging/mounting a fixture to any metal truss/structure or placing the fixture(s) on any surface, a professional equipment installer **MUST** be consulted to determine if the metal truss/structure or surface is properly certified to safely hold the combined weight of the fixture(s), clamps, cables, and accessories.

Maximum ambient operating temperature is **-4° F to 113° F (-20° C to 45° C)**.

Fixture(s) should be installed away from walking paths, seating areas, or areas where unauthorized personnel might reach the fixture by hand.

**NEVER** stand directly below the fixture(s) when rigging, removing, or servicing.

Overhead fixture installation must always be secured with a secondary safety attachment, such as an appropriately rated safety cable that can hold at least 10 times the weight of the fixture.

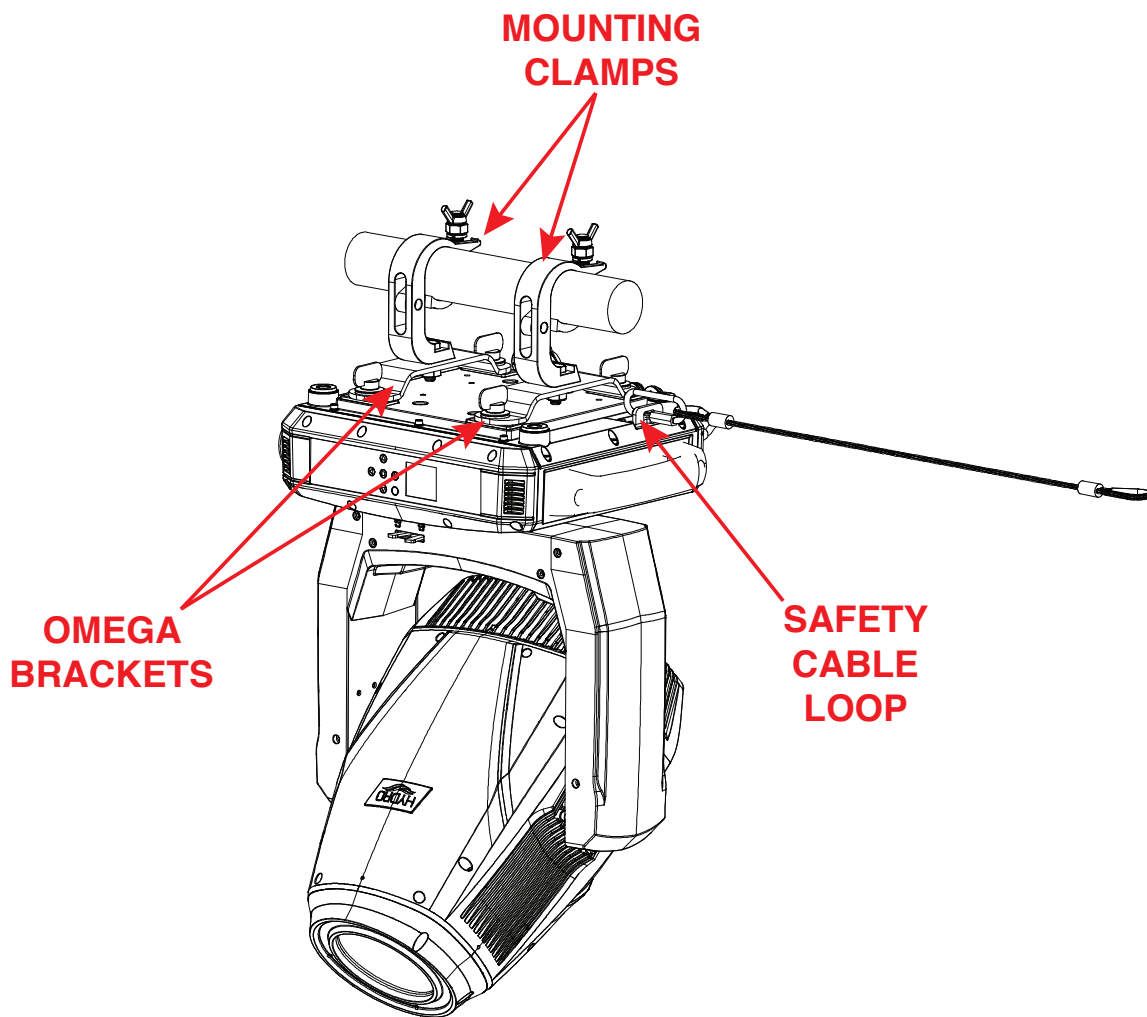
Overhead mounting requires extensive experience, including calculating working load limits, knowledge of installation material being used, and periodic safety inspection of all installation material as well as the unit itself. If you lack these qualifications, do not attempt the installation yourself.

The installation should be checked by a skilled person once a year.

# INSTALLATION

## CLAMP MOUNTING

This fixture features mounting points on the underside for the attachment of two Omega brackets. Additionally, the unit also features a safety cable loop on the underside, near one of the carry handles (see the illustration below). When mounting the fixture to a truss or any other suspended or overhead installation, be sure to secure appropriately rated mounting clamps (not included) to each Omega bracket. **Please note that two Omega brackets and two mounting clamps are needed to safely support the fixture in a suspended installation.** Attach a separate **SAFETY CABLE** of the appropriate weight rating to the provided safety cable loop. **NEVER** use carry handles as an attachment points for the safety cable.



### SAFETY CABLE:

**ALWAYS ATTACH A SAFETY CABLE WHENEVER INSTALLING THIS FIXTURE IN A SUSPENDED ENVIRONMENT TO ENSURE THAT THE FIXTURE WILL NOT FALL IF THE CLAMP FAILS.**

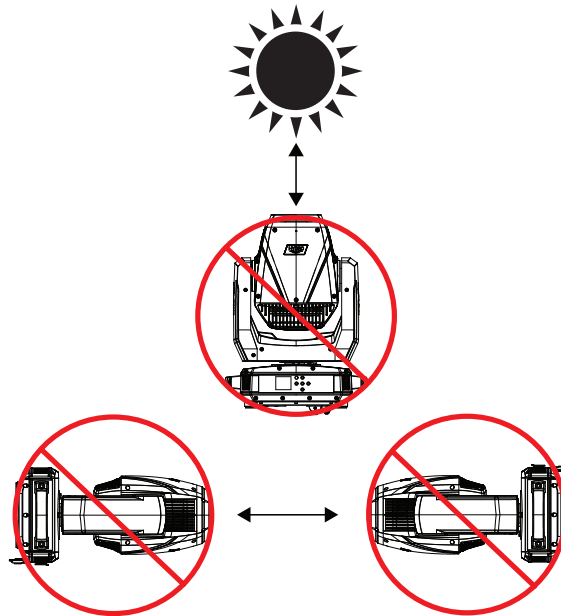
# INSTALLATION

## POTENTIAL INTERNAL FIXTURE DAMAGE FROM EXTERNAL SOURCES OF LIGHT BEAMS

External sources of light beams from direct sunlight, lighting and moving head fixtures, and lasers, which are focused directly towards the exterior housing and/or penetrate the front lens opening of ADJ lighting fixtures, can cause severe internal damage including burning of optics, dichroic color filters, glass and metal gobos, prisms, animation wheels, frost filters, iris, shutters, motors, belts, wiring, discharge lamps, and LEDs.

This issue is not specific only to ADJ lighting fixtures, but rather it is a common issue with lighting fixtures from all manufacturers. Although there is no true way to fully prevent this issue from happening, the guidelines below can reduce the risk of potential damage. Contact ADJ Service for more details.

**DO NOT EXPOSE THE FIXTURE AND/OR FRONT LENS OPENING TO LIGHT BEAMS FROM DIRECT SUNLIGHT, OTHER LIGHTING OR MOVING HEAD FIXTURES, AND LASERS DURING UNPACKING, INSTALLATION, USE, AND EXTENDED IDLE TIMES OUTDOORS. DO NOT FOCUS A LIGHT BEAM FROM ONE LIGHTING FIXTURE DIRECTLY TOWARDS ANOTHER.**



### SUN PROTECTION MODE/ HIBERNATION MODE:

This state can be set via DMX, or the device will go into this state after 3 minutes without a DMX signal. This function can be switched on or off in the DMX traits (see the **DMX Traits** section for details). When the sun protection is activated, the pan-and-tilt function of the moving-head will position the lens away from direct sunlight, or other high intensity light source, to protect the internal belts, electronics etc. from burn damage.

When the unit is in the 'sun protection state', it uses its accelerometer sensors (X-Y-Z) (only present on discharge units and IP units) to position the front lens downwards, even when the unit(s) will be moved from its position. This will keep on changing the position of the head.

**Please note that 'manual mode' overrides the 'sun-protection mode'.** The hibernation function is an existing feature that puts the unit into a 'sleep state' to save power (this is a state where only the electronics remain on, and all other functions are turned off, functions such as motors lamps etc). This state is automatically activated when no DMX signal is present for the set time (1-99min or off).

# REMOTE DEVICE MANAGEMENT (RDM)

**NOTE:** In order for RDM to work properly, RDM enabled equipment must be used throughout the entire system, including DMX data splitters and wireless systems.

Remote Device Management (RDM) is a protocol that sits on top of the DMX512 data standard for lighting, allowing the DMX systems of the fixtures to be modified and monitored remotely. This protocol is ideal for instances in which a unit is installed in a location that is not easily accessible.

With RDM, the DMX512 system becomes bi-directional, allowing a compatible RDM enabled controller to send out a signal to devices on the wire, as well as allowing the fixture to respond (known as a *GET* command). The controller can then use its *SET* command to modify settings that would typically have to be changed or viewed directly via the unit's display screen, including the DMX Address, DMX Channel Mode, and Temperature Sensors.

## FIXTURE RDM INFORMATION:

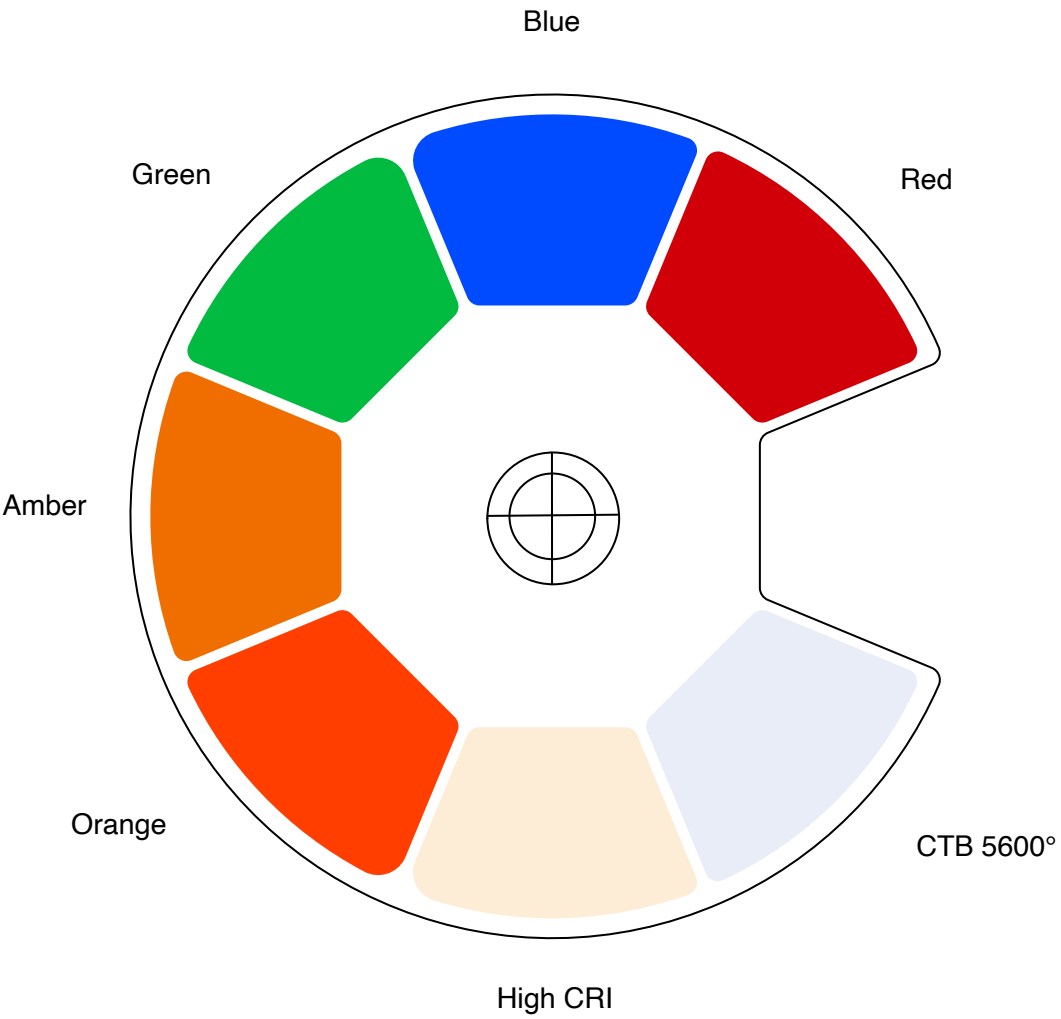
| RDM Code | Device ID | Device Model ID | Personality ID                            |
|----------|-----------|-----------------|-------------------------------------------|
| 0x1900   | 250000    | 1550            | Basic (1)<br>Standard (2)<br>Extended (3) |

**Please be aware that not all RDM devices support all RDM features**, and therefore it is important to check beforehand to ensure that the equipment that you are considering includes all of the features that you require.

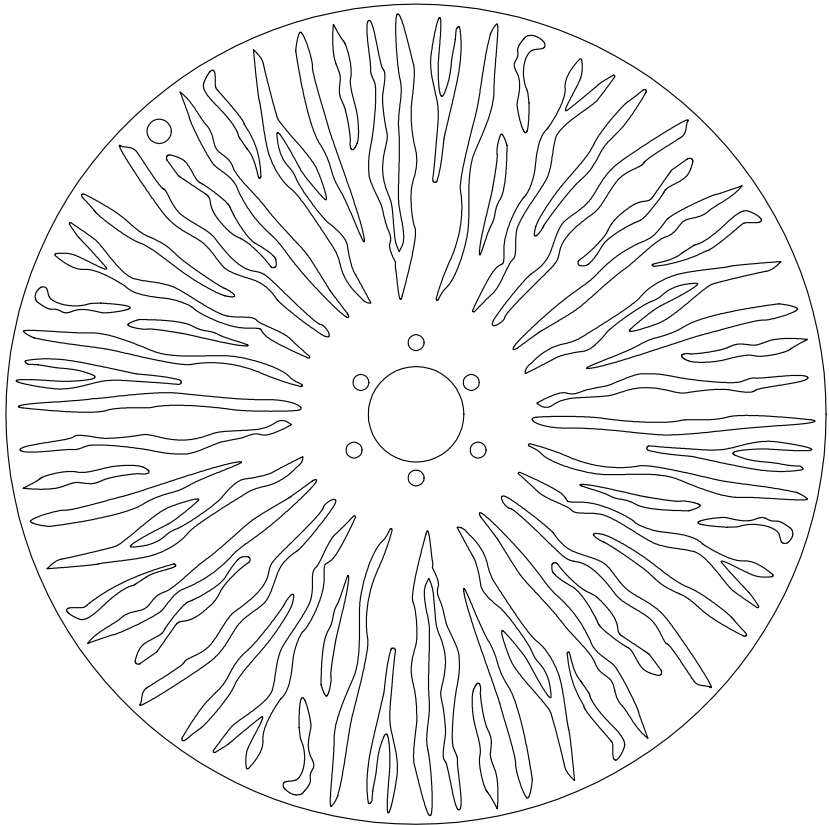
The following parameters are accessible in RDM on this device:

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| [0x0015] Comms Status             | [0x00E1] DMX Personality Description |
| [0x0020] Queued Messages          | [0x0200] Sensor Definition           |
| [0x0030] Status Message           | [0x0201] Sensor Value                |
| [0x0031] Status ID Description    | [0x0400] Device Hours                |
| [0x0032] Clear Status ID          | [0x0405] Device Power Cycles         |
| [0x0080] Device Model Description | [0x0500] Display Invert              |
| [0x0081] Manufacturer Label       | [0x0501] Display Level               |
| [0x0082] Device Label             | [0x0600] Pan Invert                  |
| [0x0090] Factory Defaults         | [0x0601] Tilt Invert                 |
| [0x00C1] Booy Software Version ID | [0x1001] Reset Device                |
| [0x00E0] DMX Personality          |                                      |

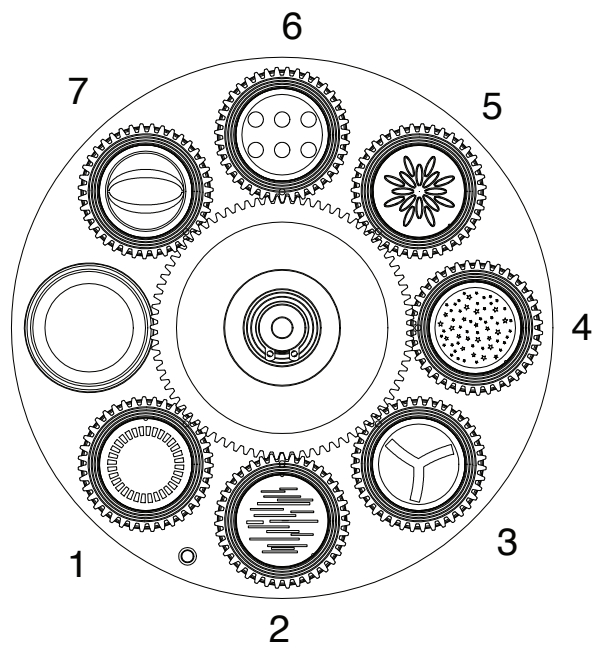
# COLOR WHEELS



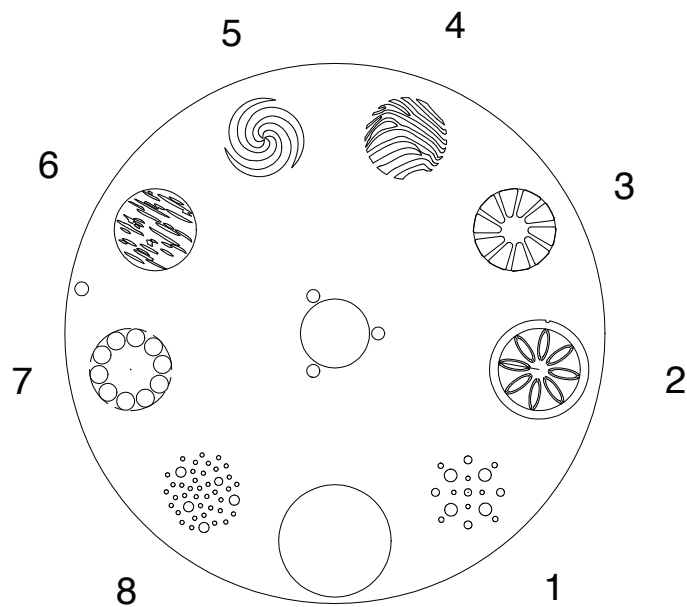
ANIMATION WHEEL



**GOBO WHEEL 1 - ROTATING GOBOS**



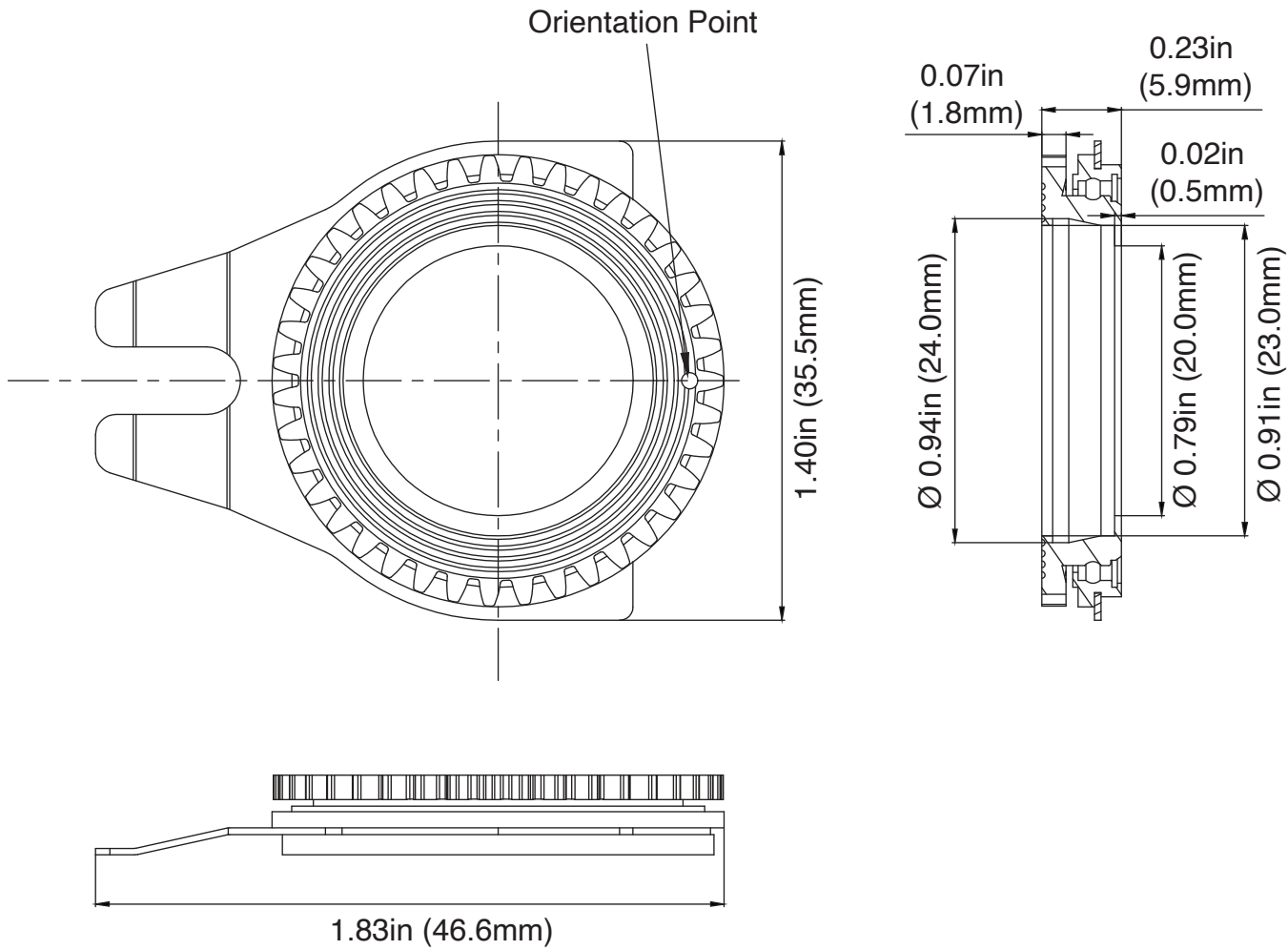
**GOBO WHEEL 2 - FIXED GOBOS**



| GOBO DIMENSIONS |                |                           |                 |
|-----------------|----------------|---------------------------|-----------------|
| Gobo Type       | Thickness      | Inner (Viewable) Diameter | Outer Diameter  |
| Rotating        | 0.02in (0.5mm) | 0.75in (19.0mm)           | 0.91in (23.0mm) |
| Fixed           | 0.03in (0.8mm) | 0.75in (19.0mm)           | N/A             |

# GOBOS

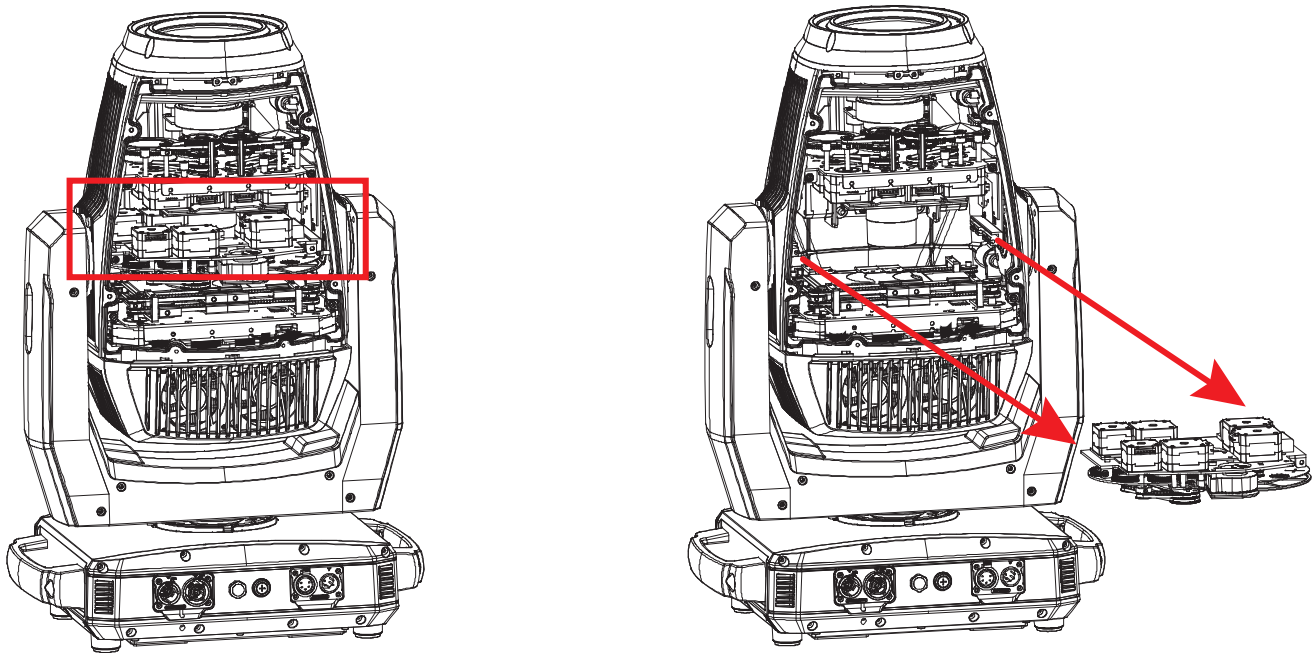
## ROTATING GOBO HOLDER DIMENSIONS



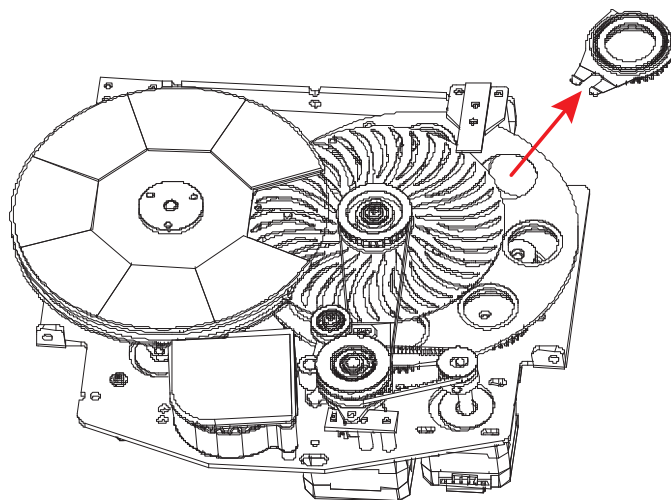
# GOBOS

## REPLACEMENT PROCEDURE

1. Place the device on a flat, stable surface, and allow the device to cool down for at least 1 hour before beginning this procedure.
2. Engage both the pan and tilt locks, and remove the head covers.
3. Locate the gobo module, which can be identified by finding the cooling fan located near the middle of the module, as shown in the illustration below. Disconnect any electrical connectors linking the module to the fixture head, and remove the screws holding the module in place. Slide the module out of the head.



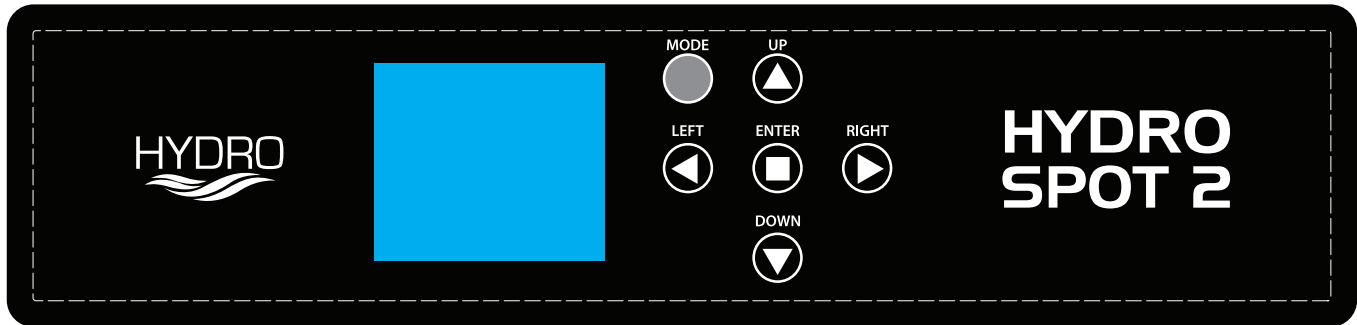
4. Pull the gobo holder away from the gobo wheel, then gently slide it outwards. Use a pair of needle nose pliers to carefully remove the retainer spring from the gobo holder. The gobo can now be removed from the gobo holder, and replaced with a new gobo. Reassemble by reversing these steps.



# CONTROL PANEL

The Hydro Spot 2 features a display screen with a 6-button control pad, which can be used to easily adjust any device settings.

- The MODE button cycles through main menu options, or returns to the previous menu without making changes.
- The ENTER button is used to select the highlighted option, or to confirm a selection.
- The UP, DOWN, LEFT, and RIGHT buttons are used to navigate and adjust menu options and settings displayed on the screen.



## KEY LOCK

This function allows the user to configure whether or not the display screen and control panel keys will lock after a certain period of inactivity. It can be accessed by navigating to *Personality > Display > Key Lock* in the system menu. The setting options are described below:

- **OFF:** The display screen and control panel keys remain active at all times.
- **ON:** The display screen and control panel keys automatically lock after a certain period of inactivity, which can be set under *Personality > Display > Screen Saver Delay*. To unlock, press and hold the MODE button for 10 seconds.
- **ON1:** The display screen and control panel keys automatically lock after a certain period of inactivity, which can be set under *Personality > Display > Screen Saver Delay*. To unlock, press UP, DOWN, UP, DOWN, ENTER in that order.

# SYSTEM MENU

|                        |                  |                                                              |                     |                                                                                                  |
|------------------------|------------------|--------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------|
| DMX SETTINGS           | DMX Address      | 001 - xxx                                                    |                     |                                                                                                  |
|                        | DMX Channel Mode | Basic 24                                                     |                     |                                                                                                  |
|                        |                  | Standard 29                                                  |                     |                                                                                                  |
|                        |                  | Extended 36                                                  |                     |                                                                                                  |
|                        | No DMX Status    | Hold Last                                                    |                     | Holds last settings when DMX signal is lost                                                      |
|                        |                  | Blackout                                                     |                     | Takes all channels to 0 when DMX signal is lost                                                  |
|                        |                  | Manual                                                       |                     | Reverts to manual mode when DMX signal is lost                                                   |
| Internal Programs      |                  | Reverts to selected internal program when DMX signal is lost |                     |                                                                                                  |
| PERSONALITY            | Prim/Sec Mode    | Primary / Secondary                                          |                     |                                                                                                  |
|                        | Select Signal    | DMX or Wifly                                                 |                     | DMX has priority; green LED indicates Wifly connected, and red LED indicates Wifly not connected |
|                        |                  | Wifly and DMX Out                                            |                     | DMX XLR output sends DMX signal out                                                              |
|                        | Wifly Settings   | Wifly Enable                                                 | On / Off            |                                                                                                  |
|                        |                  | Set Wifly Channel                                            | 00 - 14             |                                                                                                  |
|                        | Status Settings  | Pan Degree                                                   | 540 / 630           |                                                                                                  |
|                        |                  | Pan Invert                                                   | On / Off            |                                                                                                  |
|                        |                  | Tilt Invert                                                  | On / Off            |                                                                                                  |
|                        |                  | P/T Feedback                                                 | On / Off            | Pan/Tilt Feedback                                                                                |
|                        |                  | P/T Speed                                                    | Speed 1             | Pan/Tilt Speed                                                                                   |
|                        |                  |                                                              | Speed 2             |                                                                                                  |
|                        |                  | Hibernation                                                  | Off, 01min - 99 min | Default = 15min                                                                                  |
|                        | Fan Settings     | Head Fan                                                     | Auto                |                                                                                                  |
|                        |                  |                                                              | High                |                                                                                                  |
|                        |                  |                                                              | Low                 |                                                                                                  |
|                        |                  | Base Fan                                                     | Auto                |                                                                                                  |
|                        |                  |                                                              | High                |                                                                                                  |
|                        |                  |                                                              | Low                 |                                                                                                  |
|                        | Zoom Speed       | Standard                                                     |                     |                                                                                                  |
|                        |                  | Fast                                                         |                     |                                                                                                  |
| CONTINUED ON NEXT PAGE |                  |                                                              |                     |                                                                                                  |

# SYSTEM MENU

|                            |                                |                                                                                    |                 |                             |                                                      |
|----------------------------|--------------------------------|------------------------------------------------------------------------------------|-----------------|-----------------------------|------------------------------------------------------|
| PERSONALITY<br>(continued) | Dim Modes                      | <b>Standard</b>                                                                    |                 |                             |                                                      |
|                            |                                | Stage                                                                              |                 |                             |                                                      |
|                            |                                | TV                                                                                 |                 |                             |                                                      |
|                            |                                | Architectural                                                                      |                 |                             |                                                      |
|                            |                                | Theatre                                                                            |                 |                             |                                                      |
|                            |                                | Stage 2                                                                            |                 |                             |                                                      |
|                            |                                | Dim Speed                                                                          | 0.1s - 10.0s    |                             |                                                      |
|                            | LED Refresh Rate               | 900 Hz-1500 Hz, 2500 Hz, 4000 Hz, 5000 Hz, 6000 Hz, 10 KHz, 15 KHz, 20 KHz, 25 KHz |                 |                             | Default = <b>1200 Hz</b>                             |
|                            | Dim Curve                      | <b>Square</b>                                                                      |                 |                             |                                                      |
|                            |                                | Linear                                                                             |                 |                             |                                                      |
|                            |                                | Inv Squa                                                                           |                 |                             |                                                      |
|                            |                                | S Curve                                                                            |                 |                             |                                                      |
|                            | Reset Motors                   | Reset All Motors                                                                   | Yes / <b>No</b> |                             |                                                      |
|                            |                                | Pan/Tilt Reset                                                                     | Yes / <b>No</b> |                             |                                                      |
|                            |                                | ...                                                                                | ...             |                             |                                                      |
|                            |                                | Effect Reset                                                                       | Yes / <b>No</b> |                             |                                                      |
|                            | Display                        | Intensity                                                                          | 1 - <b>10</b>   |                             |                                                      |
|                            |                                | Display Invert                                                                     | Yes / <b>No</b> |                             |                                                      |
|                            |                                | Screen Saver Delay                                                                 | Off - 10 min    |                             | Default = <b>05 min</b>                              |
|                            |                                | Key Lock                                                                           | Off             |                             | Keys do not lock                                     |
|                            |                                |                                                                                    | <b>On</b>       |                             | Press and hold MODE button for 10 sec to unlock keys |
|                            |                                |                                                                                    | On1             |                             | Press Up, Down, Up, Down, Enter to unlock keys       |
|                            |                                | Service                                                                            | Passcode = 050  | Effect Adjust (Calibration) | Pan 000 - 255                                        |
|                            | Tilt 000 - 255                 |                                                                                    |                 |                             |                                                      |
|                            | Cyan 000 - 255                 |                                                                                    |                 |                             |                                                      |
|                            | Magenta 000 - 255              |                                                                                    |                 |                             |                                                      |
|                            | Yellow 000 - 255               |                                                                                    |                 |                             |                                                      |
|                            | CTO 000 - 255                  |                                                                                    |                 |                             |                                                      |
|                            | ...                            |                                                                                    |                 |                             |                                                      |
|                            | Update Software                |                                                                                    |                 | Off / On                    |                                                      |
|                            | Factory Restore Passcode = 011 |                                                                                    |                 | Off / On                    |                                                      |

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# SYSTEM MENU

|                   |                   |                  |                 |                |                                                                        |
|-------------------|-------------------|------------------|-----------------|----------------|------------------------------------------------------------------------|
| MANUAL CONTROL    | Pan               | 000 - 255        |                 |                |                                                                        |
|                   | Pan Fine          | 000 - 255        |                 |                |                                                                        |
|                   | Tilt              | 000 - 255        |                 |                |                                                                        |
|                   | Tilt Fine         | 000 - 255        |                 |                |                                                                        |
|                   | ...               | ...              |                 |                |                                                                        |
| INTERNAL PROGRAMS | Program 1         | Speed            | 000 - 255       |                |                                                                        |
|                   |                   | Fade             | 000 - 255       |                |                                                                        |
|                   | Program 2         | Speed            | 000 - 255       |                |                                                                        |
|                   |                   | Fade             | 000 - 255       |                |                                                                        |
|                   | ...               | ...              | ...             |                |                                                                        |
|                   | Program 7         | Speed            | 000 - 255       |                |                                                                        |
|                   |                   | Fade             | 000 - 255       |                |                                                                        |
| INFORMATION       | Fixture Life Time | Power On Time    | xxxxxx Hours    |                | Total lifetime hours that fixture has been powered on, cannot be reset |
|                   |                   | P-On Time-R      | xxxxxx Hours    |                | Hours powered on since last reset                                      |
|                   |                   | P-On Time-Reset  | Passcode = 050  |                | Reset hours powered on                                                 |
|                   | Total LED Time    | LED On Time      | xxxxxx Hours    |                | Total lifetime hours that LED has been run, cannot be reset            |
|                   |                   | LED On Time-R    | xxxxxx Hours    |                | Hours LED has been run since last reset                                |
|                   |                   | LED Hours Reset  | Passcode = 050  |                | Reset LED run hours                                                    |
|                   | Fixture Temps     | LEDs             | Current         | xxx F / xxx C  | Displays current LED temp                                              |
|                   |                   |                  | Max Resettable  | xxx F / xxx C  | Max recorded LED temp since last reset                                 |
|                   |                   | Base Temp        | Current         | xxx F / xxx C  | Displays current base temp                                             |
|                   |                   |                  | Max Resettable  | xxx F / xxx C  | Max recorded base temp since last reset                                |
|                   |                   | Reset LED Temp   | Yes / <b>No</b> | Passcode = 050 |                                                                        |
|                   |                   | Reset Base Temp  | Yes / <b>No</b> | Passcode = 050 |                                                                        |
|                   |                   | Fixture Humidity | Head            | xxx %          |                                                                        |
|                   | Base              |                  | xxx %           |                |                                                                        |
|                   | Fan Info (RPM)    | LED Fan          | xxxx RPM LED    |                |                                                                        |
|                   |                   | Base Fan         | xxxx RPM        |                |                                                                        |

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# SYSTEM MENU

|             |                  |                 |                 |                |                        |
|-------------|------------------|-----------------|-----------------|----------------|------------------------|
| INFORMATION | DMX Values       | Pan             |                 |                |                        |
|             |                  | Pan Fine        |                 |                |                        |
|             |                  | ...             |                 |                |                        |
|             | Error Logs       | xxxxx           |                 |                | List errors one by one |
|             |                  | Reset Error Log | Yes / <b>No</b> | Passcode = 050 |                        |
|             | Software Version | U:xxx           |                 |                |                        |

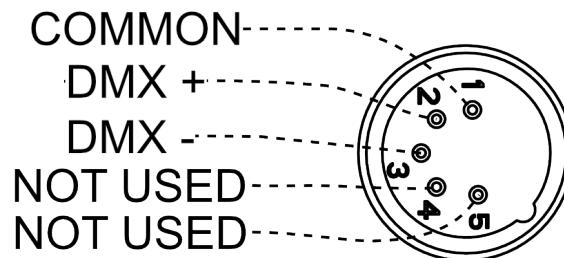
# DMX SETUP

**DMX-512:** DMX is short for Digital Multiplex. This is a universal protocol used as a form of communication between intelligent fixtures and controllers. A DMX controller sends DMX data instructions from the controller to the fixture. DMX data is sent as serial data that travels from fixture to fixture via the DATA “IN” and DATA “OUT” XLR terminals located on all DMX fixtures (most controllers only have a DATA “OUT” terminal).

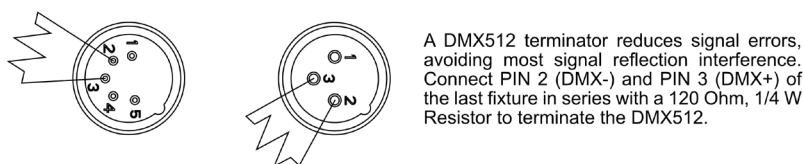
**DMX Linking:** DMX is a language allowing all makes and models of different manufacturers to be linked together and operate from a single controller, as long as all fixtures and the controller are DMX compliant. To ensure proper DMX data transmission, try to use the shortest cable path possible when linking several DMX fixtures. The order in which fixtures are connected in a DMX line does not influence the DMX addressing. For example, a fixture assigned a DMX address of 1 may be placed anywhere in a DMX line: at the beginning, at the end, or anywhere in the middle. When a fixture is assigned a DMX address of 1, the DMX controller knows to send DATA assigned to address 1 to that unit, no matter where it is located in the DMX chain.

**Data Cable (DMX Cable) Requirements (For DMX Operation):** This unit can be controlled via DMX-512 protocol. The DMX address is set on the rear panel of the unit. Your unit and your DMX controller require a standard 5-pin XLR connector for data input and data output. We recommend Accu-Cable DMX cables. If you are making your own cables, be sure to use standard 110-120 Ohm shielded cable (This cable may be purchased at almost all pro lighting stores). Your cables should be made with a male XLR connector at one end and a female XLR connector at the other. Also remember that DMX cable must be daisy chained and cannot be split.

**Notice:** Be sure to follow the diagram below when making your own cables. Do not use the ground lug on the XLR connector. Do not connect the cable’s shield conductor to the ground lug or allow the shield conductor to come into contact with the XLR’s outer casing. Grounding the shield could cause a short circuit and erratic behavior.



**Special Note: Line Termination.** When longer runs of cable are used, you may need to use a terminator on the last unit to avoid erratic behavior. A terminator is a 110-120 ohm 1/4 watt resistor which is connected between pins 2 and 3 of a male XLR connector (DATA + and DATA -). This unit is inserted in the female XLR connector of the last unit in your daisy chain to terminate the line. Using a cable terminator (ADJ part number Z-DMX/T) will reduce the risk of erratic behavior.



# DMX SETUP

## DMX ADDRESSING.

All fixtures should be given a DMX starting address when using a DMX controller, so the correct fixture responds to the correct control signal. This digital starting address is the channel number from which the fixture starts to “listen” to the digital control signal sent out from the DMX controller. The assignment of this starting DMX address is achieved by setting the correct DMX address on the digital control display on the fixture.

You can set the same starting address for all fixtures or a group of fixtures, or set different addresses for each individual fixture. Setting all fixtures to the same DMX address will cause all fixtures to react in the same way. In other words, changing the settings of one channel will affect all the fixtures simultaneously.

If you set each fixture to a different DMX address, each unit will start to “listen” to the channel number you have set, based on the quantity of DMX channels of each fixture. That means changing the settings of one channel will only affect the selected fixture.

For example, when this unit is operating in 24 channel mode, you should set the starting DMX address of the first unit to 1, the second unit to 25 (1 + 24), the third unit to 49 (1 + 24 + 24), and so on. See the chart below for more details.

| CHANNEL MODE | UNIT 1 ADDRESS | UNIT 2 ADDRESS | UNIT 3 ADDRESS | UNIT 4 ADDRESS |
|--------------|----------------|----------------|----------------|----------------|
| 24 Ch        | 1              | 25             | 49             | 73             |
| 29 Ch        | 1              | 30             | 59             | 88             |
| 36 Ch        | 1              | 37             | 73             | 109            |

# DMX TRAITS

| CHANNEL |       |       | DMX<br>VALUES | FUNCTION                                                                   |
|---------|-------|-------|---------------|----------------------------------------------------------------------------|
| 24 CH   | 29 CH | 36 CH |               |                                                                            |
| 1       | 1     | 1     | 000 - 255     | <b>Pan Movement</b> , 540/630                                              |
|         | 2     | 2     | 000 - 255     | <b>Pan Fine</b>                                                            |
| 2       | 3     | 3     | 000 - 255     | <b>Tilt Movement</b> , 270                                                 |
|         | 4     | 4     | 000 - 255     | <b>Tilt Fine</b>                                                           |
| 3       | 5     | 5     | 000 - 255     | <b>Cyan</b> , 0% to 100%                                                   |
|         |       | 6     | 000 - 255     | <b>Cyan Fine</b>                                                           |
| 4       | 6     | 7     | 000 - 255     | <b>Magenta</b> , 0% to 100%                                                |
|         |       | 8     | 000 - 255     | <b>Magenta Fine</b>                                                        |
| 5       | 7     | 9     | 000 - 255     | <b>Yellow</b> , 0% to 100%                                                 |
|         |       | 10    | 000 - 255     | <b>Yellow Fine</b>                                                         |
| 6       | 8     | 11    | 000 - 255     | <b>CTO</b> , 0% to 100%                                                    |
|         |       | 12    | 000 - 255     | <b>CTO Fine</b>                                                            |
| 7       | 9     | 13    |               | <b>White Color Temperature Presets</b>                                     |
|         |       |       | 000 - 023     | Open                                                                       |
|         |       |       | 024 - 063     | Presets, see <b>White Color Temperature Presets</b> section of this manual |
|         |       |       | 064 - 255     | 6700K                                                                      |
| 8       | 10    | 14    |               | <b>Color Wheel</b>                                                         |
|         |       |       | 000 - 004     | Open                                                                       |
|         |       |       | 005 - 017     | Open / Red                                                                 |
|         |       |       | 018 - 030     | Red                                                                        |
|         |       |       | 031 - 043     | Red / Medium Blue                                                          |
|         |       |       | 044 - 056     | Medium Blue                                                                |
|         |       |       | 057 - 069     | Medium Blue / Green                                                        |
|         |       |       | 070 - 082     | Green                                                                      |
|         |       |       | 083 - 095     | Green / Amber                                                              |
|         |       |       | 096 - 108     | Amber                                                                      |
|         |       |       | 109 - 121     | Amber / Orange                                                             |
|         |       |       | 122 - 134     | Orange                                                                     |
|         |       |       | 135 - 147     | Orange / High CRI Filter                                                   |
|         |       |       | 148 - 160     | High CRI Filter                                                            |
|         |       |       | 161 - 173     | High CRI Filter / CTB                                                      |
|         |       |       | 174 - 186     | CTB                                                                        |
|         |       |       | 187 - 199     | CTB / Open                                                                 |
|         |       |       | 200 - 226     | Clockwise Color Wheel Rotation, fast to slow                               |
|         |       |       | 227 - 228     | No Rotation                                                                |
|         |       |       | 229 - 255     | Counter-Clockwise Color Wheel Rotation, slow to fast                       |

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# DMX TRAITS

| CHANNEL |       |       | DMX<br>VALUES | FUNCTION                   |
|---------|-------|-------|---------------|----------------------------|
| 24 CH   | 29 CH | 36 CH |               |                            |
|         | 11    | 15    |               | <b><i>Color Macros</i></b> |
|         |       |       | 000 - 031     | Off                        |
|         |       |       | 032 - 039     | Macro 1                    |
|         |       |       | 040 - 047     | Macro 2                    |
|         |       |       | 048 - 055     | Macro 3                    |
|         |       |       | 056 - 063     | Macro 4                    |
|         |       |       | 064 - 071     | Macro 5                    |
|         |       |       | 072 - 079     | Macro 6                    |
|         |       |       | 080 - 087     | Macro 7                    |
|         |       |       | 088 - 095     | Macro 8                    |
|         |       |       | 096 - 103     | Macro 9                    |
|         |       |       | 104 - 111     | Macro 10                   |
|         |       |       | 112 - 119     | Macro 11                   |
|         |       |       | 120 - 127     | Macro 12                   |
|         |       |       | 128 - 135     | Macro 13                   |
|         |       |       | 136 - 143     | Macro 14                   |
|         |       |       | 144 - 151     | Macro 15                   |
|         |       |       | 152 - 159     | Macro 16                   |
|         |       |       | 160 - 167     | Macro 17                   |
|         |       |       | 168 - 175     | Macro 18                   |
|         |       |       | 176 - 183     | Macro 19                   |
|         |       |       | 184 - 191     | Macro 20                   |
|         |       |       | 192 - 199     | Macro 21                   |
|         |       |       | 200 - 207     | Macro 22                   |
|         |       |       | 208 - 215     | Macro 23                   |
|         |       |       | 216 - 223     | Macro 24                   |
|         |       |       | 224 - 231     | Macro 25                   |
|         |       |       | 232 - 239     | Macro 26                   |
|         |       |       | 240 - 247     | Macro 27                   |
|         |       |       | 248 - 255     | Random CMY                 |
| 9       | 12    | 16    |               | <b><i>Gobo Wheel 1</i></b> |
|         |       |       | 000 - 009     | Open                       |
|         |       |       | 010 - 019     | Gobo 1                     |
|         |       |       | 020 - 029     | Gobo 2                     |
|         |       |       | 030 - 039     | Gobo 3                     |
|         |       |       | 040 - 049     | Gobo 4                     |
|         |       |       | 050 - 059     | Gobo 5                     |
|         |       |       | 060 - 069     | Gobo 6                     |
|         |       |       | 070 - 079     | Gobo 7                     |

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# DMX TRAITS

| CHANNEL                |       |       | DMX<br>VALUES | FUNCTION                                            |
|------------------------|-------|-------|---------------|-----------------------------------------------------|
| 24 CH                  | 29 CH | 36 CH |               |                                                     |
| 9                      | 12    | 16    |               | <b><i>Gobo Wheel 1 (continued)</i></b>              |
|                        |       |       | 080 - 094     | Gobo 1 Shake, slow to fast                          |
|                        |       |       | 095 - 109     | Gobo 2 Shake, slow to fast                          |
|                        |       |       | 110 - 124     | Gobo 3 Shake, slow to fast                          |
|                        |       |       | 125 - 139     | Gobo 4 Shake, slow to fast                          |
|                        |       |       | 140 - 154     | Gobo 5 Shake, slow to fast                          |
|                        |       |       | 155 - 169     | Gobo 6 Shake, slow to fast                          |
|                        |       |       | 170 - 189     | Gobo 7 Shake, slow to fast                          |
|                        |       |       | 190 - 221     | Clockwise Gobo Wheel Rotation, fast to slow         |
|                        |       |       | 222 - 223     | No Rotation                                         |
|                        |       |       | 224 - 255     | Counter-Clockwise Gobo Wheel Rotation, slow to fast |
| 10                     | 13    | 17    |               | <b><i>Gobo 1 Rotation</i></b>                       |
|                        |       |       | 000 - 005     | Gobo 1 Rotation Off                                 |
|                        |       |       | 006 - 128     | Gobo Index, 0°... 540°                              |
|                        |       |       | 129 - 191     | Clockwise Gobo Rotation, fast to slow               |
|                        |       |       | 192           | No Rotation                                         |
|                        |       |       | 193 - 255     | Counter-Clockwise Gobo Rotation, slow to fast       |
|                        |       | 18    | 000 - 255     | <b><i>Gobo 1 Rotation Fine</i></b>                  |
| 11                     | 14    | 19    |               | <b><i>Gobo Wheel 2</i></b>                          |
|                        |       |       | 000 - 005     | Open                                                |
|                        |       |       | 006 - 014     | Gobo 1                                              |
|                        |       |       | 015 - 023     | Gobo 2                                              |
|                        |       |       | 024 - 032     | Gobo 3                                              |
|                        |       |       | 033 - 041     | Gobo 4                                              |
|                        |       |       | 042 - 050     | Gobo 5                                              |
|                        |       |       | 051 - 059     | Gobo 6                                              |
|                        |       |       | 060 - 068     | Gobo 7                                              |
|                        |       |       | 069 - 077     | Gobo 8                                              |
|                        |       |       | 078 - 091     | Gobo 1 Shake, slow to fast                          |
|                        |       |       | 092 - 105     | Gobo 2 Shake, slow to fast                          |
|                        |       |       | 106 - 119     | Gobo 3 Shake, slow to fast                          |
|                        |       |       | 120 - 133     | Gobo 4 Shake, slow to fast                          |
|                        |       |       | 134 - 147     | Gobo 5 Shake, slow to fast                          |
|                        |       |       | 148 - 161     | Gobo 6 Shake, slow to fast                          |
|                        |       |       | 162 - 175     | Gobo 7 Shake, slow to fast                          |
|                        |       |       | 176 - 189     | Gobo 8 Shake, slow to fast                          |
|                        |       |       | 190 - 221     | Clockwise Gobo Wheel Rotation, fast to slow         |
|                        |       |       | 222 - 223     | No Rotation                                         |
|                        |       |       | 224 - 255     | Counter-Clockwise Gobo Wheel Rotation, slow to fast |
| CONTINUED ON NEXT PAGE |       |       |               |                                                     |

# DMX TRAITS

| CHANNEL                |       |       | DMX<br>VALUES | FUNCTION                                       |
|------------------------|-------|-------|---------------|------------------------------------------------|
| 24 CH                  | 29 CH | 36 CH |               |                                                |
| 12                     | 15    | 20    |               | <b><i>Shutter</i></b>                          |
|                        |       |       | 000 - 031     | Shutter Closed                                 |
|                        |       |       | 032 - 063     | Shutter Open                                   |
|                        |       |       | 064 - 095     | Strobe, slow to fast                           |
|                        |       |       | 096 - 127     | Shutter Open                                   |
|                        |       |       | 128 - 159     | Pulse Effect, slow to fast                     |
|                        |       |       | 160 - 191     | Shutter Open                                   |
|                        |       |       | 192 - 223     | Random Strobe, slow to fast                    |
|                        |       |       | 224 - 255     | Shutter Open                                   |
| 13                     | 16    | 21    | 000 - 255     | <b><i>Dimmer Intensity</i></b> , 0% to 100%    |
|                        | 17    | 22    | 000 - 255     | <b><i>Dimmer Intensity Fine</i></b>            |
| 14                     | 18    | 23    |               | <b><i>Prisms and Prism/Gobo Macros</i></b>     |
|                        |       |       | 000 - 005     | No Prism - Open                                |
|                        |       |       | 006 - 066     | Prism 1 (6 Linear Prism)                       |
|                        |       |       | 067 - 127     | Prism 2 (4 Facet Prism)                        |
|                        |       |       | 128 - 135     | Macro 1                                        |
|                        |       |       | 136 - 143     | Macro 2                                        |
|                        |       |       | 144 - 151     | Macro 3                                        |
|                        |       |       | 152 - 159     | Macro 4                                        |
|                        |       |       | 160 - 167     | Macro 5                                        |
|                        |       |       | 168 - 175     | Macro 6                                        |
|                        |       |       | 176 - 183     | Macro 7                                        |
|                        |       |       | 184 - 191     | Macro 8                                        |
|                        |       |       | 192 - 199     | Macro 9                                        |
|                        |       |       | 200 - 207     | Macro 10                                       |
|                        |       |       | 208 - 215     | Macro 11                                       |
|                        |       |       | 216 - 223     | Macro 12                                       |
|                        |       |       | 224 - 231     | Macro 13                                       |
|                        |       |       | 232 - 239     | Macro 14                                       |
|                        |       |       | 240 - 247     | Macro 15                                       |
|                        |       |       | 248 - 255     | Macro 16                                       |
| 15                     | 19    | 24    |               | <b><i>Prism Rotation</i></b>                   |
|                        |       |       | 000 - 005     | Prism Rotation Off                             |
|                        |       |       | 006 - 128     | Prism Indexing, 0°... 540°                     |
|                        |       |       | 129 - 191     | Clockwise Prism Rotation, fast to slow         |
|                        |       |       | 192           | No Rotation                                    |
|                        |       |       | 193 - 255     | Counter-Clockwise Prism Rotation, slow to fast |
| 16                     | 20    | 25    | 000 - 255     | <b><i>Focus</i></b> , 0% to 100%               |
|                        |       | 26    | 000 - 255     | <b><i>Focus Fine</i></b>                       |
| CONTINUED ON NEXT PAGE |       |       |               |                                                |

# DMX TRAITS

| CHANNEL |       |       | DMX<br>VALUES | FUNCTION                                                |
|---------|-------|-------|---------------|---------------------------------------------------------|
| 24 CH   | 29 CH | 36 CH |               |                                                         |
| 17      | 21    | 27    | 000 - 255     | <b>Zoom</b> , narrow to wide                            |
|         |       | 28    | 000 - 255     | <b>Zoom Fine</b>                                        |
| 18      | 22    | 29    | 000 - 255     | <b>Medium Frost</b> , 0% to 100%                        |
| 19      | 23    | 30    | 000 - 255     | <b>Heavy Frost</b> , 0% to 100%                         |
| 20      | 24    | 31    |               | <b>Animation</b>                                        |
|         |       |       | 000 - 005     | Wheel Rotation Off                                      |
|         |       |       | 006 - 128     | Animation Index, 0°... 540°                             |
|         |       |       | 129 - 191     | Clockwise Animation Rotation, fast to slow              |
|         |       |       | 192           | No Rotation                                             |
|         |       |       | 193 - 255     | Counter-Clockwise Animation Rotation, slow to fast      |
| 21      | 25    | 32    |               | <b>Dimmer Mode</b>                                      |
|         |       |       | 000 - 020     | Default to Unit Setting                                 |
|         |       |       | 021 - 040     | Standard                                                |
|         |       |       | 041 - 060     | Stage                                                   |
|         |       |       | 061 - 080     | TV                                                      |
|         |       |       | 081 - 100     | Architectural                                           |
|         |       |       | 101 - 120     | Theater                                                 |
|         |       |       | 121 - 140     | Stage 2                                                 |
|         |       |       | 141 - 160     | Dim Speed, fast to slow (0.1s to 10.0s)                 |
|         |       |       | 161 - 255     | Default to Unit Setting                                 |
|         | 26    | 33    |               | <b>Dim Curves</b>                                       |
|         |       |       | 000 - 020     | Square                                                  |
|         |       |       | 021 - 040     | Linear                                                  |
|         |       |       | 041 - 060     | Inv Squa                                                |
|         |       |       | 061 - 080     | S Curve                                                 |
|         |       |       | 081 - 255     | No Function                                             |
| 22      | 27    | 34    | 000 - 255     | <b>CMY &amp; Color Macro Speed</b> , maximum to minimum |
| 23      | 28    | 35    |               | <b>Pan/Tilt Speed</b>                                   |
|         |       |       | 000 - 225     | Pan/Tilt, fast to slow                                  |
|         |       |       | 226 - 235     | Blackout by Movement                                    |
|         |       |       | 236 - 245     | Blackout by All Wheel Changing                          |
|         |       |       | 246 - 255     | No Function                                             |
| 24      | 29    | 36    |               | <b>Special Functions</b>                                |
|         |       |       | 000 - 039     | No Function (1200 Hz Default LED Refresh Rate)          |
|         |       |       | 040 - 049     | Fan Control - Low (hold 3s)                             |
|         |       |       | 050 - 059     | Fan Control - High (hold 3s)                            |
|         |       |       | 060 - 069     | Fan Control - Auto (default, hold 3s)                   |
|         |       |       | 070 - 074     | All Motor Reset (hold 3s)                               |
|         |       |       | 075 - 079     | Pan/Tilt Reset (hold 3s)                                |

CONTINUED ON NEXT PAGE

# DMX TRAITS

| CHANNEL |       |       | DMX<br>VALUES | FUNCTION                                    |
|---------|-------|-------|---------------|---------------------------------------------|
| 24 CH   | 29 CH | 36 CH |               |                                             |
| 24      | 29    | 36    |               | <b><i>Special Functions (continued)</i></b> |
|         |       |       | 080 - 084     | Color Reset (hold 3s)                       |
|         |       |       | 085 - 089     | Gobo Reset (hold 3s)                        |
|         |       |       | 090 - 094     | Focus and Zoom Reset (hold 3s)              |
|         |       |       | 095 - 099     | Shutter Reset (hold 3s)                     |
|         |       |       | 100 - 104     | No Function                                 |
|         |       |       | 105 - 109     | Other Motors Reset (hold 3s)                |
|         |       |       | 110 - 114     | Enable Zoom Speed Fast (hold 3s)            |
|         |       |       | 115 - 119     | Disable Zoom Speed Fast (hold 5s)           |
|         |       |       | 120 - 148     | No Function                                 |
|         |       |       | 149 - 150     | Wifly On (default, hold 3s)                 |
|         |       |       | 151 - 152     | Wifly Off (hold 5s)                         |
|         |       |       | 153 - 154     | Hibernation Enable (hold 3s)                |
|         |       |       | 155 - 156     | Hibernation Off (hold 5s)                   |
|         |       |       | 157 - 158     | Display Backlight On (hold 3s)              |
|         |       |       | 159 - 160     | Display Backlight Off (hold 5s)             |
|         |       |       | 161 - 162     | Pan/Tilt Speed 1 (default, hold 5s)         |
|         |       |       | 163 - 164     | Pan/Tilt Speed 2 (hold 5s)                  |
|         |       |       | 165 - 166     | Invert Pan On (hold 3s)                     |
|         |       |       | 167 - 168     | Invert Pan Off (hold 5s)                    |
|         |       |       | 169 - 170     | Invert Tilt On (hold 3s)                    |
|         |       |       | 171 - 172     | Invert Tilt Off (hold 5s)                   |
|         |       |       |               | <b><i>Refresh Rates (Hz)</i></b>            |
|         |       |       | 173           | 900                                         |
|         |       |       | 174           | 910                                         |
|         |       |       | 175           | 920                                         |
|         |       |       | 176           | 930                                         |
|         |       |       | 177           | 940                                         |
|         |       |       | 178           | 950                                         |
|         |       |       | 179           | 960                                         |
|         |       |       | 180           | 970                                         |
|         |       |       | 181           | 980                                         |
|         |       |       | 182           | 990                                         |
|         |       |       | 183           | 1000                                        |
|         |       |       | 184           | 1010                                        |
|         |       |       | 185           | 1020                                        |
|         |       |       | 186           | 1030                                        |
|         |       |       | 187           | 1040                                        |
|         |       |       | 188           | 1050                                        |

CONTINUED ON NEXT PAGE

# DMX TRAITS

| CHANNEL                |       |       | DMX<br>VALUES | FUNCTION                             |
|------------------------|-------|-------|---------------|--------------------------------------|
| 24 CH                  | 29 CH | 36 CH |               |                                      |
| 24                     | 29    | 36    |               | <i>Refresh Rates (Hz, continued)</i> |
|                        |       |       | 189           | 1060                                 |
|                        |       |       | 190           | 1070                                 |
|                        |       |       | 191           | 1080                                 |
|                        |       |       | 192           | 1090                                 |
|                        |       |       | 193           | 1100                                 |
|                        |       |       | 194           | 1110                                 |
|                        |       |       | 195           | 1120                                 |
|                        |       |       | 196           | 1130                                 |
|                        |       |       | 197           | 1140                                 |
|                        |       |       | 198           | 1150                                 |
|                        |       |       | 199           | 1160                                 |
|                        |       |       | 200           | 1170                                 |
|                        |       |       | 201           | 1180                                 |
|                        |       |       | 202           | 1190                                 |
|                        |       |       | 203           | 1210                                 |
|                        |       |       | 204           | 1220                                 |
|                        |       |       | 205           | 1230                                 |
|                        |       |       | 206           | 1240                                 |
|                        |       |       | 207           | 1250                                 |
|                        |       |       | 208           | 1260                                 |
|                        |       |       | 209           | 1270                                 |
|                        |       |       | 210           | 1280                                 |
|                        |       |       | 211           | 1290                                 |
|                        |       |       | 212           | 1300                                 |
|                        |       |       | 213           | 1310                                 |
|                        |       |       | 214           | 1320                                 |
|                        |       |       | 215           | 1330                                 |
|                        |       |       | 216           | 1340                                 |
|                        |       |       | 217           | 1350                                 |
|                        |       |       | 218           | 1360                                 |
|                        |       |       | 219           | 1370                                 |
|                        |       |       | 220           | 1380                                 |
|                        |       |       | 221           | 1390                                 |
|                        |       |       | 222           | 1400                                 |
|                        |       |       | 223           | 1410                                 |
|                        |       |       | 224           | 1420                                 |
|                        |       |       | 225           | 1430                                 |
|                        |       |       | 226           | 1440                                 |
| CONTINUED ON NEXT PAGE |       |       |               |                                      |

# DMX TRAITS

| CHANNEL |       |       | DMX<br>VALUES | FUNCTION                                    |
|---------|-------|-------|---------------|---------------------------------------------|
| 24 CH   | 29 CH | 36 CH |               |                                             |
| 24      | 29    | 36    |               | <b><i>Refresh Rates (Hz, continued)</i></b> |
|         |       |       | 227           | 1450                                        |
|         |       |       | 228           | 1460                                        |
|         |       |       | 229           | 1470                                        |
|         |       |       | 230           | 1480                                        |
|         |       |       | 231           | 1490                                        |
|         |       |       | 232           | 1500                                        |
|         |       |       | 233           | 2500                                        |
|         |       |       | 234           | 4000                                        |
|         |       |       | 235           | 5000                                        |
|         |       |       | 236           | 6000                                        |
|         |       |       | 237           | 10,000                                      |
|         |       |       | 238           | 15,000                                      |
|         |       |       | 239           | 20,000                                      |
|         |       |       | 240           | 25,000                                      |
|         |       |       | 241           | Internal Program 1 (scenes 1-8, hold 3s)    |
|         |       |       | 242           | Internal Program 2 (scenes 9-16, hold 3s)   |
|         |       |       | 243           | Internal Program 3 (scenes 17-24, hold 3s)  |
|         |       |       | 244           | Internal Program 4 (scenes 25-32, hold 3s)  |
|         |       |       | 245           | Internal Program 5 (scenes 33-40, hold 3s)  |
|         |       |       | 246           | Internal Program 6 (scenes 41-48, hold 3s)  |
|         |       |       | 247           | Internal Program 7 (scenes 49-56, hold 3s)  |
|         |       |       | 248 - 255     | No Function                                 |

# WHITE COLOR TEMPERATURE PRESETS

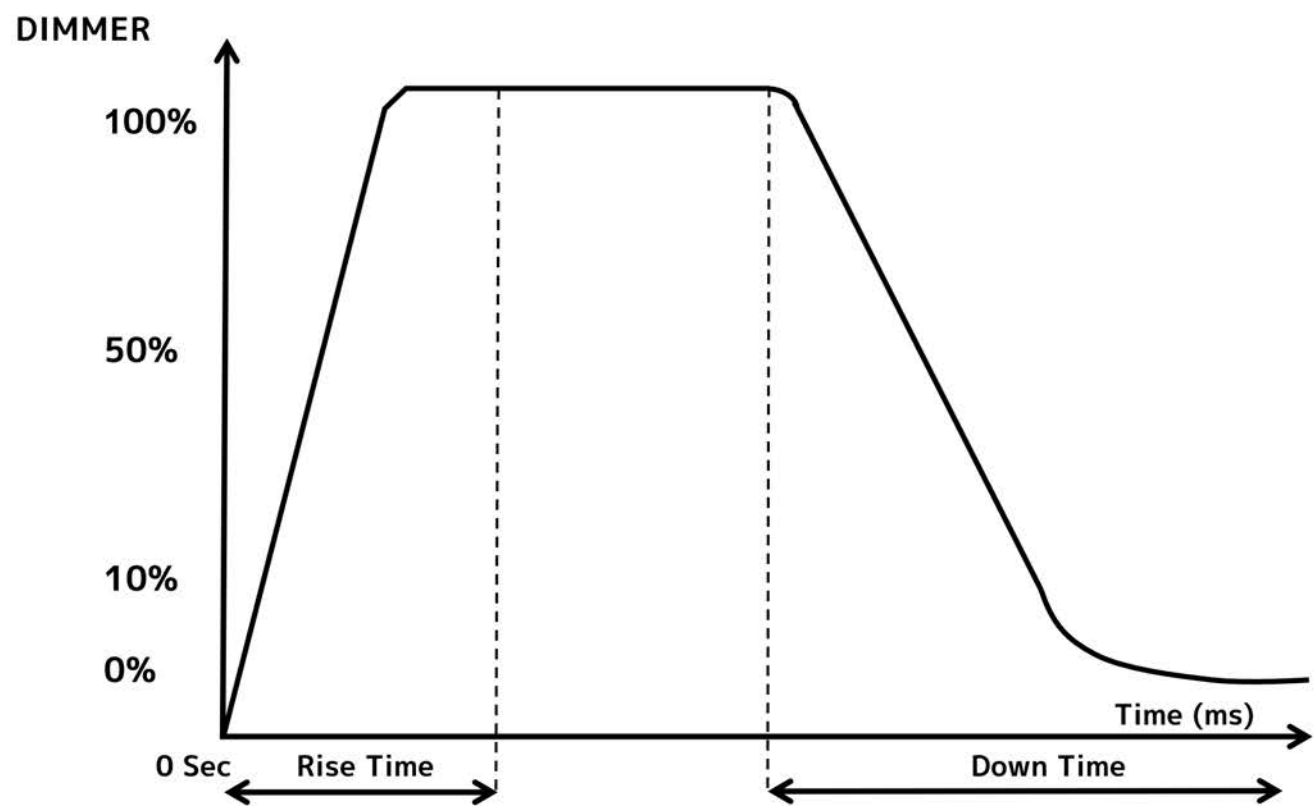
| DMX<br>VALUES | COLOR<br>TEMPERATURE (K) |
|---------------|--------------------------|
| 024           | 2700                     |
| 025           | 2800                     |
| 026           | 2900                     |
| 027           | 3000                     |
| 028           | 3100                     |
| 029           | 3200                     |
| 030           | 3300                     |
| 031           | 3400                     |
| 032           | 3500                     |
| 033           | 3600                     |
| 034           | 3700                     |
| 035           | 3800                     |
| 036           | 3900                     |
| 037           | 4000                     |
| 038           | 4100                     |
| 039           | 4200                     |
| 040           | 4300                     |
| 041           | 4400                     |
| 042           | 4500                     |
| 043           | 4600                     |

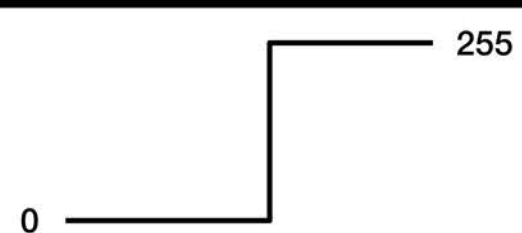
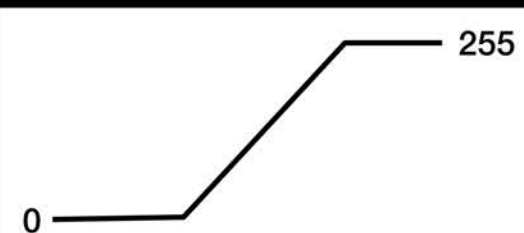
| DMX<br>VALUES | COLOR<br>TEMPERATURE (K) |
|---------------|--------------------------|
| 044           | 4700                     |
| 045           | 4800                     |
| 046           | 4900                     |
| 047           | 5000                     |
| 048           | 5100                     |
| 049           | 5200                     |
| 050           | 5300                     |
| 051           | 5400                     |
| 052           | 5500                     |
| 053           | 5600                     |
| 054           | 5700                     |
| 055           | 5800                     |
| 056           | 5900                     |
| 057           | 6000                     |
| 058           | 6100                     |
| 059           | 6200                     |
| 060           | 6300                     |
| 061           | 6400                     |
| 062           | 6500                     |
| 063           | 6600                     |

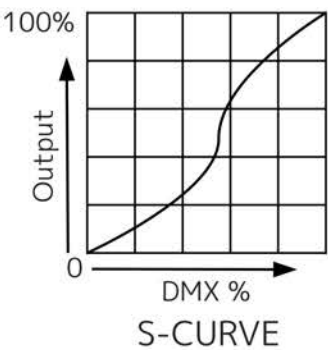
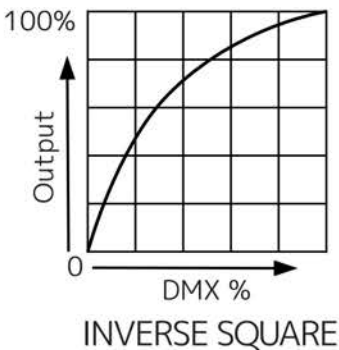
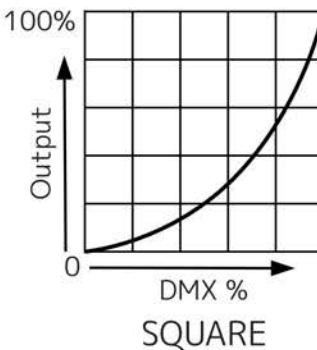
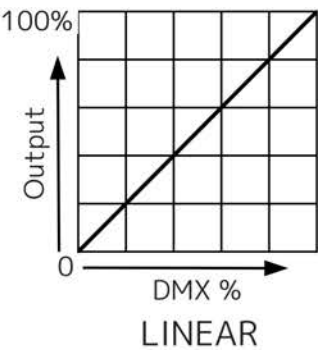
## DIM SPEEDS

| DMX VALUES | DELAY TIME |
|------------|------------|
| 141        | 0.1 sec    |
| 142        | 0.2 sec    |
| 143        | 0.3 sec    |
| 144        | 0.4 sec    |
| 145        | 0.5 sec    |
| 146        | 0.6 sec    |
| 147        | 0.7 sec    |
| 148        | 0.8 sec    |
| 149        | 0.9 sec    |
| 150        | 1.0 sec    |
| 151        | 1.5 sec    |
| 152        | 2.0 sec    |
| 153        | 3.0 sec    |
| 154        | 4.0 sec    |
| 155        | 5.0 sec    |
| 156        | 6.0 sec    |
| 157        | 7.0 sec    |
| 158        | 8.0 sec    |
| 159        | 9.0 sec    |
| 160        | 10.0 sec   |

# DIM MODES



| Dimming Curve<br>Ramp Effect | 0 sec Fade Time                                                                     |                | 1 sec Fade Time                                                                      |                |
|------------------------------|-------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------|----------------|
|                              |  |                |  |                |
|                              | Rise Time (ms)                                                                      | Down Time (ms) | Rise Time (ms)                                                                       | Down Time (ms) |
| Standard (default)           | 0                                                                                   | 0              | 0                                                                                    | 0              |
| Stage                        | 780                                                                                 | 1100           | 1540                                                                                 | 1660           |
| TV                           | 1180                                                                                | 1520           | 1860                                                                                 | 1940           |
| Architectural                | 1380                                                                                | 1730           | 2040                                                                                 | 2120           |
| Theatre                      | 1580                                                                                | 1940           | 2230                                                                                 | 2280           |
| Stage 2                      | 0                                                                                   | 1100           | 0                                                                                    | 1660           |



# PRIMARY-SECONDARY SETUP

This function allows you to link units together to run in a Primary-Secondary set-up, in which one unit will act as the controlling unit and the others will react to the controlling unit's built-in programs. Any unit can be configured to act as a Primary or as a Secondary, but only one unit in a given system can be programmed to act as the Primary.

## **Primary-Secondary Connections and Settings:**

1. Daisy chain your units via the XLR connectors on the rear panels of each unit. Use standard XLR data cables to link your units together. Remember that the male XLR connector is the input and the female XLR connector is the output. The first unit in the chain (primary) will use the female XLR connector only, while the last unit in the chain will use the male XLR connector only.
2. Use the display screen and control panel to navigate to Personality > Prim/Sec Mode. Select this sub-menu using the ENTER button, and use the arrows to toggle between "Primary" and "Secondary". Press ENTER to confirm your selection.
3. Repeat Step 2 for each unit in the system. Make sure that only one unit is designated as the Primary, while all other units are designated as Secondaries.
4. The secondary units will now follow the behavior of the primary unit.

# MULTI UNIT POWER LINKING

This feature allows you to connect the fixtures to one another using the power cable input and output sockets.

## **The maximum number of units that can be linked in this manner is as follows:**

- 3 units when running on 110V power.
- 8 units when running on 240V power.

## **DO NOT EXCEED THIS MAXIMUM NUMBER WHEN POWER LINKING UNITS!**

All linked units must be of the same make and model type. Do not mix and match units!

# MAINTENANCE GUIDELINES



**DISCONNECT POWER BEFORE PERFORMING ANY MAINTENANCE!**

## CLEANING

Frequent cleaning is recommended to ensure proper function, optimized light output, and an extended life. The frequency of cleaning depends on the environment in which the fixture operates: damp, smoky, or particularly dirty environments can cause greater accumulation of dirt on the fixture's optics. Clean the external lens surface regularly with a soft cloth to avoid dirt/debris accumulation.

**NEVER** use alcohol, solvents, or ammonia-based cleaners.

## MAINTENANCE

Regular inspections are recommended to ensure proper function and extended life. There are no user serviceable parts inside this fixture. Please refer all other service issues to an authorized ADJ service technician. Should you need any spare parts, please order genuine parts from your local ADJ dealer.

Please refer to the following points during routine inspections:

- A. A detailed electrical check by an approved electrical engineer every three months, to make sure the circuit contacts are in good condition and prevent overheating.
- B. Be sure all screws and fasteners are securely tightened at all times. Loose screws may fall out during normal operation, resulting in damage or injury as larger parts could fall.
- C. Check for any deformations on the housing, color lenses, rigging hardware, and rigging points (ceiling, suspension, trussing). Deformations in the housing could allow for dust to enter into the fixture. Damaged rigging points or unsecured rigging could cause the fixture to fall and seriously injure a person(s).
- D. Electric power supply cables must not show any damage, material fatigue, or sediments.

**NEVER** remove the ground prong from the power cable.

## SOFTWARE UPDATES

For software updates, please contact ADJ service to obtain a software uploader and detailed instructions. Refer to the **Introduction** section of this manual for contact information.

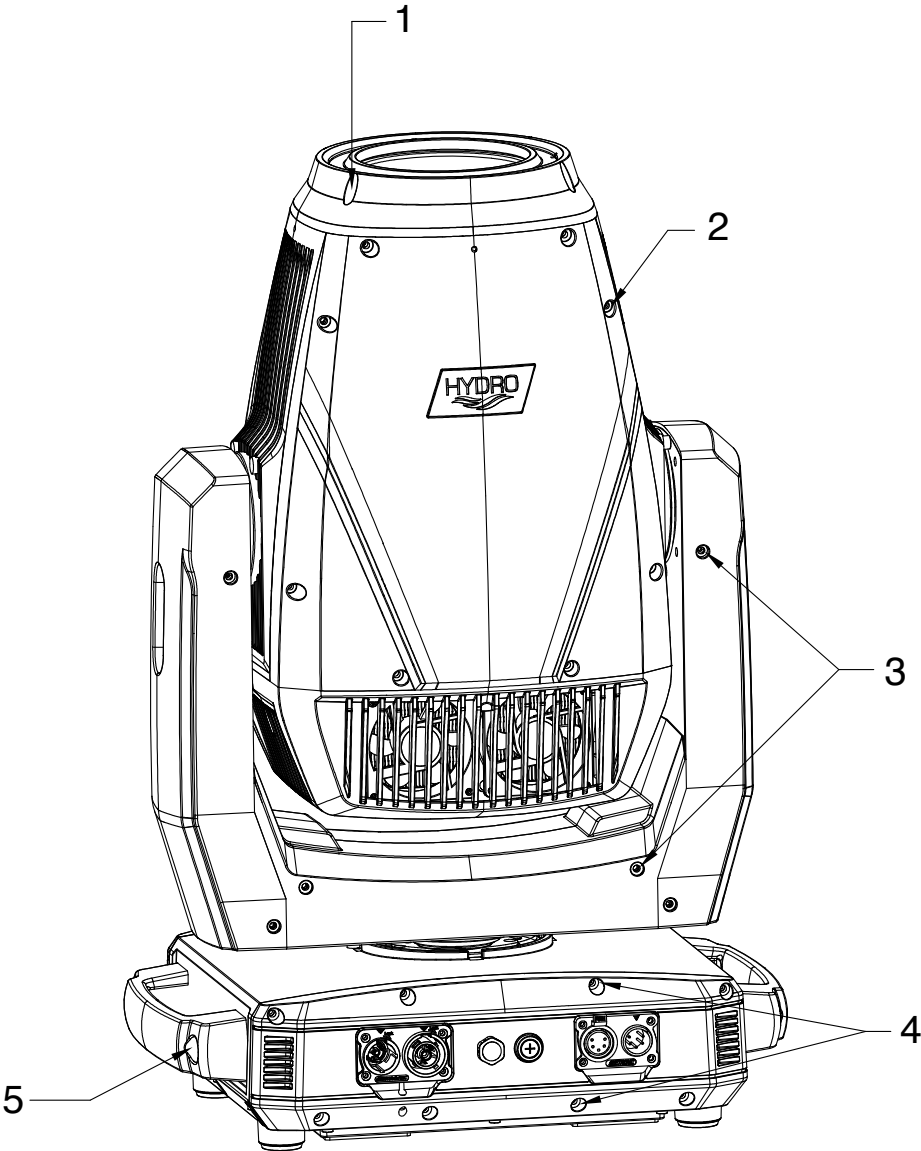
## FIXTURE DISASSEMBLY

The following points should be observed after performing any maintenance procedure that requires disassembly of the unit:

- After the unit has been reassembled, open the valve, and allow the light to run for approximately 2 hours in order to dry out any moisture that has been trapped inside the fixture. The process should continue until indicated humidity drops below 15% for the head and 30% for the base.
- Once this has been achieved, the light can be switched off, but the unit should remain connected to power so that the cooling fan can cool down the unit. Please note that allowing cool down time should **ALWAYS** be done after lamp operation.
- Some units may require partial disassembly in order to gain access to the valve. Please contact ADJ service for information regarding the location and access procedure for the valve on your specific unit model.

# TORQUE SETTINGS FOR SCREWS

**ALL SCREWS MUST BE TIGHTENED WITH A TORQUE DRIVER.** All screws are Allen head screws. Please refer to the table and diagram below for screw locations, quantity, and torque settings.



| Zone No. | Description     | Quantity               | Torque Spec                          |
|----------|-----------------|------------------------|--------------------------------------|
| 1        | Lens Frame      | 4                      | 6.9 ± 0.6 in-lb<br>(8.0 ± 0.7 Kg-cm) |
| 2        | Main Head Cover | 8 per side (16 total)  | 6.9 ± 0.6 in-lb<br>(8.0 ± 0.7 Kg-cm) |
| 3        | Arm Cover       | 6 per side (12 total)  | 4.3 ± 0.4 in-lb<br>(5.0 ± 0.5 Kg-cm) |
| 4        | Base Side Cover | 8 per side (16 total)  | 6.9 ± 0.6 in-lb<br>(8.0 ± 0.7 Kg-cm) |
| 5        | Carry Handle    | 2 per handle (4 total) | 6.9 ± 0.6 in-lb<br>(8.0 ± 0.7 Kg-cm) |

# TORQUE SETTINGS FOR SCREWS

TORQUE DRIVERS (Recommended): UTICA TS-30 (Shown)

TORQUE DRIVER (Alternate):

- Proto J6107A
- Wiha 28887



**CAUTION! DO NOT OVER TORQUE SCREWS AS THIS CAN CAUSE LEAKAGE ISSUES! TO CONFIRM THE IP65 INTEGRITY AFTER A LAMP REPLACEMENT, TEST THE FIXTURE USING THE IP TESTER. CONTACT ADJ SERVICE FOR MORE DETAILS.**



**CAUTION! THE USE OF PROTECTIVE GLOVES AND SAFETY GOGGLES IS STRONGLY RECOMMENDED WHILE PERFORMING THE IP PRESSURE TEST! AVOID PLACING YOUR FACE, EYES, HANDS, ETC IN CLOSE PROXIMITY TO THE FIXTURE'S LENS WHILE PERFORMING THE TEST!**



| IP PRESSURE TESTING PARAMETERS |                     |                  |
|--------------------------------|---------------------|------------------|
| Low Pressure Limit             | High Pressure Limit | Steady/Hold Time |
| 2.9 psi<br>(20 KPa)            | 3.3 psi<br>(23 Kpa) | 15 sec           |

# ERROR CODES

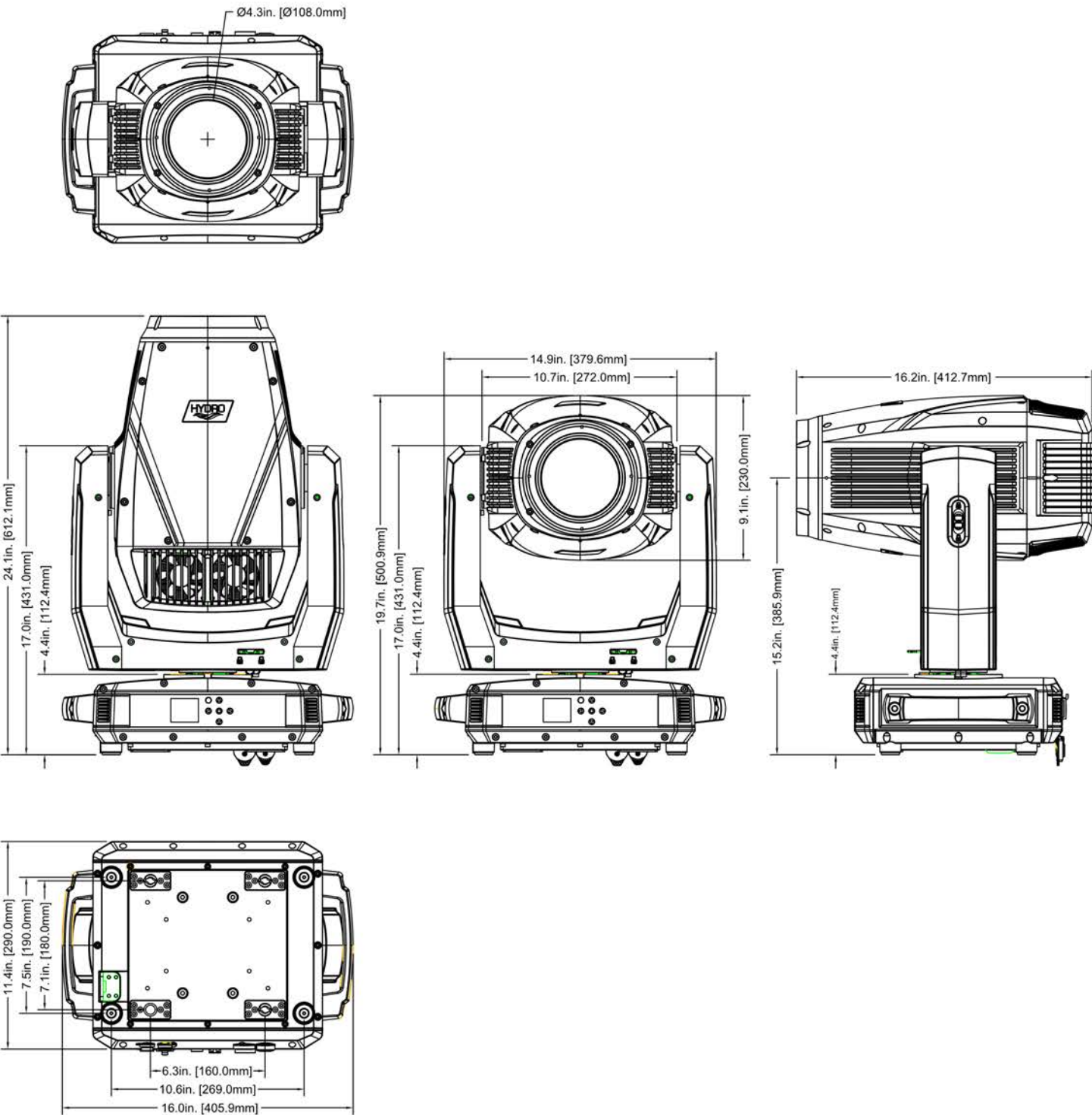
When power is applied, the unit will automatically enter a “**Reset/Test**” mode. This mode brings all the internal motors to a home position. If there is an internal problem with one or more of the motors, an error code will flash in the display, as described in the chart below. For example, when the display shows “Pan” it means there is some type of error with the Pan motor. If there are multiple errors during the start-up process, they will all flash in the display. For example: if the fixtures have errors on Pan, Tilt, and Cyan all at the same time, you will see the error message “Pan”, “Tilt”, and “Cyan” flash in sequence. The error sequence will repeat 5 times.

If an error does occur during the initial start-up procedure, the fixture will self-generate a second reset signal and try to realign all the motors and correct the errors. If the error persists after a second attempt, a third attempt will be made. If after a third attempt all the errors have not been corrected, the fixture will make the following determinations:

- **3 or More Errors:** The fixture cannot function properly with three or more errors. Therefore the fixture will place itself in a stand-by mode until subsequent repairs can be made.
- **Less Than 3 Errors:** The fixture has less than 3 errors. Therefore, most other functions will work properly. The fixture will attempt to operate normally until the errors can be correct by a technician. The errors in question will remain flashing in the display as a reminder of internal errors.

| Error Code  | Description            |
|-------------|------------------------|
| Pan         | Pan Error              |
| Tilt        | Tilt Error             |
| Cyan        | Cyan Error             |
| Magenta     | Magenta Error          |
| Yellow      | Yellow Error           |
| CTO         | CTO Error              |
| Color Wheel | Color Wheel Error      |
| Gobo        | Gobo Error             |
| Rot Gobo    | Rotating Gobo Error    |
| Fixed Gobo  | Fixed Gobo Error       |
| Focus       | Focus Error            |
| Zoom        | Zoom Error             |
| Prism 1     | Prism 1 Error          |
| Prism 1 Rot | Prism 1 Rotation Error |
| Prism 2     | Prism 2 Error          |
| Prism 2 Rot | Prism 2 Rotation Error |
| Animation   | Animation Error        |
| LED Fan     | LED Fan Error          |
| Base Fan    | Base Fan Error         |
| Gobo Fan    | Gobo Fan Error         |
| LED Temp    | LED Temperature Error  |
| Base Temp   | Base Temperature Error |

# DIMENSIONAL DRAWINGS



# SPECIFICATIONS

## Light Source:

- 320W Cool White LED Engine (50,000 hr.)
- 15,000 Lumens

## Features:

- Wifly EXR (Wireless DMX)
- Motorized Focus
- 2 Frost Filters
- Motorized Zoom: 8° ~ 41°
- Animation Wheel
- 2 Prism FX: Rotating 5-facet Linear & rotating 6-facet Circular
- 0-100% smooth dimming
- Various strobe speeds
- 2 cooling fans

## Color:

- CMY color mixing system
- Variable CTO flag
- Color wheel with 7 dichroic colors + white (includes CTB and High CRI filters)

## Gobo Wheels:

- (1) Rotating Gobo wheel with 7 Gobos
- (1) Static Gobo wheel with 8 Gobos
- All Gobo's on rotating wheel are replaceable
- Gobo Shake Effect on both wheels
- Aluminum Gobo size: 23mm (outer); 19mm (viewable); 0.5mm (thickness)
- Glass gobo size: 23mm (outer); 19mm (viewable); 3.3mm (thickness)

## Prism Wheel:

- Prism Wheel 1: Rotatable 6-facet Circular
- Prism Wheel 2: Rotatable 5-facet Linear
- Both Prisms are indexable

## Frost Filters:

- Frost 1: Heavy frost for wash effect
- Frost 2: Medium frost creates lightly blurred edges for Gobo and Prism FX

## Control:

- 3 DMX Channel Modes: 24/29/36
- Wifly EXR (Wireless DMX)
- Color LCD display with 6-button function menu
- Control Mode: DMX512 or internal programs
- 6 Dim Modes: Standard, Stage, TV, Architectural, Theatre, Stage2
- 4 Dim Curves: Square, Linear, Inv. Square and S. Curve
- Selectable LED Refresh Rates (900 Hz~25K Hz)
- 0-100% smooth dimming
- Various strobe speeds
- RDM (Remote Device Management)
- With Wired Digital Communication Network

## Pan/Tilt:

- Pan: 630 degrees
- Tilt: 270 degrees

## Connections:

- DMX Connections: 5-pin XLR In/Out
- Power Connections: IP65 PowerLock In/Out to daisy chain power

## Electrical:

- Multi-voltage operation: 90-240V, 50/60Hz
- Max power consumption: 450W

## Dimensions & Weight:

- Dimensions (LxWxH): 11.4"x16.0"x 24.1" (290.0x405.9x612.1mm)
- Weight: 57.2lbs (26kg)

## Approvals / Rating:

- ETL Approved / CE Certified
- IP65 with Marine Coated Exterior and conformal coated p.c.b's (INTENDED FOR TEMPORARY OUTDOOR USE ONLY)



*Please Note: Specifications and improvements in the design of this unit and this manual are subject to change without any prior written notice.*

