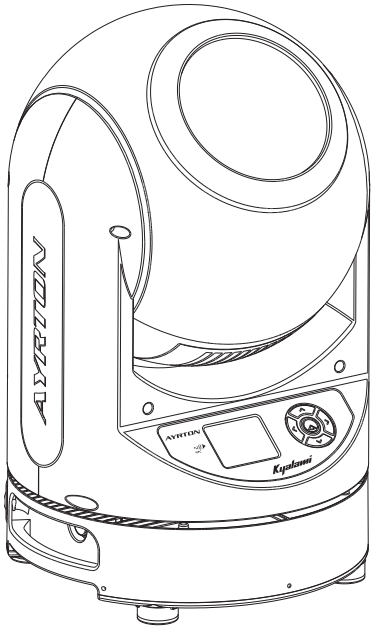
USER INFORMATION

ENGLISH - VERSION 1

Kyalami

ULTRA BEAM



AYRTON

Digital Lighting

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ayrton.eu

2 Rue de Vitruve,
91140 Villebon-sur-Yvette,
France

CONTENTS

Keep this manual for future needs.

Errors and omissions for all information given in this user manual are possible.
All information is subject to change without prior notice.

1. SAFETY INSTRUCTIONS

1.1 > IMPORTANT SAFETY WARNINGS

This device has left the factory in perfect condition. In order to maintain this condition and to ensure safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this user manual.

For safety reasons, please be aware that all modifications to the product are forbidden. We will not be liable for any damage or injury caused by installation, use, maintenance or service that not follow this manual.

In order to install, operate and maintain the lighting fixture safely and correctly we suggest that the installation and operation be carried out by qualified technicians and these instructions be carefully followed.

1.2 > PHOTOBIOLOGICAL SAFETY

The light source of this product is based on laser diodes. This product qualifies for the laser products safety standard **IEC 60825-1:2014**, edition 3, "part 4.4, Laser products designed to function as conventional lamps", under which it is classified as **CLASS 1 LASER PRODUCT**. Alternately evaluated under the standard IEC 62471-5:2015 "Photobiological safety of lamps and lamp systems", the photobiological risk classification is assigned as **RISK GROUP 3 (RG3)**.

RISK GROUP 3

Warning: Possibly hazardous optical radiation emitted from this product. do not look at operating lamp source. Eye injury may result.

RG3
Hazard distance: Refer to the manual.
Not for houshold use.
EN/IEC 62471-5

- **CAUTION! - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.**
- The US Food and Drug Administration (FDA) requires that the owner of the product be a holder of a valid FDA CDRH laser light show variance and operate the product in accordance with the terms of the variance. (variance is a "permit" issued by FDA).
- It requires the operator (if not the owner) of the product to be a legal employee of the variance holder and to have completed a laser safety training course and an operators training course.
- This product is in conformity with performance standards for laser products under 21 CFR 1040, except with respect to those characteristics authorized by Variance Number FDA-2023-V-1465 effective (September 27, 2023), Accession # 23A0187.
- The product is in excess of the Exempt Risk Group, the viewer-related risk is dependent upon how the user installs and uses the product.
- Operators shall control access to the beam within the hazard distance or install the product at the height that will prevent spectators' eyes from being within the hazard distance.
- Hazard Distance (HD) is the distance from the projector's nearest point of human access where the beam radiance or irradiance exceeds the applicable exposure limit. The operators shall control the product to prevent human exposure to the luminaire(s) light within the HD. Hazard distances (according to different settings):

> US HD (United States Hazard Distance) = 122 meters (400 ft)
>
> Hazard Distance (worst case) is calculated at full power and narrowest beam angle. However, do not illuminate personnel closer than this distance under any circumstances.
>
> **This only concerns the United States market.**

- Do not operate with personnel exposure shorter than the declared hazard distance due to risk of skin or corneal burns.
- This Laser Product is designated as Class 1 / RG3 during all procedures of operation.
- Internal (embedded) laser parameters:
  - Laser Wavelengths: 449 - 461 nm.
  - Laser Power max: 15 W (at light engine aperture).
  - Beam Diameter: 18 mm.
  - Emissions: 1.2 kHz, varying duty cycle: 0 – 97%.
- Luminaire Wavelengths: 445 nm – 700 nm. Divergence: 1°.
- **CAUTION! - The user must not modify the unit or remove protective covers or housings except as required for service. The laser product is never to be operated if the unit is defective or the cover or seal is damaged. Danger - class 4 laser light when open. Avoid eye or skin exposure to direct or scattered light.**
- No maintenance is required or allowed by the user.
- Service is only to be performed by trained and authorized personnel. Consult service manual for laser safety procedures before opening unit.
- As required by US state and federal OSHA requirements, maintenance and service is to be performed under the terms of ANSI Z136.1, "Safe Use of Lasers". Wear laser safety eyewear when servicing the unit.
- All laser light shows shall be under the direct and personal control of trained, competent operator(s). The operator(s) shall:
  - Be an employee of the variance holder who will be responsible for the training and the conduct of the operator.
  - Be located where all beam paths can be directly observed at all times.
  - Immediately terminate the emission of light show radiation in the event of any unsafe condition; or for outdoor shows, upon request by any air traffic control officials.
- Hazard distances (HD) for all relevant viewer-related risk groups below RG3: Not Applicable. In no case expose personnel closer than the Hazard Distance indicated above.

CAUTION

High voltage. Risk of severe or fatal electric shock.

Always disconnect mains supply before removing any fixture covers.

Never touch the device during operation. covers may be hot.

Never look directly into the light source.
Sensitive persons may suffer an epileptic shock.

Class 4 laser light when open, avoid eye or skin exposure two direct or scattered light.

Light collimation system
This product contains internal light collimation system. avoid intense light from any angle.

Not suitable for household illumination.

Not for residential use.

Disposing.
This product is supplied in compliance with european directive 2012/19/EU - Waste Electrical and Electronic Equipment (WEEE) to preserve the environment please dispose / Recycle this product at the end of its life according to the local regulation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a class a digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

1.3 > GENERAL GUIDELINES

Damage caused by the disregard of this user manual is not subject to warranty. The dealer and manufacturer will not accept liability for any resulting defects or problems.

- Under no circumstances should the fixture be pointed at the sun. Sunlight, combined with the high efficiency lenses used in the product can cause significant damage to the fixture.
- Be aware that even when lens is not pointed directly at the sun damage may occur. It is best practice to ensure that the lens is pointed away from the sun, preferably in the opposite direction.
- Always dry and clean your fixture before storing it for any length of time.
- Never use any abrasive cleaning products on the fixture as this may damage the coating of the fixture impacting its anti-corrosion protection.
- This product is intended for the following applications: trade show or convention, indoor arena, outdoor arena, outdoor unenclosed arena, stage, studio, theater, event, venues, theme parks, architecture and similar applications.
- If the device has been exposed to temperature changes due to environmental conditions, do not power on immediately. The resulting condensation could damage the device. Leave the device powered off until it has reached room temperature.
- Ensure the sealing rubber covers of powerCON TRUE1 and XLR connectors are fitted properly when the device is not in use, to avoid water ingress.
- This device falls under protection-class I. Therefore, it is essential that the device be earthed.
- If either lenses or display are damaged (damage may include cracks or gashes in the material) they must be replaced.
- Electrical connections, such as replacing the power plug, must be performed by a qualified person.
- Make sure that the available voltage is not higher than that which is stated in this manual.
- Make sure the power cord is never crushed or damaged by sharp edges. If this should be the case, replacement of the cable must be done by an authorized dealer.
- If the external flexible power cord of this device is damaged, it shall be exclusively replaced by the manufacturer or their service agent or a similar qualified person in order to avoid injury.
- When the device is not in use or before performing maintenance or service, always disconnect the device from the mains. Only handle the power cord from the plug. Never pull the plug out of a socket by tugging the power cord.
- When powered on for the first time, some smoke or smell may occur. This is caused by coating on metal parts when heated and is normal. If you are concerned, please contact your distributor.
- Do not focus the beam onto flammable surfaces. The minimum distance between the exiting lens of the device and the illuminated surface must be min. 15.0 m. The minimum distance from fixture head to combustible materials must be min. 0.1 m.(for personnel exposure distances, refer to the above mentioned Hazard Distances).
- The projection system shall be securely mounted or immobilized to prevent unintended movement or misalignment. Beam masking will be provided as an inherent part of the system design to prevent overfilling of screens, beam stops, targets, etc.
- This fixture is only allowed to be operated within the maximum alternating current as stated in the technical specifications in section 3 of this manual.
- Handle the device with care, avoid shaking or using force when installing or maintaining the device.
- If you use the quick lock cam when rigging the device, make sure the quick lock fasteners are located in the quick lock holes correctly and securely.
- Operate the device only after having familiarized yourself with its functions. Do not permit operation by persons not qualified for operating the device. Most damage is the result of unprofessional operation.
- Please use the original packaging if the device is to be transported.
- The applicable temperature for the device is between -20 °C and 45 °C. Do not use the device outside of this temperature range. (Note: When the temperature detected by laser source between -20 °C and 0 °C, the fixture needs to wait for the heater to increase the internal temperature to be above 0 °C before illumination will occur.)

2. FEATURES

POWER SUPPLY

- AC100-240 V~, 50/60 Hz
- Power Consumption: 200 W

OPTICS

- Beam aperture: 1°

LIGHT SOURCE

- Laser 100 W, White, Colour Temperature 9000 K
- Rated life (L70): up to 12,000 hours

MOVEMENT

- Highly accurate positioning; moving head operated via either 16-bit resolution
- Pan and tilt Infinite rotation

COLOURS
- Sophisticated CMY colour mixing
- Static colour wheel with 22 colour filters

GOBOS
- Static gobo wheel with instant access to 29 metal gobos

FROST
- 2 frost filters: one light, one heavy

EFFECTS
- 2 combinable rotating and indexable prisms: one 32 facet circular, one 5 facet linear

DIMMER / STROBE
- Electronic dimmer from 0 to 100%
- Strobe effect: 1 to 25 flashes per second

HARDWARE FEATURES
- Graphic LCD display with flip function
- 5 menu buttons to set functions
- Integrated wireless CRMX TiMo RDM receiver from LumenRadio
- IP65 XLR 5 pin connectors for DMX connection
- IP65 RJ45 connectors for ArtNet connection
- IP65 powerCON TRUE1 TOP connectors for power connection

CONTROL
- DMX 512 protocol
- DMX-RDM compatible
- Local control panel, with IP65 LCD display
- ArtNet™ & sACN protocol

COOLING SYSTEM
- Advanced liquid cooling system
- Self adjusting variable speed fans for qui et operation (Auto mode)
- Selectable ventilation user modes with a new Silent Mode
- Safety protection against excess temperature

HOUSING
- IP65 protection rating

INSTALLATION
- 2 Omega ¼ turn brackets
- 4 ¼ turn mounting points
- Safety cable attachment point

OPERATING PARAMETERS
- Maximum permitted: 45 °C (113 °F)
- Minimum permitted: -20 °C (-4 °F)
- Minimum usage distance: 15 m (49.21 ft)

COMPLIANCE
- CE, UKCA, ETL

SIZE
- Product: 265 x 430 x 265 mm (l x h x d)
- Flight-case foam: 320 x 460 x 320 mm (l x h x d)

WEIGHT
- Product: 14.5 kg

3. GETTING STARTED

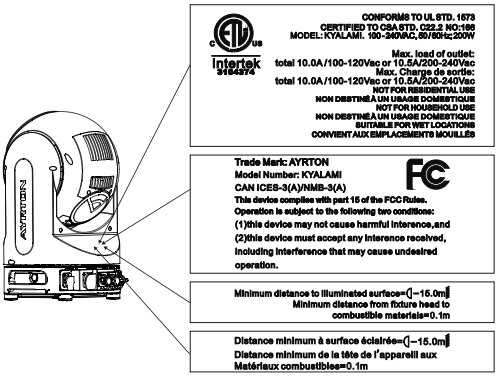
3.1 › UNPACKING

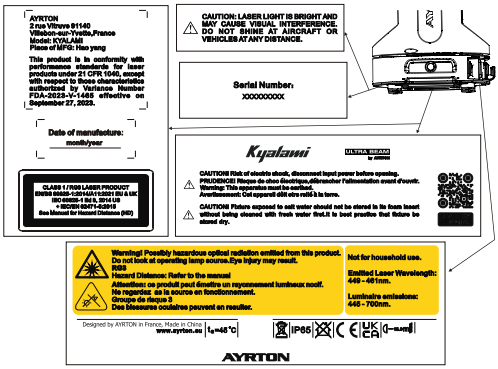
After unpacking, you will find the following items in the package:

KYALAMI fixture	1
User manual	1
Power Cable	1
Omega Bracket	2

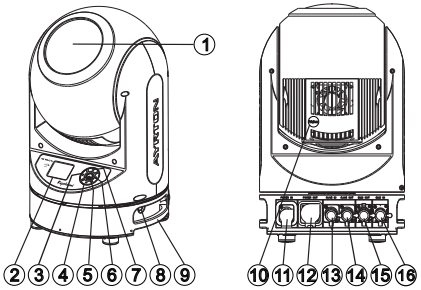
3.2 › PLACEMENT OF LABELS

Please check and read carefully the labels on the fixture before using:





3.3 › FIXTURE OVERVIEW



1. Front Lens	7. Up-button	13. RJ45 In
2. Display	8. Valve	14. RJ45 Out
3. Left-button	9. Handle	15. DMX In
4. Down-button	10. Valve	16. DMX Out
5. Center-button	11. Power In	
6. Right-button	12. Power Out	

3.4 › INSTALLATION INSTRUCTIONS - RIGGING THE FIXTURES

CAUTION

Please consider the respective national norms during the installation. the installation must only be carried out by a qualified person.

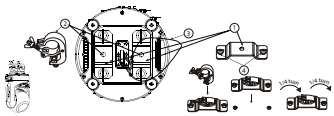
- The installation of the effect has to be built and constructed in a way that it can hold 10 times the weight for 1 hour without any harming deformation.
- The installation must always be secured with a secondary safety attachment, e.g. an appropriate safety rope.
- Never stand directly below the device when mounting, removing or servicing the fixture.
- The operator has to make sure the safety relating and machine technical installations are approved by an expert before taking the device into operation for the first time.
- These installations have to be approved by a skilled person once a year.

RIGGING USING THE OMEGA BRACKETS

- Fix the clamp to the bracket by tightening the M12 nut and bolt to the bracket through the Φ13 hole in the middle of the bracket.
- Insert the quick-lock fasteners of the first Omega holder into the respective holes on the bottom of the device. Tighten the quick-lock fasteners fully clockwise.
- Install the second Omega holder.
- Pull the safety cable through the holes on the bottom of the base and over the trussing system or another suitable rigging point. Insert the end into the carabiner and tighten the safety screw.

CAUTION

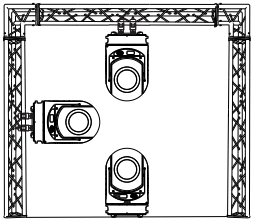
This step is very important to ensure safe rigging of the fixture.



1. Omega bracket
2. Clamp
3. Safety rope
4. Quick-lock fastener

RIGGING DRAWINGS

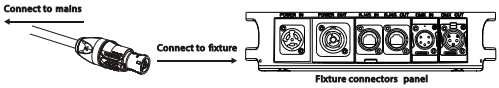
The fixtures can be installed by sitting on floor, hanging on truss upside down (on ceiling) or hanging vertically (on wall), as shown on the drawing below:



- Be sure this fixture is kept at least 0.1 m away from any flammable materials (decoration etc.).
- Always use and install a supplied safety cable as a safety measure to prevent accidental damage and/or injury in the event the clamp fails.
- Rig the projector high enough to provide clearance for people who may walk beneath the beam path or establishing a restricted access area that extends beyond the beam hazard distance.
- **CAUTION! Please DO NOT let other external intense lights to shine through the fixture front lens, it may cause significant internal damages!**
- When install fixture outdoor at day time (with power off), please make sure that the fixture front lens is NOT facing the sun.
- When use fixture outdoor at day time (with power on), please avoid fixture front lens facing the sun.
- When fixture is on standby outdoor at day time (with power on), and NO SIGNAL, please make sure the "sun protection" mode is ON (default).

3.5 › CONNECTIONS – CONNECTING POWER AND SIGNAL CABLES

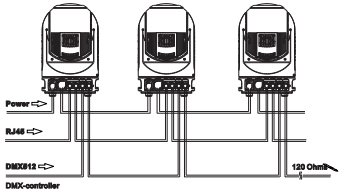
POWER CONNECTION

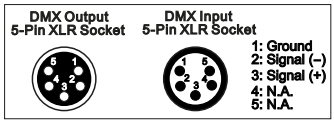


- Connect the power cable to the "Power In" socket of the fixture: Insert the power cable connector and turn clockwise until it clicks to lock.
- Connect the power cable plug to the mains: AC100-240 V~, 50/60 Hz, Power 200 W.

DMX-512 / ART-NET CONTROL CONNECTION

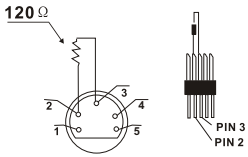
Connect the provided male side of the XLR cable to the female XLR output of your controller and the female side of the XLR cable to the male XLR input of the device. You can connect multiple devices together in a serial fashion. The cable needed should be two core, screened cable with XLR input and output connectors. Please refer to the diagram below.





DMX-512 CONNECTION WITH DMX TERMINATOR

For installations where the DMX cable has to run over a long distance or is in an electrically noisy environment, such as in a discotheque, it is recommended to use a DMX terminator. This helps in preventing corruption of the digital control signal caused by electrical noise. The DMX terminator is an XLR plug with a 120 Ω resistor connected between pins 2 and 3, which is then plugged into the output (female) XLR socket of the last fixture in the chain. Please see illustrations below.



DEVICE DMX START ADDRESS SETTING

All fixtures should be given a DMX starting address when using a DMX signal, so that the correct fixture responds to the correct control signals This digital starting address is the channel number from which the fixture starts to "listen" to the digital control information sent out from the DMX controller. The allocation of this starting address is achieved by setting the correct address number on the display located on the base of the device.

You can set the same starting address for all fixtures or a group of fixtures, or set different addresses for each fixture individually.

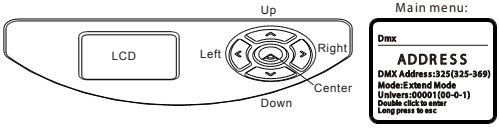
If you set the same address on all devices, all the devices will start to "listen" to the same control signal from the same channel number. In other words, changing the settings of one channel will affect all the fixtures simultaneously.

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

In the case of the moving head, in 33 channel mode, you should set the starting address of the first unit to 1, the second unit to 34 (33 + 1), the third unit to 67 (33 + 34), and so on.

3.6 › DISPLAY SETTINGS OPERATION

The fixture offers LCD Display and Buttons for setting display menus, you can use the buttons to set or check the Address, Mode, Options, Test, Info and Preset menus.



Center button	Double click to activate display, or confirm setting, or go into submenu; Long pressing 2s on main menu to access the shortcut menus; Long pressing 2s on submenu to exit or go back to previous menu.
Left button	Click to go left to other submenu.
Right button	Click to go right to other submenu.
Up button	Click to go up to other submenu, or increase the setting values.
Down button	Click to go down to other submenu, or decrease the setting values.

After accessing the submenu in edit mode, if no operation, it will automatically exit to the main menu after 15 seconds from the last button operation. When the fixture is powered on and the signal is connected, after 5 minutes, the display will switch off automatically.

USING THE DISPLAY MENUS

Double click to activate display, then on the main menu double click to enter into the following menus, click the up button or down button to browse and select the desired menus:

ADDRESS	To set the DMX address.
MODE	To set the user mode.
OPTIONS	To set the status setting, fan control, signal, dimming curve and others.
INFO	To check the time, software version, fan info and others.
TEST	To reset the fixture, do the calibration and others.
PRESET	To edit prog. and scenes.

3.7 › NFC

When the fixture is powered on, you can use a NFC smartphone installed with the Ayrton NFC App to scan the NFC tag area of the fixture to read some of the information or settings inside the display menu, such as product name, software version, UID, DMX Start Address, Universe, User Mode, Options, Information, etc. You can also change some of the settings and push to write inside the fixture menu.

When the fixture is not powered on, you can still use the App to read the NFC info and write the settings into the NFC tag, the written data will be automatically synchronized into the fixture menu at next time the fixture is powered on.

Note:

- ***Before using, make sure there is NFC function on your smartphone and it is activated. Download and install the Ayrton NFC App;***
- ***The NFC tag on the fixture is right under the LCD window;***
- ***The NFC reader area vary on different smartphones, identify the correct area on your smartphone before scanning the NFC tag on the fixture;***
- ***When scanning, make sure the NFC reader area of your smartphone close enough to the LCD window and hold still the smartphone for 3 seconds until reading successfully.***

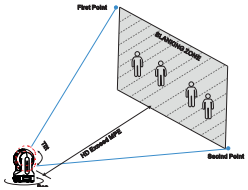
3.8 › DMX PROTOCOL

Scan the QR code on the cover page to download the DMX CHART.

3.9 › SAFETY SETTINGS

For safety purposes, before the operator begins to control the fixture remotely, the operator must pre-define, from a computer (MAC or PC) App a safety (blanking) zone which prevents operations above the MPE (Maximum Permissible Exposure) within the safety zone(or other). The safety (blanking) zone should be set to include any area in which the fixture may be pointed where there is a reasonable expectation of the public being present. Where the operator determines there will be no members of the public present or no members of the public present within the Hazard Distance of the product (please see table below), no safety (blanking) zone is needed to be set.

BLANKING ZONE SETTINGS



Steps to set blanking zone:

- Download and install the "Ayrton Fixture Manager" App;
- After the KYALAMI fixture(s) have been rigged, determine the areas which, where public members are present, are within the Hazard Distance of the fixture(s);

- Prepare a computer, download and install the "Ayrton Fixture Manager" software into the computer. (Note: software version should be after V200);

To know how to use the application, please download its manual https://bit.ly/4ePVCwS.

Once both the Blanking Settings have been done, the fixture is ready to be used and control via a DMX console. The operator is not able to remotely (ie: DMX commands from a lighting console) override the Blanking Zone.

At the end of each unique use it is incumbent on the owner of the fixture to clear the previous settings on the fixture to factory defaults, thus ensuring that the fixture must be set up to be used with the correct safety settings in the environment in which it is next used.

SAFETY PROTECTION

This fixture had been designed with Safety Protection feature:
When error occurs, not only the light output itself will be cut immediately, but also the CMY filters, Colour filter and Frost filter will be brought into the light path.

SAFETY MONITORING SYSTEM - SEPARATE REDUNDANCY CONTROL

This fixture had been designed with a Safety Monitoring System with Separate Redundancy Control, the failure safety system shuts down or dims to safe level immediately when any safety monitored value is reported outside of expected value:

- When light output (as measured by current) is out of expected range
- When Pan or Tilt are forced from proper location, or do not arrive at proper location.

4. CONTROLS AND FUNCTIONS

4.1 › PAN AND TILT MOVEMENT, DMX CHANNELS 1-7

4.2 › DIMMER INTENSITY (USE WITH STROBE CHANNEL AT FULL), DMX CHANNELS 9-10

4.3 › FOCUS, DMX CHANNEL 11 TO 12

4.5 › STATIC GOBOS, DMX CHANNELS 24

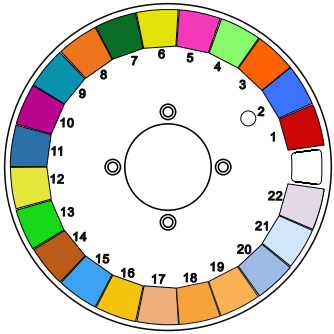
GOBO WHEEL

Static Wheel - GPD0100045

1	302	80% Iris Beam	16	411	Split Circle 2
2	304	60% Iris Beam	17	428	Split Triangle 3
3	306	40% Iris Beam	18	374	Compass 4
4	308	20% Iris Beam	19	345	Star Beam
5	312	Dot Line 2	20	342	Five Spokes
6	326	Dot Triangle 3	21	340	Triangle Beam
7	328	Dot Square 4	22	117	Helix 3
8	321	Dot Ring 7	23	430	Inverted Cross
9	324	Dot Mix	24	363	Rubik Cube
10	273	Prison Bars 3	25	332	Square Beam 4
11	099	Waves Light	26	330	Square Beam
12	298	Half Beam Left	27	348	Tilde
13	299	Half Beam Right	28	350	Bold Line
14	296	Half Beam Up	29	351	Vertical Line
15	295	Half Beam Down			

This side facing LED module

4.4 › COLOUR WHEEL, DMX CHANNELS 13-14



COLOUR WHEEL

Static Wheel - GPP0098809

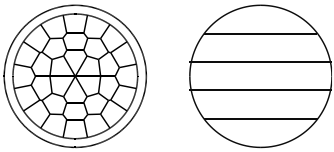
1	Red	12	Medium Yellow
2	Blue	13	Dark Green
3	Orange	14	Dark Amber
4	Green	15	Medium Blue
5	Pink	16	Oklahoma Yellow
6	Yellow	17	Light Amber
7	Velvet Green	18	CTO
8	Amber	19	CTO 1/2

9	Light Blue	20	CTB
10	Follies Pink	21	CTB 1/2
11	Slate Blue		

This side facing LED module

4.6 › CMY, DMX CHANNELS 15-20

4.7 › PRISMS , DMX CHANNELS 25-30



4.6 › FROSTS , DMX CHANNELS 31-32

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